

# St Helena Government, Department for International Development

St Helena Access Feasibility Study

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Final Report

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## ATKINS

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## ABBREVIATIONS

AFTN	-	Aeronautical Fixed Telecommunications Network
ASDA	-	Accelerate Stop Distance Available
ASSI	-	Air Safety Support International (Regulator, Overseas Territories)
DFID	-	Department for International Development
DfT	-	Department for Transport (UK)
DoD	-	Department of Defence of US Government
EA	-	Environmental Assessment
EIA	-	Environmental Impact Assessment
EMP	-	Environmental Management Plan
ESIA	-	Environmental & Social Impact Assessment
ETOPS	-	Extended Twin-Engine Operations
FIT	-	Fully Independent Travellers
HMG	-	Her Majesty's Government
gals	-	imperial gallons
k	-	thousands
LDA	-	Landing Distance Available
LLPD	-	Legal, Lands and Planning Department of SHG
m	-	metres
M	-	millions
MOD	-	Ministry of Defence (UK)
NAVAIDS	-	Ground based navigation aids
PBP	-	Prosperous Bay Plain
PFC	-	porous friction course on runways
PWSD	-	Public Works & Services Department of SHG
RESA	-	Runway End Safety Area
RFFS	-	Rescue & Fire Fighting Service
RMS	-	Royal Mail Ship "St Helena"
Saints	-	St Helenians
SHG	-	St Helena Government
STPR	-	Social Time Preference Rate
TFR	-	Total Fertility Rate
TODA	-	Take-off Distance available
ToR	-	Terms of Reference
TORA	-	Take-off Run Available

# 1 EXECUTIVE SUMMARY

## PREFACE

- 1.1 St Helena, an Overseas Territory of the United Kingdom, lies in the tropics in the South Atlantic Ocean. It is home to over 14,000 people, known as 'Saints', only some 4000 of whom currently reside permanently on the island. The only scheduled form of access for passengers and cargo to St Helena is via the RMS St Helena. Travel to and from the island is costly in both time and expense. The economy is small, declining and heavily reliant on UK aid.
- 1.2 The island's rich history and glorious land and seascapes make it a potential tourist destination. Previous studies have identified the development of the tourist industry as the most likely means of stemming the decline and stimulating new development. The current method of access has failed to generate tourism on a scale that could reverse the trends. This Feasibility Study was required to analyse the access options in the light of their potential to impact St Helena's economic development.
- 1.3 The Study examines the costs and benefits associated with each of three access options: continuation of sea access ('Replacement RMS'), an aerodrome with a runway providing safe operation of 19-seater business jets<sup>1</sup> (the 'Medium Length Runway'), and an aerodrome with a runway providing safe operation of Boeing jets of the B737 design or equivalent Airbus design (the 'Long Runway'). These three were selected from among a long list of possible solutions against three key criteria: technical feasibility, potential to enable economic growth and potential to reduce reliance on UK Government subsidy. The three criteria represent the principal objectives of the Study.
- 1.4 We have compared the three access options in terms of discounted total costs (capital and operational expenditure, social, institutional, infrastructure, environmental) and benefits (GDP growth, reduction of subsidy, population growth, employment, investment). We have also considered sub-sets of the medium runway: whether it could be adapted to support commercial jet aircraft and if there would be a case for subsidising 19-seater business jet tickets for Saints.

## KEY FINDINGS

- 1.5 The Study demonstrates that St Helena could be expected to attract certain world tourism market segments. We conclude that, given the pre-conditions set out in this Report, the economy and social well-being of St Helena could not only be improved but, within a reasonable period of time, could become self-sustaining as an economy in its own right.
- 1.6 An important pre-condition to such success is the mounting of a concerted and well-organised marketing effort. We have talked directly to the community of Saints (face-to-face, in meetings, groups and through questionnaires) on St Helena and elsewhere and we conclude that there is a will among them to initiate, design and carry out such an effort.

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<sup>1</sup> The 19-seater concept avoids application of certain flying regulations and therefore cost; it also confers other advantages – discussed in Section 7 of this Report.



- 1.7 Indeed, a public consultation poll in early 2002 produced a clear mandate to the St Helena Government (SHG) to pursue air access for the island if at all possible. But this, and the fact that the possibility of air access has been on the agenda for so long, means that if, as a result of this Study, which has received prominent and public attention, a decision is taken to replace the RMS, this determination would dissipate quickly.
- 1.8 We conclude and recommend that the most cost-effective option for HMG, when considered over the period of discounted cash flow, is to build an aerodrome with a runway that supports the safe operation of the Boeing 737-800 or equivalent Airbus design. This is the long runway access option. The B737-800 was chosen for a variety of reasons but mainly because it is large enough to support the development of the projected demand for tourism over the 40-year term considered by the Study.
- 1.9 We have subjected this recommendation to a well-considered set of risks and uncertainties, drawing on our long experience of designing and project-managing large infrastructure projects of this nature. This formal risk analysis shows that the variable with the greatest potential to affect the outcome is the rate of take-up by tourists. It dominates all other variables, such as time or capital expenditure over-runs in building the aerodrome. Nevertheless, even if all the risks and uncertainties that we have identified were realised in practice, but assuming that uncertainty concerning the use of Wideawake airfield on Ascension Island was resolved (see paragraphs 1.66 and 1.67 below), the Study demonstrates a strong case for the Long Runway option.
- 1.10 The collective underlying pre-condition to achieving success is that the St Helena Government makes the necessary adjustments in policy to allow the international tourist industry and potential investors to make plans, and that it provides the corresponding leadership in acting on them [at an Executive Council on 12<sup>th</sup> Oct 2004 SHG undertook to review their policy on immigration and inward investment]. We think that this will require strong guidance from DFID.

## THE INVESTMENT SUMMARY

- 1.11 Table 1.1 compares the results for the three access options. The table presents three aspects: net present cost of the project, effect of time on budgetary aid, and a summary of the capital cost element of the expenditure. The 'baseline' results of financial / economic modelling reflect what we regard as normal levels of uncertainty; 'abnormal' levels of uncertainty and risks are modelled separately. The risk modelling<sup>2</sup> builds on the findings of the financial / economic model and its results are included in Table 1.1. Note that since the risks are mostly 'downside' the effect of modelling them is to cause the value of costs to increase as probabilistic confidence levels rise. Note also that this Table excludes costs related to procurement; our recommendation is to transfer the risk of cost and time over-runs to the private sector and costs associated with this are additional. The principal purpose of quoting results in Table 1.1 is for comparison between the options.

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<sup>2</sup> An effective understanding of our approach to risk modelling is fundamental to an understanding of the outputs of the analysis, the meaning of the results and how to take them forward. Specifically, we have minimised arbitrary 'contingencies' in favour of replacing this conventional but crude approach with quantifiable uncertainties and risks, and probabilities of their occurrence, using simulation.

1.12 The net present cost to HMG is the total net cost over the model forecast period, 2005-2048, in present value terms - a positive figure representing a net cost. It is presented in Table 1.1 in two ways. In the case of the air access options SHG would enter into a surplus situation during the period studied. In reality, HMG likely would not seek to recover funds from SHG: they would be reinvested in St Helena. We first present the net present cost to HMG on the basis that both financial support (outflows to SHG) and budget surpluses (inflows to HMG) are netted off against each other, and secondly on the basis that the surpluses are ignored.

**Table 1.1 – Discounted and cash outlays, Principal Access Options**

Measures	Long runway (B737)	Medium runway (19-seater)	RMS replacement
<b>Net Present Cost*, £m</b>			
Financial support net of budget surplus, Baseline	£1.1	£1.1	£1.1
Confidence level of Baseline	20%	15%	15%
Mean value from risk model	£1.1	£1.1	£1.1
95% confidence level from risk model	£1.1	£1.1	£1.1
Financial support only (SHG budget surpluses treated as zero), Baseline	£1.1	£1.1	£1.1
Confidence level of Baseline	10%	15%	15%
Mean value from risk model	£1.1	£1.1	£1.1
95% confidence level from risk model	£1.1	£1.1	£1.1
<b>Year in which HMG financial support falls to zero*</b>			
Baseline (Financial / Economic model)	2020	2045	Never
Confidence level of Baseline	20%	Up to 20%	n/a
Mean value (risk model)	2025	2048	n/a
At 95% confidence level (risk model)	2035	Not computed	n/a
<b>Capital Expenditure £m</b>			
Initial investment Baseline (Financial / Economic model)	£1.1	£1.1	£1.1
Confidence level of Baseline	10%	7%	30%
Mean value (risk model)	£1.1	£1.1	£1.1
At 95% confidence level (risk model)	£1.1	£1.1	£1.1
Upgrades / second replacement RMS in 2029	£1.1	£1.1	£1.1
Total Capex to 2048	£1.1	£1.1	£1.1
Discounted total Capex**	£1.1	£1.1	£1.1

\* Assumes decision actioned in 2005

\*\* Discount rate 3.5%; values in 2004 constant prices

1.13 Referring to Table 1.1, the discounted present cost of the long runway solution, net of outflows and inflows is £1.1, which is the baseline financial / economic model result. This compares with £1.1 for the medium runway and £1.1 for sea access. The differences are due to the effect of tourism. The risk analysis shows that these baseline values have

confidence levels of 20%, 15% and 15%, respectively; that is, we are 20% confident that the net cost of the long runway solution would be £1.1m or less, etc. We are also 95% confident that the net cost of the long runway solution would not exceed £1.1m, etc.

- 1.14 When the 'net effect' of the budget surplus is ignored, i.e. looking only at HMG outflows, the baseline cost to HMG would be £1.1m, in which we have 10% confidence; or £1.1m at 95% confidence. The costs of the other two solutions remain about the same, for the reason that they do not achieve much of a surplus (none in the sea access case).
- 1.15 The middle part of the Table illustrates when SHG budget surpluses could start to materialise, quoted again with the corresponding confidence levels. All going well, the long runway solution could start to return a surplus to SHG at 2020, in which we have 20% confidence; the risk analysis indicates that if tourist take-up was low, direct support by HMG could cease at about 2035, in which we have 95% confidence. It is worth noting that even at this lower level of take-up, by 2048, there could be 37,000 tourist visitors on the island, in that year, plus Saints visitors. This equates to around 710 tourists each week. Should the 'baseline' 26,000 Saints as predicted by our analysis of their travel expectations also be achieved, by 2048, there could be an additional 500 visiting Saints per week. By this time also, the population could have reached up to 8,000 – 9,000, depending on the level of tourism growth. So, even under conditions of poor tourist take-up, the island could be quite busy (the Study caps the number of visitors at 1300 per day). This highlights the challenge faced by SHG to manage success, once achieved.
- 1.16 On the other hand, continuing with sea access would guarantee the need for continuous HMG support, and a lot more of it. In the case of the medium runway there is a less than evens (43%) chance that a condition of zero HMG support would occur at the end of the discount period, in 2048.
- 1.17 From the lower part of Table 1.1 it can be seen that, in immediate cash outlay terms, the long runway solution costs £1.1m (Vs £1.1m; the discount period allows for two ships); it also begins to incur costs some four years earlier (cash flows for the early years are presented at the end of Section 12). We are 95% confident that the initial outlay for the long runway solution would not exceed £1.1m. The discounted total lifetime capital cost of the long runway aerodrome access option at £1.1m compares with £1.1m for the RMS option.
- 1.18 The costs of financial support from HMG, as stated in Table 1.1, include all items of support to SHG: the on-going budgetary support and shipping subsidy whilst RMS operations continue; development aid; technical cooperation; the capital costs of the access choice investment plus related running costs; initial support to the air service; and additional identified institutional support costs. The financial support is netted against revenues to SHG that accrue as a result of the access choice investment. The most significant items are the capital expenditure for the access option and the on-going budgetary support. To this must be added the cost of transferring the risk of cost and time over-runs to the contractor.
- 1.19 The decision principle adopted by this Study is that of comparison between options, using one – the RMS replacement – as the base case; a common cost-benefit approach is to impute financial / economic rates of return for discrete projects and compare them: this approach is not adopted here. We have however, examined the Internal Rates of Return on the long and medium runway options by treating the RMS option cash flows as the

base case and deriving the incremental cash flows associated with the incremental investments in the air access options. The results are shown in Table 1.2.

**Table 1.2 – IRR on incremental cash flows**

Access Option	Including SHG budget surpluses	Excluding SHG budget surpluses
Long Runway	14.9%	13.5%
Medium Runway	11.2%	11.2%

1.20 This demonstrates that both air access options have internal rates of return substantially above the test discount rate of 3.5% and that the long runway is preferred.

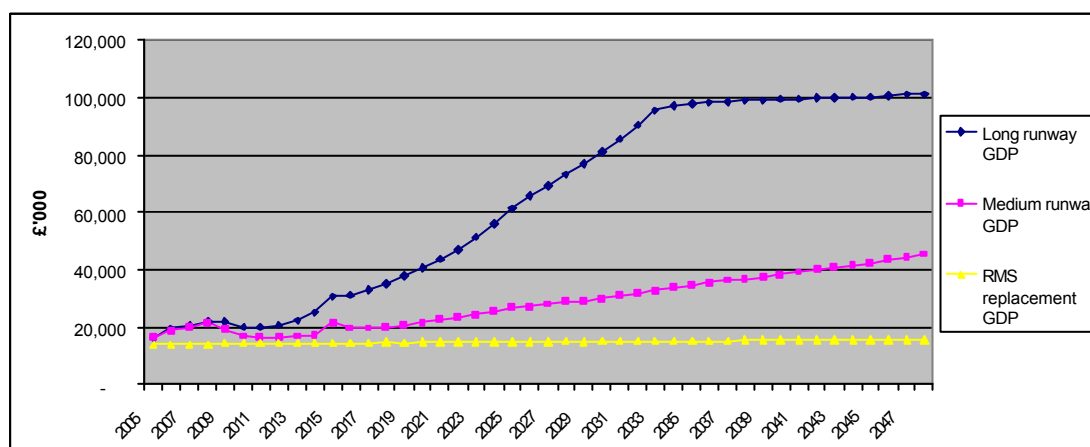
1.21 The air access solutions, the long runway option in particular, would generate substantially higher levels of economic development on the island, as summarised in Table 1.3.

**Table 1.3 – Levels of Economic Development Generated by the Options**

Access Option	GDP in 2045, £m	GDP/capita, 2045, £
Long Runway	100.7	11,362
Medium Runway	43.7	8,312
RMS Replacement	15.4	7,342

1.22 The comparison of GDP for the three options over the period of discounting is shown in Figure 1.1.

**Figure 1.1 - Comparison of GDP for access options (baseline)**



## Procurement costs

- 1.23 Table 1.1 is based on the costs that would be associated with a conventional public procurement. Having arrived at a preferred option we then derived a procurement strategy for it, the result of which is a recommendation for a 'design, build and operate and transfer' (DBOT<sup>3</sup>) approach. There is likely to be a premium of the order of about £1.1m associated with DBOT, subject to the outcomes of the procurement process itself, but the approach offers advantages to compensate. These are that there is a significant transfer of management risk to the private sector and a greater emphasis on managing the overall project as a single undertaking. We consider that on balance this approach would offer better value for money than conventional public sector procurement. The additional cost can be regarded as a risk 'premium' which would need to be paid to the private sector if it was to take on the responsibility for managing the risks involved in DBOT, acting as a means of mitigating risk of over-run.
- 1.24 The capital costs, initial investment period, for the three options, together with the capital costs of the long runway via DBOT procurement are represented in Figure 1.2. Note that this Figure does not show an equivalent DBOT premium for the medium runway, neither the replacement cost of the second ship. The capital cost of the Long Runway increases from £1.1m to £1.2m if the anticipated cost of DBOT risk transfer is included.

### Figure 1.2 - Overview of capital expenditure costs

Figure 1.2 has been omitted as it contains information that is commercially sensitive.

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<sup>3</sup> This notation is used throughout this Report; the Transfer element refers not to the transfer of ownership of (aerodrome) assets but to the return of custodianship following a period of operational responsibility.

## Summary conclusions from Financial / Economic Modelling

1.25 Summary conclusions from the modelling and procurement value-for-money analyses are:

- The long runway solution has the lowest net present cost, at £1.1m, followed by the medium runway; the RMS replacement option is the most expensive option for HMG overall.
- An aerodrome involves a higher level of capital outlay than the RMS replacement in the early years. The long runway option requires greater capital investment than the medium runway, at £1.1m including DBOT costs.
- The subsidy could be reduced to zero by the long runway option within the period of discounting: the risk analysis shows that only this option has a high possibility of achieving this outcome. The medium runway option has only a 43% probability of achieving zero subsidy within the period.
- The results of the sensitivity and scenario analyses demonstrate that the decision criteria used to identify the long runway as the preferred option are robust against substantial adverse changes in the input variables.
- The risk analysis, also deploying substantial adverse changes in the input variables, shows that at all levels of probability the RMS replacement option has the highest NPV of costs – meaning that there is no ‘overlap’ between it and the air access options.
- The GDP predictions are much stronger for the long runway option than for the medium runway or RMS replacement.

### A ‘disaster’ check

1.26 By way of checking what might happen under conditions of almost no tourist take-up, if the long runway aerodrome was built, we applied the conditions pertaining to the sea access solution, i.e. very few tourists, a mere 1000 or so per year, and of course, fewer Saints. We found the (baseline) discounted costs of each solution to be about the same, at £1.1m. So in this case one would choose the aerodrome because it has, at the very least, the potential for improving matters on St Helena.

### Timing

1.27 There should be no delay in making the decision to adopt the long runway solution. Although the risk analysis takes account of delay, due to construction issues, it does not model delay in making the decision to invest. The modelling is conditional upon the decision occurring early in 2005; the results would otherwise begin to lose meaning. The opportunity cost of delay would be loss of belief among Saints and potential investors, the difficulty of re-establishing momentum, and higher costs.

## PRINCIPAL CONCLUSIONS AND RECOMMENDATIONS OF THE STUDY

1.28 This Feasibility Study provides robust evidence which leads us to conclude that:

- The island community of St Helena is in serious social and economic decline.
- This decline will not be arrested if the policy of access provision for people continues to be by sea, whatever type of sea access is chosen: it would accelerate.
- There are segments of the tourism market, the world’s largest industry, that seek the kinds of holiday experiences that could be offered by St Helena.

- These market segments are collectively relatively large compared with the numbers of tourists required to visit St Helena to make a positive impact on the island's economy.
- These market segments can only be exploited through having air access to St Helena.
- There is a high probability (95%) that the introduction of air access would reverse the economic decline, create job opportunities and enable return-migration by off-island Saints to their currently abandoned families, through the development of tourism and associated industries.
- Of the air access options appraised, the Long Runway is preferred as it provides the least-cost solution in economic terms and the one most likely to enable St Helena eventually to become self-sufficient.
- The Government subsidy could be reduced to zero as early as 2020 if the decision was taken to proceed by early 2005, if all went to plan and if the demand projections were achieved, year on year. Even under the worst case scenario of tourist take-up, in which all risks and uncertainties are realised, there is an 80% chance of reaching zero subsidy by 2030 and a 95% probability by 2035.
- It is likely that, subject to commercial considerations, an air service could be procured under a risk-sharing contract.
- **1.1.1.**
- Initial indications from the market are that it should be possible to procure the aerodrome and associated operating contracts under one primary contract and furthermore, to include operations of the aerodrome in such a contract.
- As a prerequisite to success, St Helena will have to make institutional change, particularly in respect of policies and procedures concerning immigration, landholding and inward investment, and strengthen the marketing structures and activities.

1.29 We recommend adoption of the long runway solution as outlined in this Report. The time available in which to realise start of air operations coincides with the timeframe for replacement of the RMS: but the decision would need to be taken without delay if that circumstance is to be maintained.

1.30 For success to be realised, the change required of SHG will need to be managed not only with sufficient energy, driving force, willpower and be sustained through time, but it will also require a highly professional approach, one that understands marketing and sales of tourism and the commercial processes required by which to achieve results. Similarly, the logistics of building an aerodrome on a remote ocean island will require an effective partnership. Once the decision has been announced, it will confer immediate commercial value to the concepts contained in this Report, particularly those concerning preparatory investment. Therefore we recommend that in conjunction with the decision a plan is drawn up that addresses the immediate management of its implementation, to embrace the construction and the simultaneous development of policy-making, marketing and institution-building. This Report contains the elements of such a plan. This Report is commercially sensitive and should not be released into the public domain until after the procurement process is completed, if at all.

1.31 To achieve an effective implementation partnership and to allow time in which to build up 'own' management expertise, we recommend a procurement approach that transfers risk through letting a primary contract for the design, building and operating of SHG's



aerodrome. Operations would be under a remunerated concession, the term of which we suggest should be ten years, at the end of which another management contract would be required. The air service contract would be let separately.

- 1.32 Success can best be achieved if DFID, SHG and the prime contractor work in a partnership, which should be recognised and declared as an intention from the outset. The alternative, being sandbagged in committees, will guarantee frustration, delay and irreversible loss.

## ADDITIONAL ASPECTS OF THE FEASIBILITY STUDY

### The Current Situation

- 1.33 The consequences for demographic momentum arising from recent out-migration are that St Helena's population will continue to decline and age, *even if there is no further net out-migration*, assuming 2003 fertility and mortality rates. In other words, it will take a significant 'event' even just to stabilise the current underlying negative trends now embedded in the dynamics of the population.
- 1.34 St Helena's lack of natural resources (other than its natural beauty) emphasises the importance of its human capital. There is a shortage of entrepreneurial and managerial skills on the island, but our research indicates that skilled Saints living overseas would be prepared to return in the event of economic development.
- 1.35 A number of institutional barriers to development exist, principally of a discretionary and (to this Study) non-transparent nature regarding immigration and landholding. However, initiatives are being taken such as the introduction of 'key posts', aimed at attracting skilled Saints to return to St Helena.

### Key Challenges

- 1.36 A key challenge is how to reverse the steady decline in the population. There are a number of measures and actions that SHG can adopt, particularly if it is confirmed that air access will proceed; these include:
- rebuild confidence in enhanced access and the development of tourism
  - provide incentives to attract Saints back to the island
  - promote entrepreneurship among resident and returning Saints
  - take a positive attitude to immigration to attract skills and investment
  - allow public sector remuneration to increase in line with the developing economy, whilst ensuring increased efficiency and effectiveness of the public service
  - invest in making the island more attractive
  - mitigate the impact of price increases on the vulnerable.
- 1.37 The principal domestic sources of SHG revenue are derived from direct and indirect taxes. Increasing investment and employment could be expected to augment substantially the direct corporate and personal tax-take. The main sources of indirect tax revenues are customs and excise duties. Both sources – and others – would expand considerably with the growth of tourism, even without a change in the rates or the introduction of new taxes.



- 1.38 The levels of tax revenues projected in the economic analysis, which directly impact the required level of HMG subsidy, are likely to prove conservative estimates. There are a number of reasons for this:
- our analysis is based on the existing direct and indirect tax structures
  - SHG is currently undertaking a Fiscal Review, one objective of which is to restructure taxation in such a way as to maximise net revenues
  - there would be opportunities to target tax increases and duties on, for example, tourist-related consumption
  - with the increasing viability of tourist accommodation there would be opportunities to adjust upwards specific direct taxes, such as the Hotel Tax.
- 1.39 An increase in tourism-related imports would increase government revenue from import duties but negatively impact economic growth, since it would represent a leakage of resources overseas. It would be SHG's challenge to minimise this leakage.
- 1.40 Although both direct and indirect tax revenues would rise in a buoyant and growing economy, the net budgetary position for the government would be offset partially by the need to increase expenditure on infrastructure and public services. In a situation of rapidly increasing revenues, the challenge would be to manage expenditure to ensure that it rose in line with the needs of the population and the state of repair and capacity of the island's infrastructure, while at the same time being carefully monitored and controlled.
- 1.41 In the RMS replacement option, total financial support per capita - excluding capital expenditure - has been projected to remain approximately constant. This represents a somewhat conservative assumption, since it is arguable that if a runway were not to be built, then continuing net emigration would result in the loss of economies of scale in the provision of SHG services, and the costs of support on a per capita basis would increase.

#### **Demand assessment – use of Proxy Islands**

- 1.42 The World Tourism Organisation developed a tourism concept (1996) for St Helena based on its natural and cultural heritage features. Taking its lead from that Plan, this Study identified ten islands with characteristics closest to those of St Helena and that have air access, and used them as proxies to inform about potential tourism demand on St Helena.
- 1.43 All ten islands have experienced significant growth in tourist numbers. Salient lessons have been drawn (presented in Section 6 of this Report); they may be used by SHG as benchmarks in formulating relevant policies.
- 1.44 Easter Island is the closest comparator. It is a similar size, has a similar size population and is even more remote than St Helena. Its model of culture / heritage tourism is not based on luxury surroundings and tropical beaches, is not dependent on massive investment in tourist infrastructure, yet successfully attracts visitors with higher than average income, and has direct parallels with the type of tourism St Helena might aspire to develop. Over a 12-year period annual tourist levels grew five times to more than 25,000. Dominica is the next closest comparator - a mountainous volcanic island with few and not-so-attractive beaches. The travel and tourism contribution to its GDP is consistently

around 25% year on year, with a compound annual growth rate of 8.5% (15% for Easter Island).

- 1.45 These similarities give us sufficient confidence to project a similar development pattern for St Helena. We have therefore used the experiences of other islands to construct tourism growth curves for St Helena, built up as a series of discrete time periods covering the 40-year discount period for each access option. To these estimates we assigned ranges of uncertainties in growth to facilitate formal risk-modelling using the Monte Carlo approach. We applied the resultant growth curve to the base demand projections that we derived from our primary market research.

### **Demand Assessment - Market Research**

- 1.46 Our extensive market research with tour operators and other travel and tourism organisations generated ample information on the likely target customer segments and their requirements of accommodation, attractions and facilities, preconditions for generating tourist demand and operator interest and on the likely levels of tourist spend. The main findings are:

- St Helena is viewed as a potential nature-based holiday destination. Culture and heritage features are considered strong complementary features to an overall nature-based experience.
- Air access is regarded as the absolute pre-requisite for development into a tourist destination.
- Access by small-size business jets is not attractive to operators, which together with the necessarily higher fares, greatly reduces potential market size.
- There is no interest from operators in marketing holidays on St Helena based on access by sea.
- Tourism is now the world's largest industry with international arrivals predicted to reach 1.56 billion by 2020 from some 700 million in 2000, implying a compound average growth rate of 4.1% p.a. Its share of world GDP is expected to reach 12%.

### **Tourist Demand Projections**

- 1.47 Table 1.3 presents the projections from the proxy growth curve applied to the primary research. In the case of the long runway there would be a need to constrain the growth of tourism once a volume of tourists was reached, for environmental and supply reasons. Capping policies are supported by the proxy island study and are discussed in Section 8.
- 1.48 In our forecast, the tourism demand growth is restricted to 0% after Year 25 of the start of airport operations. This is the year in which the number of tourists on any one day is projected to have grown to around 1300 – a number that we regard as representing an upper limit on the island's absorption and management capability. The long runway projections in Table 1.3 reflect this cap.

**Table 1.3 – Annual projected tourist visitors, Baseline**

Access Option	2010	2014	2024	2034	2048
Long Runway	1,493	6,375	25,789	58,601	58,601
Medium Runway	498	1,170	4,732	10,752	19,990
Replacement RMS	696	862	1,473	2,515	3,320

- 1.49 Research strongly indicated that operator-generated demand would be reduced substantially for an air service based on 19-seater business jets, the two main reasons being the higher airfare and the incapacity to service tourism operator demand. These are the principal reasons for the lower growth curve of the medium runway projections.
- 1.50 The forecast for the Replacement RMS demand is capped by 2039 to the maximum number of tourists that can be accommodated on the ship.

#### **Demand for travel by Saints**

- 1.51 Demand for air travel by Saints was drawn from our surveys of Saints resident on the island and those living abroad. The estimated initial annual demand (baseline) was estimated at 5,530 for the long runway option, 2,042 for the medium runway option and 1,560 for the replacement RMS option.

#### **Demographic Projections**

- 1.52 Both air access options would yield tourist numbers that would have the effect of reversing the economic decline and create jobs. The long runway option anticipates substantial job creation, which would exceed the labour force available and would result in a substantial level of net in-migration
- 1.53 The demographic projections show that by 2048, the island's population could be almost 9,000 under the long runway option and a modest 5,350 under the medium runway option, whereas under the RMS option, it would decline to around 2,050.

#### **Outline descriptions of the principal access solutions**

##### **Long Runway**

- 1.54 The long runway option comprises a concrete runway 1950m long surrounded by an area of levelled and graded ground necessary to meet the regulatory safety requirements. Construction requires movement of around 8 million m<sup>3</sup> of rock. The passenger terminal would accommodate up to 162 passengers on any one flight.
- 1.55 The concept uses a contracted air service provided by an existing airline. As traffic grew, the frequency of flights would be increased and the air service provided on a normal commercial basis. The service would start with one return flight (one 'rotation') per week. Based on the use of the B737-800, this would rise to two rotations by about Year five. The B737-800 is the largest that could be accommodated within practical limits and is also the most widely available type in the region. Ten rotations would be required when traffic stabilised at around 58,000 visitors by Year +26.

- 1.56 The contracted airline would provide considerable support for the day-to-day operations as well as using its existing sales and marketing network to facilitate ticket sales. The air service would initially be provided through one gateway airport on the African mainland and as traffic expanded, the number of gateways could be increased. In the early years there would be one flight per week, expanding later to one per day.
- 1.57 A basic requirement of SHG/DFID was to ensure an open skies policy could be implemented for the provision of air services to St Helena. From the analysis carried out, it was determined that a takeoff runway of 1950m with an associated landing runway of 1650m would best meet the requirement of the 'open skies' policy.

### **Medium Runway**

- 1.58 The medium runway option also comprises a concrete runway, 1699m long, surrounded by an area of levelled and graded ground. The concept is to operate a fleet of 19-seat business jets, based on St Helena and owned by SHG, extending as traffic grew. The service would start with a fleet of two aircraft to ensure continuity of service, rising to three by Year +20 for 12,000 visitors, and to six by Year +40 to handle 20,000 visitors.
- 1.59 Under this option, it would be necessary to provide aircrew, engineering support, and a sales and management team to operate what would effectively be an independent airline. The cost estimates allow for the required buildings (including a hangar, aircraft workshops, offices etc.) and infrastructure to support this concept.
- 1.60 The air service could provide links to a large number of African airports but air cargo, other than mail, would not be practical.

### **Modified Medium Runway sub-option: accommodating B737s**

- 1.61 A sub-option of the medium runway was developed, to explore opportunities to limit initial capital outlay. This comprises a 1700m concrete runway, widened to allow operations by B737 type aircraft (or equivalent) and surrounded by an area of levelled and graded ground necessary to meet the regulatory safety requirements for operating these larger aircraft. In all other aspects, the concept and support facilities are similar to those included in the long runway option. However, this option limits the size of Boeing or Airbus aircraft that could be used and therefore restricts the choice of airline to supply that service. There are uncertainties concerning the weather on Prosperous Bay Plain and also about the operation of aircraft of this size onto a small runway at 1000ft above sea level with approaches over steep bluffs. Also under this sub-option, only very limited cargo could be carried in the aircraft holds and independent air cargo operations would not be practicable.
- 1.62 A capex of £1.1m was included at Year +20 to allow for extension of the runway to permit operations using larger aircraft, because this sub-option could not be undertaken with the degree of confidence required to be sure it would actually provide a practical solution. Such an extension would leave a permanent scar on Prosperous Bay Plain.
- 1.63 The service would revert to that of the long runway option after the runway had been extended but it would be likely to start from a lower level of passenger traffic if larger aircraft had had to be used in the preceding years.

- 1.64 This sub-option is not recommended for serious concern, primarily on grounds of safety, but also because of the lack of confidence that it could be a practical access solution (related to aircraft performance).

#### **Procurement of the Air Service Provision**

- 1.65 As the market sources are limited, a negotiated rather than a tendered approach is considered to be the best option for creating the (B737 / Airbus equivalent) air service.
- 1.66 .
- 1.67 It is as well to anticipate that negotiations with a service provider would run more smoothly if there was a better agreement over Wideawake, also that they might not be possible should the current agreement be reversed in some way in the interim. Our analysis indicates that complete loss of air service revenue from the St Helena - Ascension leg would not change the relative positions of the three access options studied but could make the air options more expensive, particularly if a small ship was required. We firmly recommend that the UK Government take immediate steps to address the use of Wideawake Airfield. If it is not addressed very soon, it could impact on the procurement phase within 12 months of its commencement, which would be intolerable if key contracts had by then been initiated.

#### **Ticket prices<sup>4</sup>**

- 1.68 For air access, ticket prices were calculated on normal commercial lines and linked to the cost of each access option. In our analysis we assumed zero ticket subsidies - investigating only a subsidy on Saints' tickets in the medium runway option (19-seater business jet). .
- 1.69 For sea access, we applied the current RMS prices.

#### **Provision of sea cargo under Air Access**

- 1.70 Our research shows that this provision could be met through normal commercial maritime transactions, which could result in lower unit costs of transport than under the RMS arrangement. It is assumed that all costs would be passed on to the consumer and we have excluded this cost from our financial / Economic analysis.

#### **RMS Replacement**

- 1.71 The current RMS would be replaced with a slightly larger vessel, to carry 180 people instead of the current 128, and slightly more cargo. No harbour modifications would be necessary, other than small upgrades to current handling and transfer arrangements.

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<sup>4</sup> Ticket prices, as calculated and used by this Study, although based on commercially realistic costs and profit measures, have no commercial basis and should not be quoted out of context as reference prices.

## **Contextual issues**

### **Environmental Issues**

- 1.72 Impact scoping was carried out with respect to the airstrip, haul routes, operational routes and tourist development. The principal conclusion was that aerodrome construction would impact on the landscape and endemic invertebrate community on Prosperous Bay Plain but that careful design and planning would mitigate the effects substantially.

### **Social Issues**

- 1.73 Overall, there is no dispute that the island is in decline in terms of population, economic activity and quality of community life. Air access is perceived as the island's last chance to re-establish itself. The widely held view, however, is that mass tourism is not suitable. Instead the island should play to its strengths and encourage 'low impact' tourism as identified in the Tourism Master Plan.

### **Tourism Function**

- 1.74 We propose an arrangement for allocating responsibilities across the different tourism roles, split between the public and private sectors.

### **Contract Management**

- 1.75 All three options include major capital procurements, which would require some form of contract management on SHG's part. Additionally, the operational phases would require contract management for as long as the ship or air services continue. The commercial monitoring of contracts is a skill that SHG would need to develop.

### **Institutional and Governance Costs**

- 1.76 Key institutional issues have been cited above and have been included in the economic analysis.

### **Legal and Constitutional Issues**

- 1.77 For air access options there are actions to be taken, as follows:
- Address and re-consider the extent of SHG authority (e.g. SHG is not empowered to borrow or provide guarantees or indemnities without Secretary of State consent).
  - Clarify and seek agreement on operations into Ascension Island from St Helena.
  - Clarify and seek agreement on air service agreements (e.g. role of European Commission in negotiating new air service agreements; establishing route between St Helena and South Africa, establishing other gateway airports, direct flights from UK).
  - Clarify how interest in land would be dealt with (e.g. SHG may not only have to grant an interest in land to a contractor who is a foreigner, but guarantee not to interfere with that interest).
  - Modernise building regulations to ensure that they are appropriate to the project.
  - Clarify rules for compulsory purchase (should any privately owned land is required for the aerodrome, Secretary of State approval is required before acquiring it).

- Clarify and modernise the position on work permits and rules / regulations on long-stay visitors and investors.
- Introduce minimum wage ordinance.
- Introduce taxation allowances (covering construction of the aerodrome, operation of the airport and air service and incentives for inward investment).

1.78 No specific legislative framework needs to be set up for the establishment of an air access project; however, an ordinance providing for such a project would provide a convenient way of addressing various issues.

#### **Outline Implementation plan**

1.79 Finally, we present an outline plan that would assist both DFID and SHG in planning the procurement and construction of the recommended access option. This occupies five years, commencing with the decision to proceed. It covers the principal steps toward achieving an operational aerodrome, including competitive tendering, design and construction.

1.80 The Implementation Plan includes management and supervision of the entire set of contractual activities, also the build-up of the institutions in readiness for operations. DFID should take the initiative on this implementation.



## 2 INTRODUCTION

### THE SETTING

- 2.1 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 (Cape Town). The island's total population is around 4,000, of whom about 900 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.
- 2.2 St Helena has no aerodrome and the only regular mode of access to the island is via the Royal Mail Ship (RMS) St Helena. Until September 2004, the RMS maintained access to St Helena by undertaking four round voyages from the UK and South Africa per year and also shuttle sailings between St Helena, South Africa and Ascension Island. As of September 2004 the RMS made its last UK visit. It is now based in the South Atlantic on a new schedule (published, with new passenger fare and cargo tariffs) in a new attempt to better exploit the vessel's capacity and to stimulate the island's declining economy.
- 2.3 All (dry) goods and equipment are transported to St Helena 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 shore, 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 is supplied via a commercial arrangement with a separate shipping agency and is landed at Rupert's Bay.

### IMPROVING ACCESS TO ST HELENA

- 2.4 Over the years there has been a succession of studies about St Helena with various objectives but essentially attempting to maximise the use of existing assets, principally the RMS and the offload facilities at Jamestown. The last study to address the question of air access was the High-Point Rendel work, carried out in 2001<sup>1</sup>. Where possible, we have drawn on the work done by others.

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<sup>1</sup> Comparative Study of Air and Sea Access, June 2001



- 2.5 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. The primary goal of this Feasibility Study is to identify that type of access that helps to unlock potential for economic development and improved social conditions. The RMS is due for replacement by 2010. 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.
- 2.6 In May 2004, following the April 2003 international invitation to attract an outline proposal to develop an air access solution 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, covering both sea and air access.
- 2.7 The purpose and organisation of this Study is revisited in Section 5 below, following an appraisal of the situation in and challenges facing St Helena in the next two Sections. The Terms of Reference for the work are shown in Appendix A to this Report.

## STRUCTURE OF THIS DOCUMENT

- 2.8 This Feasibility Study document is structured as follows.

### Section 1 - Executive Summary

- 2.9 The Executive Summary serves two principal purposes: to inform the reader in a concise manner of what the Study is for and how it was undertaken, and to summarise the principal conclusions and recommendations.

### Section 2 - Introduction

- 2.10 Sets the context of the Study and presents a 'road map' to the reader.

### Section 3 - The Current Situation

- 2.11 Describes the situation 'on the ground' at St Helena, summarises the constraints to economic development and what might be expected to happen should they not be addressed as other than under RMS replacement.

### Section 4 - Key Challenges facing St Helena

- 2.12 Illustrates what has to be accomplished if reversal of decline is to be tackled in a meaningful way, i.e. how the constraints might be overcome. Discusses economic issues, population dynamics, budgetary support, the potential for tapping tourism, and introduces the kinds of change that the island would need to introduce in the event it decided to use tourism as the means for checking its decline.

### Section 5 - The Purpose of the Feasibility Study

- 2.13 Building on the picture painted thus far, we ask the question "what is the best way of going about tapping the tourism market?" The Study's aims and objectives are introduced and discussed in the context of being the last time anybody is likely to study how improved access to St Helena could become the means of arresting decline of its economy. Illustrates the approach to the Study, introducing a key document, the Assumptions Book, which gathers together all the conditions, specifications, premises and grounds for assuming the various positions during the development of our arguments.

- 2.14 The Study tackles issues of practical feasibility, in addition to the core issue of economic benefit and cost and how to go about realising it. As such, the Study aims to provide solutions whose implementation would commence the reversal of economic decline. Under air access, it investigates all possible options currently available in a technological sense; it outlines designs to a level of perhaps 30% of completed designs; it sets out robust financial and economic argument; it offers a procurement strategy; it advises on an approach to building the island's institutions, tackling its social challenges and managing environmental impact; and it shows how a programme management approach may be adopted.
- 2.15 The Study thus offers two key value-adding functions: a robust recommendation as to what to do next, and an informed pathway as to how to do it.

### **Section 6 - Demand Assessment**

- 2.16 St Helena's characteristics are first compared with a series of 'proxy islands' that have established tourism as a main driver of their economy. The demand for travel and accommodation from three main traveller types is then assessed: tourists, Saints and business travellers. Both bottom-up and top-down approaches have been applied. Demand is estimated directly via surveys of Saints – to determine Saints' demand for travel, and surveys of tour operators and agents - to determine tourist demand. 'Top-down', the Study analyses historic tourism developments across a range of carefully selected proxy islands. Along with costs, these estimates form a key input to the subsequent economic analysis. This primary research approach enables the Study to stand alone.

### **Section 7 - Technical Considerations and Cost Estimates**

- 2.17 The Access Options considered by this Study are described in this Section, i.e. two air access and one sea access (replacement RMS). The premise for air access is described and policy implications highlighted. The approach to the design and subsequent cost estimation is described, along with the approach to air fares estimation.

### **Section 8 - Contextual Issues**

- 2.18 Here, we deal with the more qualitative aspects of the economy: environmental, social, institutional and governance, discussing in a fair degree of detail, though remaining at the macro level, what needs to be undertaken on St Helena under each of the three types of access being considered. This Section also identifies further costs implied by each form of access and includes consideration of how the private sector might be expected to be involved, going forward.

### **Section 9 - Economic and Financial Analysis**

- 2.19 Taking the costs and revenues (derived from demand estimates and fares estimates) we model behaviour of the economy of the island through time, for each access option. This Section shows how the model is built and how the financial and economic data from St Helena and the proxy island studies is used. A description is given of the overall outputs from the model in terms of the macro-economic projections and the level of UK Government financial support required for each option. The model is used to determine the best financial / economic option and allows sensitivity testing and scenario investigation.

## **Section 10 - Comparison of Options**

In this Section, the results of the quantitative analysis (Financial / Economic) are presented and discussed for each access option. The outputs for the two air access options are compared with those for the RMS replacement option, and some additional sub-options are also explored. In this Section we arrive at our principal quantitative conclusions from the Financial / Economic modelling. These outputs are referred to as the 'Baseline' outputs, or the 'unrisked' outputs. They represent what would be expected under normal conditions, assuming good and effective management. The next Section, Risk Analysis, subjects the baseline results to what may be regarded as unexpected, or risky, conditions.

## **Section 11 - Risk Analysis**

2.20 It is important in an undertaking of this gravity that a more robust approach to the boundaries of possible outcomes is taken than the simple sensitivity and scenario testing afforded by selective application of the Financial / Economic model. In this Section we describe the top-level risks and uncertainties and how they were derived and how they can be used to establish boundaries of outcomes, for example maxima and minima of tourist numbers in any one year. The risk analysis follows from the Financial / Economic modelling. It is important to take a view on both unrisked and risked outputs, so that a full context is minded at the outset. The risk analysis is useful in that it informs the planner about which risks could have the greatest effect and therefore which areas of the implementation should receive particular attention, so that the probability of realising these risks can be minimised, and thus their effects.

2.21 This ends the comparison aspect of the Study; by this point we have come to our main conclusions on each access option and on the preferred option.

## **Section 12 - Procurement Strategy**

2.22 Having arrived at a preference for the type of access to St Helena that would have the most beneficial impact and maximise value for money, we go on to discuss the various forms of procurement that might be considered, examining opportunities in the range of full public procurement on the one hand, to full transfer of risk to the private sector on the other. Through examining the pros and cons of each we identify a route that is deliverable and that maximises procurement value for money. We estimate the cost of this procurement route and add it onto the cost of the preferred access option.

## **Section 13 - Conclusions and Recommendations**

2.23 Re-states the principal conclusions, lists detailed conclusions and makes clear recommendations for the way forward.

## **Section 14 - Implementation Plan**

2.24 Presents a strategy in the form of an outline (i.e. high level, succinct) time-based plan corresponding to the recommended way forward. Identifies the principal activities and sub-tasks and identifies the parties which should take primary responsibility for ensuring achievement. The timeline includes key milestones and a simple critical path.

## **Appendices**

2.25 The Report makes extensive use of material developed during the course of the Feasibility Study and this material is attached as a series of Appendices in two volumes. These present much of the detailed argument called upon in the Report proper and their inclusion

ensures that the Report is a self-contained document. In that sense, we aim to ensure that there is little or no material omitted by this Report that has already been put forward by this Study for client review.

- 2.26 One of these Appendices contains the Terms of Reference for environmental management that would be given to a contractor (a deliverable of this Report).
- 2.27 Robustness is a watchword of this Report. The inclusion of this (not insubstantial) material in the Appendices, together with references to work done by others or to other third parties demonstrates that this Study has been conducted as thoroughly as possible within the time allowed.

#### **The Financial / Economic Model**

- 2.28 The Financial / Economic model resides in MS Excel and it forms part of the Final Report. This model has been the subject of an external peer review to assure that appropriate algorithms have been used when modelling the key aspects of the St Helena economy, and of a second (internal) peer review to assure consistency across its algorithms and other aspects of spreadsheet modelling good practice.

#### **The Risk Model**

- 2.29 The Risk model resides in two applications: MS Excel and @Risk. It is developed from the Financial / Economic model. @Risk uses the Monte Carlo simulation technique. Since the models are stand-alone items, structural modifications to the Financial / Economic model must be carried out manually in the Risk model. We have used the Financial / Economic model to generate 'baseline' outputs, pertaining to various scenarios, and we use the Risk model to generate projections corresponding to the 'baseline' outputs. In this way, the Study outputs can be stated in risk terms.

#### **Other reviews**

- 2.30 This Report has been the subject of an external review, commissioned by DFID, undertaken during January 2005.
- 2.31 During the course of the Study, Atkins commissioned its own independent review of the runway solutions proposed herein. This was carried out by LEAPP Consultants.

### 3 THE CURRENT SITUATION

#### BACKGROUND TO THE FEASIBILITY STUDY

##### Access arrangements

- 3.1 The RMS provides secure (scheduled) access for passengers and acts as the only (exclusive) source of supply of cargo (dry goods) to St Helena, offloaded by barge at Jamestown; fuel oils (petrol and diesel) come by separate contract, off-loaded by flexible hose and stored in tanks at Rupert's Bay
- 3.2 One of the motives for basing the RMS in the South Atlantic lay in the fact that its true capacity was not being exploited to the full. The St Helena – Ascension Island voyage leg for example often became booked up in advance by Saints using the 'airbridge', contributing to an inability to forward-book tourists via tour operators. Although efforts have been made by SHG and through the St Helena Line (which owns the RMS on behalf of SHG) by Andrew Weir Shipping Ltd (managers and operators of the RMS) to project the image of and actively sell the 'product' of St Helena as a leisure destination via a sea cruise, these have been unsuccessful in attracting sufficient tourists to make a difference to the economy. The record shows that the RMS on its own is unlikely to make the difference (between stagnation and growth of the St Helena economy). It is a possibility that the RMS on its new schedule could make a better job of attracting more tourists than it has done to date – this remains to be seen. It is unlikely however that even its best returns would stimulate any more than relatively minor economic activity on the island (based on this team's exposure to the island, to Saints in various locations and to travel on the RMS, and also on analysis of the record to date).
- 3.3 There is an issue surrounding transfer of passengers from ship to shore at St Helena: the NE swell sometimes prevents successful transfer and inhibits the attempts by visiting cruise ships to put tourists ashore. This has led to a series of studies on the feasibility of constructing a breakwater or other means of making all-weather transfers, involving up to tens of millions of pounds. These have come to nothing (other than 'fixes' to nagging problems, such as containment of rockfalls, though many such problems remain unsolved). It is doubtful that provision of significantly better transfer arrangements for the RMS would significantly improve its 'catch' of tourists. Because the volume of transfers from the RMS is low, there is no business case for large investment in docking facilities, although some may advance a social impact argument why the transfer arrangement should be improved. Visiting cruise ships cannot be regarded as providing security of access (they will not schedule visits to St Helena) and their visitors spend little on the island. Cruise ships as a source of visitors, on their own, thus do not constitute an argument for investing in improved transfer arrangements.
- 3.4 It is time that some 'vision' was brought to the development of Jamestown as a tourist centre, if indeed the island aspires to a future linked directly to tourism. Such vision would ask whether commercial activities should be re-located out of James Bay - in due course.

- 3.5 It is clear that, if the objectives of SHG and DFID are to be met, an alternative form of access is required, which to all practical intents and purposes can only be by commercial jet aircraft. This Study is required to consider the feasibility of two forms of air access and replacement of the RMS as a 'base case comparator' (discussed more fully in Section 5).

### **CURRENT ECONOMIC POSITION**

- 3.6 The vision for the island as set out in the 2000-2010 Strategic Review is: "a prosperous, peaceful and democratic society for all through sustainable economic, environmental and social development leading to a healthy and eventually a financially independent St Helena." The achievement of this vision is interpreted in a range of key indicators, including economic ones such as:
- per capita GDP and average earnings which are 20% of the UK level
  - level of unemployment of 5%
  - proportion of private sector employment equal to 50% of the total
  - a visible balance of trade ratio of imports to exports of 8:1.
- 3.7 The island is far from achieving these goals and the current economic position is characterised by:
- an estimated GDP per capita in current price terms of some £3000 at mid-2004
  - an estimated unemployment level at the beginning of 2004 of some 9.5 -10.0%, exacerbated by the continuing departure of people of employment age
  - a dominant public sector which accounts for around 70% of employment on the island
  - a visible balance of trade ratio in excess of 40:1 (excluding tourism exports)
  - an on-going requirement for DFID financial support which continues to grow in real terms.
- 3.8 The island's dearth of inward investment, weak resource base and limited market continue to provide a severe constraint on any significant development of the private sector.

## DEMOGRAPHIC TRENDS<sup>1</sup>

### Current population of the Island

- 3.9 A census of the island was undertaken in 1998 and information was also collected about Saints residing and working in Ascension Island and the Falkland Islands. The previous census was undertaken in 1987.
- 3.10 The 1998 census enumerated a resident population of 4971 on the island. 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. This was a considerable reduction from the comparable figure of 5,500 enumerated by the previous census held in 1987 (Table 3.1).

**Table 3.1: Comparison of enumerated resident population, 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*

- 3.11 Information from the registration of births and deaths is presented in the annual statistical Yearbooks and 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 Department of Development and Economic Planning.
- 3.12 These data 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. Data for 2004 suggest that the numbers continue to decline.
- 3.13 St Helena has a long history of people leaving the island for employment elsewhere. There are established communities of Saints on Ascension Island (since the 1920s), the Falkland Islands (since the 1980s) and in the UK. There are also communities of Saints in other countries, including South Africa and the United States, but no statistics are available about their numbers or composition.
- 3.14 The history of migration to the United Kingdom is long-standing. Many Saints who went 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.

<sup>1</sup> For a more detailed discussion of demographic issues refer to Appendix B, *Demographic developments: Estimation of the future population of St Helena*



**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

- 3.15 On this basis it is currently estimated that the community of Saints in the UK numbers around 10,000<sup>2</sup>. The number of Saints on Ascension Island is relatively stable and the current figure is estimated at 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.

### Levels and trends in mortality, fertility and migration

#### Mortality and fertility

- 3.16 It is estimated that current mortality rate on St Helena is represented by a life expectancy at birth of 71.5 years for males and 78 years for females. This is believed to have improved steadily in recent years, incorporating both improvements in infant and child mortality and at older ages, reflecting a general rise in health care and living conditions. The comparable figures for the period 1984-1993 were 68 years for men and 75 years for women<sup>3</sup>.
- 3.17 Low fertility 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. Attention has focused on absolute numbers of births and crude birth rates, which are heavily influenced by the age structure of the base population.
- 3.18 Analysis of 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<sup>4</sup> (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<sup>5</sup>.
- 3.19 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 relatively few women in the peak childbearing age range present on the island.

<sup>2</sup> Communication from SHG

<sup>3</sup> Yearbook 1993, Table 2.6

<sup>4</sup> 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.

<sup>5</sup> J-P Sardon, *Recent Demographic Trends in the Developed Countries, Population*, Vol. 59(2) 2004



### Sex ratio at birth

- 3.20 The sex ratio at birth is calculated as the ratio of male 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<sup>6</sup>. 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 in recent years this has been the case for St Helena.
- 3.21 Over the period 1970 to 2002 the sex ratio in any one year has fluctuated between 1.89 and 0.64. From 1970 to 1984 the average sex ratio at birth was below 1, i.e. there were notably more girls born than boys. More recently the opposite has been true.
- 3.22 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.

### Migration

- 3.23 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. 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. Very young children may move with their parents, but older children tend to move less as their parents are less willing to disrupt their education.
- 3.24 Among Saints 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 Saints 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.
- 3.25 Recent estimates suggest that the numbers of men and women among Saints on Ascension Island and the Falkland Islands is now evening out. 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.
- 3.26 Analysis of data on departures from St Helena, provided by the Immigration Service, for the period 22 December 2002 to 8 February 2004, showed Saints 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).
- 3.27 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. The analysis also suggests that there has been a significantly larger outflow of women than of men and confirms that out-migrants have

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<sup>6</sup> Shryock and Siegel (1976) p.109

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.

- 3.28 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.
- 3.29 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.
- 3.30 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.
- 3.31 Data on more 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.
- 3.32 Anecdotal evidence gathered during this Study's 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. Part of this outflow is no doubt linked to the restoration of British citizenship and it is assumed that the majority of migrants have been seeking work in the United Kingdom.
- 3.33 It is suggested that the rate of outflow is slowing 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. It has also been noted that some people recently arrived in the UK would find it hard to save the money for the RMS fare in the short run.
- 3.34 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. It is noted that in 2004 there were some 150 children living on the island whose parents were absent abroad. This appears to be one of the particular characteristics of demographic behaviour in St Helena.

### **Demographic momentum**

- 3.35 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. St Helena's

population is characterised by below-replacement fertility and the disproportionate loss of young adults through migration.

- 3.36 A key to understanding the future development of the population of St Helena is awareness of the demographic momentum which is built into the existing age-sex structure and which inevitably leads to a declining and aging population<sup>7</sup>. Table 3.3 shows the projected development of the population of St Helena under the simple assumption that fertility and mortality remain constant at 2003 levels and there is no migration.
- 3.37 This effectively illustrates the potential for ageing and decline in numbers. It is clear that simply stopping outward migration would not be enough to prevent a continued decline in numbers: a significant intervention is required.

**Table 3.3 – 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

- 3.38 The future development of the population under each of the access options is discussed in Section 8 below.

<sup>7</sup> SH Preston and M Guillot, *Population Dynamics in an Age of Declining Fertility*, Genus, Vol. LIII 3-4, December 1997

## CONSTRAINTS ON DEVELOPMENT

### Human constraints

- 3.39 The United Nations Development Programme identified St Helena's geographical isolation as a major barrier to human development. Their 1999 report<sup>8</sup> cites the absence of an airport and expensive telecommunications as factors holding back wealth creation and contributing to a "limited knowledge of new developments and ideas across the broad strata of human developmental issues", and goes on to state that "without radically improved access the island faces a future of social and economic decline".
- 3.40 St Helena's lack of natural resources highlights the importance of her human capital. The limited opportunities on the island have promoted a long history of Saints seeking work offshore or migrating from the island altogether. Whereas in the past migration allowed a relatively steady population to be maintained on the island, today it suffers from the negative effects of loss of valuable skills, problems of recruitment and retention, an ageing population and declining numbers, and consequently deteriorating social, economic and community life.
- 3.41 For some young people the lack of opportunities on the island, and the relative availability of well-paid but unskilled work elsewhere, has led to under-valuation of education and formal qualifications. There is a particular concern that boys tend to underachieve at school. The Education Department has been trying to address these issues, to raise standards, and to promote vocational training and life-long learning.
- 3.42 From 1981 to 2002 a key issue in the relationship between St Helena and the United Kingdom was the restoration of British citizenship. Now this has been attained and Saints are once more entitled to live and work in the UK and throughout the European Union. On the one hand it confers the benefits of opportunity for study, work and experience but on the other hand it may also work to encourage more people to leave the island for good.
- 3.43 A major reason why people leave St Helena is wages but it is not the sole reason. Numerous participants in group discussions, held during the course of this Study, cited additional issues including lack of opportunity, failure to recognise qualifications or merit, attitudes held by government and people in authority, and unfair treatment as reasons why they had left. The disparity between the salaries and benefits packages paid to expatriates (particularly from the UK) and equally qualified Saints doing the same job was a particular source of resentment.
- 3.44 The public sector is by far the dominant employer, and wages in the public sector are heavily influenced by the levels of aid from the UK. A dependency culture has evolved. St Helena is dependent not only upon financial aid from the UK, but also on technical assistance and expatriate personnel, many of whom are in senior government or professional positions.
- 3.45 Difficulties with recruitment and retention, particularly in health, education and the professions, have led to anomalous situations involving the recruitment of high cost expatriate staff rather than raising local wages to retain local staff. This applies across the

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<sup>8</sup> Human Development Report for St Helena, UNDP, 1999, p4

skills base, but the loss of education and health professionals to unskilled jobs in other parts of the world is particularly detrimental. There must be concern that a further loss of staff in some key positions could threaten the continued provision of service in some areas. The government (SHG) has introduced the 'key posts' initiative to attract skilled Saints to return to St Helena, but there remain issues of parity and grading within the government service to be overcome in the longer term.

- 3.46 St Helena remains 'home' to the majority of Saints living and working overseas, and a substantial proportion of people declared to us that they wish to return to St Helena at some point in the future. It is notable that a lot of people working overseas are investing in land and building houses on the island.
- 3.47 The private sector on St Helena is small and relatively weak, and tends to be concentrated in the wholesale and retail sectors, so the range of job opportunities is relatively small. It is also notable that there are only a few examples of entrepreneurial activity, and consequently few role models. It seems likely that there is a shortage of entrepreneurial and managerial skills, although there are examples of overseas Saints who have set up successful businesses. At the moment the St Helena Development Agency (SHDA) does not have many applicants for new business start-up support.
- 3.48 Attempts to attract foreign investment into St Helena have not been very successful to date, though there are notable would-be applicants. Poor access has played a part in this, making it difficult for people, both potential investors and St Helenian entrepreneurs, to meet and to 'see what it is like' on either side of the relationship.
- 3.49 One factor holding back St Helena is frustration and a feeling of being 'on hold', resulting from delays around the decision regarding air access.
- 3.50 These various constraints to development are reflected in the national strategic objectives that SHG has adopted to counter the deteriorating situation:
- to improve access
  - development of a sustainable and vibrant economy for the benefit of St Helena
  - develop a healthy community in a safe environment
  - improve the standard of education for the people of St Helena
  - promote and develop a sustainable workforce
  - develop and establish the democratic and human rights and self determination for the people of St Helena.
- 3.51 St Helena is embarking upon a process of constitutional reform aimed at extending local autonomy and modernising government. If this is adopted it will enable SHG to make most use of its human and material resources to deliver these strategic objectives.

### **Institutional constraints**

- 3.52 Institutional barriers to development include potential investors facing legal, process and attitudinal barriers. The principal barriers appear to be the discretionary and non-transparent SHG process for implementing immigration and landholding, legislation being inefficient or excessively bureaucratic. Furthermore there is suggestion that the attitudes of

those tasked with making decisions are not always conducive to encouraging inward investment, and can be risk averse.

- 3.53 The discretionary nature of the immigration and landholding policies have been recognised by SHG and the momentum for change appears to be underway.
- 3.54 The dominance of the public sector in St Helena is reflected in the predominant mindset of the working population being a public sector one. The limited exposure to the workings of private sector, new business ideas and lack of entrepreneurial role models on the island creates a possible development constraint, and a challenge for the modernising government initiative.

### **REFERENDUM ON AIR ACCESS 2002**

- 3.55 A referendum regarding air access was held early in 2002. Residents of St Helena and Saints resident on Ascension Island and the Falkland Islands were offered the opportunity to vote. Some 70% voted in favour of air access, although it was noted that there was also a significant proportion of people who did not choose to vote.
- 3.56 It is notable that the 1999 Human Development Report declared that “amongst elected representatives, local business, government departments and the public as a whole there is a clear understanding that the island will only progress economically and socially if access is improved and that necessitates the provision of an air service”.

## 4 KEY CHALLENGES FACING ST HELENA

### TRANSFORMING THE ECONOMY

- 4.1 Section 3 indicates that the vision for St Helena as set out in the Strategic Review is not achievable without a major step increase in the rate of economic development. A number of studies, including SHG's Tourism Master Plan, demonstrate that the only sector capable of bringing about such a transformation, given the island's remoteness, weak resource base, limited market and dearth of inward investment, is tourism. Tourism has the potential to generate substantial inward investment flows in addition to creating opportunities for sustainable indigenous investment.
- 4.2 The growth in tourism is currently constrained by time-consuming access and the limited number of berths available for tourists on the RMS. Significant development of the economy can therefore only be realised through improved access.
- 4.3 The challenge faced by SHG and the people of St Helena is to create an enabling political, social and economic environment which, following enhanced access to the island would help to promote and facilitate investment in the tourism and associated sectors. This is a *sine qua non* for success and the necessary preconditions to achieve it are set out towards the end of this Section.

### PROMOTING ECONOMIC DEVELOPMENT

- 4.4 Tourism, stimulated by improved access, has the potential to drive forward the economy of St Helena and in the longer term to bring about a more diversified economic structure. Clearly those options that most facilitate tourism would have the greatest effect. Replacement of the RMS would not greatly change the present access constraints and may therefore fail to achieve significant growth in tourist numbers and improvement in the island's economy.
- 4.5 Where enhanced access does bring about substantial growth in the tourism sector, the economic and social changes are likely to be profound. Within a few years of opening up to visitors, the growing economy is likely to be characterised by:
- **Reversal of the population decline:** and subsequently growth in the population resulting from both returning Saints and an influx of non-Saint entrepreneurs and workers. Skilled and unskilled staff would be required not just for the tourism and related activities but for tertiary employment in activities such as: retail services, banking, police, postal services, etc. There would be increasing employment opportunities for resident Saints.
  - **Steadily increasing applications for residency status:** by inward investors/entrepreneurs and workers, and by non-Saint long-term 'residential' tourists/retirees.
  - **Improving SHG budget position:** arising from buoyant direct and indirect tax revenues but partially offset by the need to increase expenditure on infrastructure and



public services such as health and education. Overall this would lead to a declining requirement for UK Government budgetary support.

- **Growth in GDP and GPD/ capita:** The effect of attracting new investments, initially in the tourism sector, would be to increase employment, consumption and GDP through the multiplier effects. GDP is likely to increase faster than population growth so that per capita GDP is also enhanced over time.
- **More diverse economic structure:** The growth of secondary and tertiary activities would result, in the longer-term, in a more diverse economic structure. In addition, as the volume of consumption goods imports for the tourist sector increases, the size of the market could become large enough to ensure the financial viability of investments in import-substituting ventures. The demand for domestically produced farm products, for example beef, broiler chickens, coffee, fruit and vegetables, should ensure a buoyant agricultural sector. From the current position, where the public sector accounts for the overwhelming share of consumption and investment, there is likely to be a shift to the private sector which should gradually trend to overtake the public sector in its share of GDP. This trend should be reinforced by the stated policy of outsourcing a range of public sector enterprises including the utilities.

## REVERSING POPULATION DECLINE

4.6 One of the key challenges facing SHG is how to reverse the steady decline in the population which would, if it proceeds unchecked, lead to a future of social and economic decline. There are a number of measures and actions that SHG can adopt, particularly if it is confirmed that air access is to proceed, these include:

- **Rebuild confidence.** Reinforce the confidence that air access and tourism development are really going to happen and that both governments (SHG and HMG) are fully committed to making them work.
- **Take positive measures to attract Saints to return to St Helena.** Act now to make sure that Saints have the maximum opportunity to apply for/qualify for jobs in the inception and construction phases. Returning Saints help to recoup St Helena's investment in education and skills, with value added by experience gained in other parts of the world. In addition, social benefits would accrue through the re-integration of families and the wider community.
- **Stimulate and encourage entrepreneurship among the resident (and returning) Saints community.** Encourage people to be realistic about their prospects of setting up small businesses; support viable proposals with training and advice, which should be provided primarily through a strengthened SHDA.
- **Develop a positive attitude towards immigration.** Immigration is a contentious issue in most countries. St Helena needs to consider the role of immigrants in providing the skills and technological and financial resources required for economic development. This will involve addressing hard questions and acknowledging the possibility of prejudice. It may involve adopting a target-based immigration policy to attract people with the right attributes.
- **Allow public sector remuneration to adjust in return for performance.** Increasing real wages will attract back Saints and others. As the economy develops, real wages and salaries will tend to increase and the relative size of the private sector will grow. It is likely that there will be a shift from the current position, where wages and salaries



are effectively determined by the public sector, to one where demand will ensure they are driven by the private sector.

- **Invest government income in making the island more attractive.** As the tourism sector grows the increase in SHG revenue is likely to exceed the increase in expenditure. Part of the surplus should be dedicated to enhancing the aspects of the environment that people value.
- **Mitigate the impact of inflation on the vulnerable.** As the economy expands the demand-pull effect is likely to increase the rate of inflation. Thought should be given to how the impact of this on the vulnerable, such as low fixed pension retirees and the unemployed, may be mitigated. For example, benefits could be index-linked. This would improve the image of the island as a secure and compassionate place to work and retire in.

## REDUCING BUDGETARY SUPPORT

- 4.7 One of the most important challenges to SHG is to reduce its reliance on annual financial contributions. These are made up of four components: Grant-in-aid (budgetary support); the shipping subsidy for the RMS; long-term technical cooperation; and development expenditure on specific projects. Grant-in-aid presently comprises about 50% of the total. In recent years, SHG recurrent expenditure has outstripped the growth in revenue. This has been due to a number of factors such as: the October 2002 10% public service pay award; the appreciation of the South African Rand, which increased the cost of imports; rises in the cost of oil supplies; and growth in health expenditure as the numbers of elderly have increased. The budget deficit has therefore steadily increased. With a declining and ageing population, and decreasing economies of scale in administration, this trend is likely to continue unless there is investment in the type of enhanced access that will generate economic growth.
- 4.8 The RMS subsidy would no longer be justifiable if one of the air access options were to be chosen. Technical cooperation and development expenditure would continue in the medium-term but could be expected to decline following significant economic growth.
- 4.9 The principal domestic sources of SHG revenue are derived from direct and indirect taxes. Direct taxes are levied on enterprises and individuals. They include the hotel tax but this is not presently collected due to the poor financial position of the tourism sector. If the sector recovers then this could form an important additional source of revenue. Increasing investment and employment could be expected substantially to augment the corporate and personal tax-take. The main sources of indirect tax revenues are from customs and excise duties. Both sources would expand considerably with the growth of tourism, even without a change in the rates or the introduction of new taxes. In the instance of an air access option indirect tax revenues would be supplemented by various additional taxes, such as those on aircraft landings and passenger entry/departure charges. Passenger landing fees currently apply in the case of the RMS and would apply to the RMS Replacement option.
- 4.10 The increase in tourism-related imports boosts government revenue from import duties but has a negative impact on economic growth, since it represents a leakage of resources overseas. One of the challenges to SHG will be to minimise the degree of this leakage. Very high value tourism is generally considered to have correspondingly high levels of

leakage because such tourists expect a high volume of international standard consumables. This type of tourism is assumed<sup>1</sup> in our economic model but we also assume a high proportion of independent travellers and special interest organised tourist groups, many of whom would stay in self-catering, guest house and villa style accommodation, for which the level of leakage is usually much lower. The challenge to SHG would be to promote an appropriate balance of accommodation that would moderate the degree of leakage. This challenge would be made more difficult by pressure from the private sector as it would mean SHG having to make some tough choices.

- 4.11 The impending fiscal review on St Helena may propose changes to the taxation structure. One of the options is to move towards a higher proportion of revenue being collected through indirect taxes. This exercise has yet to be completed but for the purposes of the economic model we have assumed the existing tax structure and rates.
- 4.12 Although both direct and indirect tax revenues will rise in a buoyant and growing economy, the net budgetary position for the government would be partially offset by the need to increase expenditure on infrastructure and public services. Apart from the one-off investments in transport infrastructure under Public Works and Services, the principal current major SHG expenditure items are Public Health, Education, and Employment and Social Services.
- 4.13 Public Health expenditure clearly will rise as population increases. The principal driver of this will be the size of the dependent population, namely, children and the retired. However, since the proportion of the economically active population is likely to increase as the economy grows, per capita expenditure on health may well tend to decrease. Expenditure on education is likely to increase in absolute terms over time as the proportion of population of child-bearing age increases from present levels. The proportion of unemployed labour and those on Income Related Benefits will tend to decrease as the economy grows, so that the relative share of Employment and Social Services expenditure could decrease.
- 4.14 The challenge to SHG, in a situation of rapidly increasing revenues, will be to manage expenditure in such a way as to ensure that it rises in line with the needs of the population and the state of repair and capacity of the island's infrastructure, while at the same time it is carefully monitored and controlled.
- 4.15 The overall hypothesis to be tested in the economic model is that if improved access leads to a substantial rise in investment and consumption, then tax revenues will expand faster than expenditure. This, combined with the elimination of the shipping subsidy and a decline in technical cooperation and development aid, would result in a declining requirement for UK financial assistance in real terms.

## PRICE IMPACTS

- 4.16 If enhanced access leads, as expected, to a step change in the rate of economic activity on St Helena, as the economy expands prices are likely to increase quite rapidly in key areas, principally through the demand-pull effect. The challenge to SHG will be how to manage and mitigate the effects of these price rises.

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<sup>1</sup> Assumptions used in this Study are shown in Appendix C to this Report.

- 4.17 In the case of air access, pressures on prices should be viewed in two distinct phases: the inception and construction phase; and the operational post-construction phase.

**Inception and Construction Phase (of air access)**

- 4.18 Should air access be announced there would likely be a surge of interest in acquiring land and properties on the island. This interest would be from Saints encouraged to return by the prospect of easier access, from legitimate potential investors, both Saints and non-Saints, and from those who may wish to speculate. This interest would continue throughout the first phase and into the post-construction phase. The potential resulting rapid increases in the price of land and properties could be mitigated substantially through the judicious release of public sector and quasi-public sector land holdings ! ! .
- 4.19 At focus groups and meetings on the island during the course of this Study there was a general expectation that should a decision be made in favour of air access, a significant proportion of the labour force for construction of the airport would be made up of Saints. These could originate from a number of locations:
- employed or unemployed workers already on St Helena
  - contract workers from Ascension Island or the Falklands
  - Saints currently resident in the United Kingdom
  - Saints resident worldwide, e.g. South Africa, Germany or the United States.
- 4.20 While some of the unskilled positions might be filled by unemployed or underemployed Saints resident on the island, it is likely that much of the construction labour force would require experienced semi-skilled and skilled applicants, plus management and professionals. Only a small number of such experienced staff is likely to be sourced on the island and they would need to be attracted away from their present posts. Most of the necessary skills are to be found in Saints resident overseas who are receiving remuneration packages which are substantially higher than rates available on the island. Indications from focus group meetings are that they would accept posts on St Helena at perhaps a small discount on what they receive overseas but still at rates which are significantly above those on the island.
- 4.21 The conclusion is that if a significant proportion of the construction labour force is to be made up of Saints they would need to be paid significantly more than the rates that currently prevail in the public and private sectors on the island. While the opportunity could be taken to some extent to rationalise the size of the public sector, in particular the PW&S Department, there could also be a drift away from the public sector of those skills which are most needed. The public sector accounts for some 70% of employment on the island and the SHG employee wage rates therefore effectively determine the island's remuneration structure and levels.
- 4.22 Therefore, if a significant proportion of the construction labour force is comprised of Saints the effect could well be an across-the-island increase in wage rates. There is a number of ways in which this effect might be minimised or mitigated including:

- Permit the construction contractor to source its employees from low wage cost countries (e.g. Cape Verde islands). Indications are that this approach would meet robust political objections on St Helena.
- PW&SD could bid for selected sub-contracts, such as the construction of access or aerodrome link roads, and pay staff higher rates for the duration of the sub-contract.
- SHG could instigate measures to restrict the recruitment of public service staff by the construction contractor. This could be politically unacceptable.

#### **Post-Construction Phase (of air access)**

4.23 Should air access be adopted, post-construction phase inflationary pressures would be likely to arise from a number of sources:

- steady demand for employees, at all levels, from the tourism sector and from a buoyant construction sector building holiday accommodation and employee housing
- demand for new land, for tourist related accommodation, for employee housing, and for tertiary activities, would continue
- shortage of skilled labour would lead to the need to recruit some positions from overseas, which would create higher income posts for which it would be difficult in the private sector to pay differential salaries between Saints and non-Saints
- higher incomes may lead to a higher propensity to import enhanced quality food and consumables; which could increase the cost of living, leading to cost-push inflation
- rising oil prices due to the Middle East conflict and increasing world-wide energy demand
- exposure to importing inflation due to adverse currency fluctuations, which has occurred in recent years for example from South Africa, but this may vary in either direction.

4.24 The constraint of a shortage of labour could be mitigated by facilitating immigration to fill posts not taken by Saints. This is a necessary precondition for the success of the access investment, as described later in this Section. Land and property price increases could be eased, as for the earlier phase, by the judicious release of suitable land currently in public sector ownership.

4.25 As the size of the domestic market increases the production of some consumable goods may become viable on the island. A body such as SHDA should be briefed to monitor import volumes and advise potential investors when these are sufficient to *prima facie* warrant a feasibility study. There is also the opportunity to develop premium agricultural products, such as fresh organic fruit and vegetables, which could supply tourist accommodation. These approaches could assist in reducing the import bill and controlling the cost of living.

#### **PRECONDITIONS**

4.26 If an air access option is chosen, for the benefits to be fully realised there are a number of important preconditions to be satisfied. Certain of these will represent major challenges for the island since they will require subtle changes in culture, particularly in welcoming the settlement of outsiders. These preconditions would need to be met in advance of the start

of construction, so that the relevant tourism and service sector enterprises can start to implement the changes necessary for growth. They relate equally to the long and medium runway options. The preconditions include the following:

- **Actively publicise and promote the ‘product’ that is St Helena.** This topic is discussed extensively in Section 8 below. The promotion activities should be created, designed and handled by a professional team, the head of which should be under contract to SHG (preferably on a risk and reward basis), with connections to in-country representatives world-wide, tour operators, travel agencies, transport operators, and other promoters such as Air Miles, credit cards, journals and so on. This promotion operation would become the heart of any decision to provide air access and would have to establish and maintain a momentum going forward that would not be allowed to flag. Upon it would, quite literally, rest the future of St Helena.
- **Immigration rules:** to be made transparent and non-discretionary to facilitate the immigration/settlement of inward investors, both Saints and non-Saints. By “rules” we mean the legislation itself, the policy for implementing it, the manner in which applications are dealt with and the efficiency of the overall process. This would permit the necessary significant injection of inward investment and entrepreneurial energy.
- **Planning laws developed:** to ensure release of land for housing and tourist accommodation; to facilitate planning permission for tourism related investments; and to liberalise the laws on land holding by immigrants (namely, Immigrants Land-holding Restriction Ordinance). Much of the available land for development is presently held in SHG or quasi-SHG ownership.
- **Actively publicise and promote inward investment:** in hotels, guest-houses, B&Bs, self-catering accommodation, restaurants, tourist leisure facilities, and related enterprises. This promotion should be aimed at overseas Saints and the nationals of key targeted countries. Inward investment will be facilitated by a proactive SHDA.
- **Ensure adequate funds are available for investors:** It is envisaged that major new investments, such as international standard hotels, would be largely financed offshore but there would be a range of smaller domestic and inward investors in accommodation and tourism support enterprises who are likely to seek funding from SHDA and the Bank of St Helena. The Bank’s financial resources are probably adequate for the immediate future but would probably require augmenting following opening of an aerodrome. SHDA’s resources are currently very limited and are likely to require strengthening if an air access option is chosen.
- **Exempt new tourism-related investment projects:** from import duties on materials, plant and equipment during construction. The success of tourism will depend on encouraging investment, both domestic and inward.
- **Provide transparent and non-discretionary 5-year tax holiday:** including corporate and hotel tax, on new hotel investments. Our tourism studies indicate that many successful tourist economies do not find it necessary to offer greatly extended tax holidays, i.e. greater than 5 years. (Profits to individuals arising from approved projects and new businesses may currently benefit from limited tax holidays, if they meet certain conditions, under the current Income Tax Ordinance, subject to the approval of the Governor).
- **Ensure local banking services are developed:** to cater for investors and tourists. This could include facilities such as efficient money transfers, debit/credit cards, and

on-island cash availability (ATMs). The recent partnership of Lloyds TSB with the Bank of St Helena should assist these developments.

- 4.27 Our modelling of risks and uncertainties (see Section 11 below) assesses the impact on the project decision criteria of the likelihood of the island encountering problems in achieving the above noted necessary preconditions.

## POTENTIAL FOR IMPROVED ACCESS AND TOURISM DEVELOPMENT TO ADDRESS THESE CHALLENGES

- 4.28 With its equable all-year round climate, diverse landscapes and rich cultural heritage St Helena has the potential to attract a growing segment of global tourism market: that of the nature-enthusiast and the experienced traveller in search of less known, remote and 'unspoilt' destinations. The changing landscapes of impressive soaring cliffs, lush valleys, shorelines and sea views create opportunities for a variety of walks and exploration of the geological history and the wealth of botanical species of the island. To the culture and history enthusiast a myriad of colonial buildings and fortifications offer diverse glimpses of international history including the exile of Napoleon, the Boer Wars and the rise of the East India Company. With its tranquillity, warm and rich land, coastal and marine environment and the friendliness of its people the island can present to the international visitor a rare blend of nature and culture in a remote and relatively unknown part of the South Atlantic.
- 4.29 This theme is taken up again in Section 6 below. This Study did not set out to market the St Helena 'product'; rather it set out to ask the market how the market perceived the future 'positioning' of St Helena in terms of global tourism demand. Of course, to do so required that we compile a mini 'presentation' of the island as a form of introduction to those we contacted, drawing on all the sources available to us. From this exercise and our proxy island study, we have been able to form our own view on the relative positioning of St Helena and we have come to believe that it must be marketed as a complete package, as opposed to majoring on single characteristics, such as is done for other holiday destinations. It is an 'experience' all of its own, i.e. one should decide to visit it for a collection of reasons.
- 4.30 Therefore we conclude, though not as informed travel experts, that St Helena can and should be presented to the world, in a focused, targeted manner, as a place to visit. It has a certain *cache* ('aloofness', 'shyness', 'coolness', 'undiscovered'). It has the *potential* to develop tourism and this is a central message of this Report: that if the potential is not actively exploited then it will not be realised by remaining passive.

## IMPLICATIONS OF MAINTAINING THE STATUS QUO

- 4.31 The implications for St Helena of the 'do nothing' option are graphically illustrated in the treatment of the likely demographic behaviour of its population contained in Appendix B, under the Replacement RMS discussion. In short, St Helena would be likely to fade away over the next decades, unless of course some other intervention occurred.



## 5 PURPOSE AND CONDUCT OF THE FEASIBILITY STUDY

### PRINCIPAL AIM

- 5.1 It is clear from the foregoing preamble that the current situation should be addressed, unless the UK Government is content to go on subsidising St Helena and the people of St Helena and SHG are prepared to make the best of sea access – which, evidently, they are not.
- 5.2 Overall economic development and a reduction in the dependence on bilateral aid are the principal aims of both SHG and DFID. The Feasibility Study identifies access options and their likely impact on economic development. It is essential that options be affordable, practical, and attractive to Saints, other travellers and inward investors alike. The Study is required to show beyond reasonable doubt which type and specification of access would satisfy these conditions.

### Specific objectives

- 5.3 The Terms of Reference<sup>1</sup> for the Access Feasibility Study require several deliverables to be prepared for that Access Option which best satisfies the objectives. Its objectives were:
- ? To identify options for maintaining access and agree a short list for detailed analysis.
  - ? To confirm the technical feasibility of access options and provide robust cost estimates for short-listed options.
  - ? To estimate the maximum annual budgetary aid cost to DFID of the options which cover continuing with sea access and introducing air access.
  - ? To 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 establish if there is a clear economic justification for any one option.
  - ? To outline the management and institutional structure and capacity needed to sustain each of the short listed options.
  - ? To highlight any constraints imposed by the current legislative and regulatory and changes required.
  - ? To list the environmental issues associated with each option and comment on whether it is possible to mitigate adequately against any negative impacts.
  - ? To assess the likely social impacts of each option and comment on whether it is possible to mitigate adequately against any negative impacts.
  - ? To agree with SHG and DFID a preferred option, and its mode of funding, for maintaining access to St Helena, and advise on procurement for that option.

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<sup>1</sup> Contained in Appendix A to this Report

## PRINCIPAL STEPS BY WHICH THESE OBJECTIVES ARE SATISFIED

- 5.4 The Study analysed 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 research covered the UK, France, Germany and South Africa. The survey identified the competing factors in the tourism market and the extent that St Helena can differentiate itself positively from other 'exotic' destinations. It advises on the type of hotel accommodation, facilities and activities expected by likely visitors and a market understanding of the ticket price levels that the market is likely to bear.
- 5.5 The Study identified islands with similar or analogous characteristics that have air access and uses them as 'proxies' for studying the impact that improved access has had on development of tourism in those islands. 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 reforming their institutional capacities.
- 5.6 A team of four consultants visited St Helena 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 had four areas of enquiry around this theme of change: social (views and issues), economic (costs and prices), institutional (machinery of government) and environmental (protection). Team members also carried out research in Ascension Island, the Falkland Islands and Cape Town, as well as the UK.
- 5.7 The Study examined demand for travel from Saints by consulting with Saints by a mix of focus groups and quantitative survey of Saints in the UK, Ascension Island, Falklands Islands, Cape Town and St Helena. This work also yielded a better understanding of the propensity to travel and the price elasticity of the demand for travel through examining people's responses to variations of ticket prices.
- 5.8 It examined the technical aspects of the access options to identify and quantify the costs that each would incur. Separate teams focused on the engineering aspects of improved access, particularly air access. Surveys were undertaken of potential runway alignments and access routes from the sea for construction and also routes for servicing its operational requirements. These included gathering rock samples to determine ground conditions and the construction design, and the consequential cost of construction – data that also could be made available in the event of a public competition for supply of air access, for the purpose of informing bids.
- 5.9 The Study delivers the costs of the various types of access selected, both capital investment and on-going operational costs.
- 5.10 For air access this includes the cost of constructing various types of runway solutions and alternative access routes from the sea to enable construction ('haul routes'), as well as access roads for operational purposes and airport buildings and installations. Air access includes provision of an air service. The Study considered all viable solutions, proving them through consultation with air service providers, both international carriers and



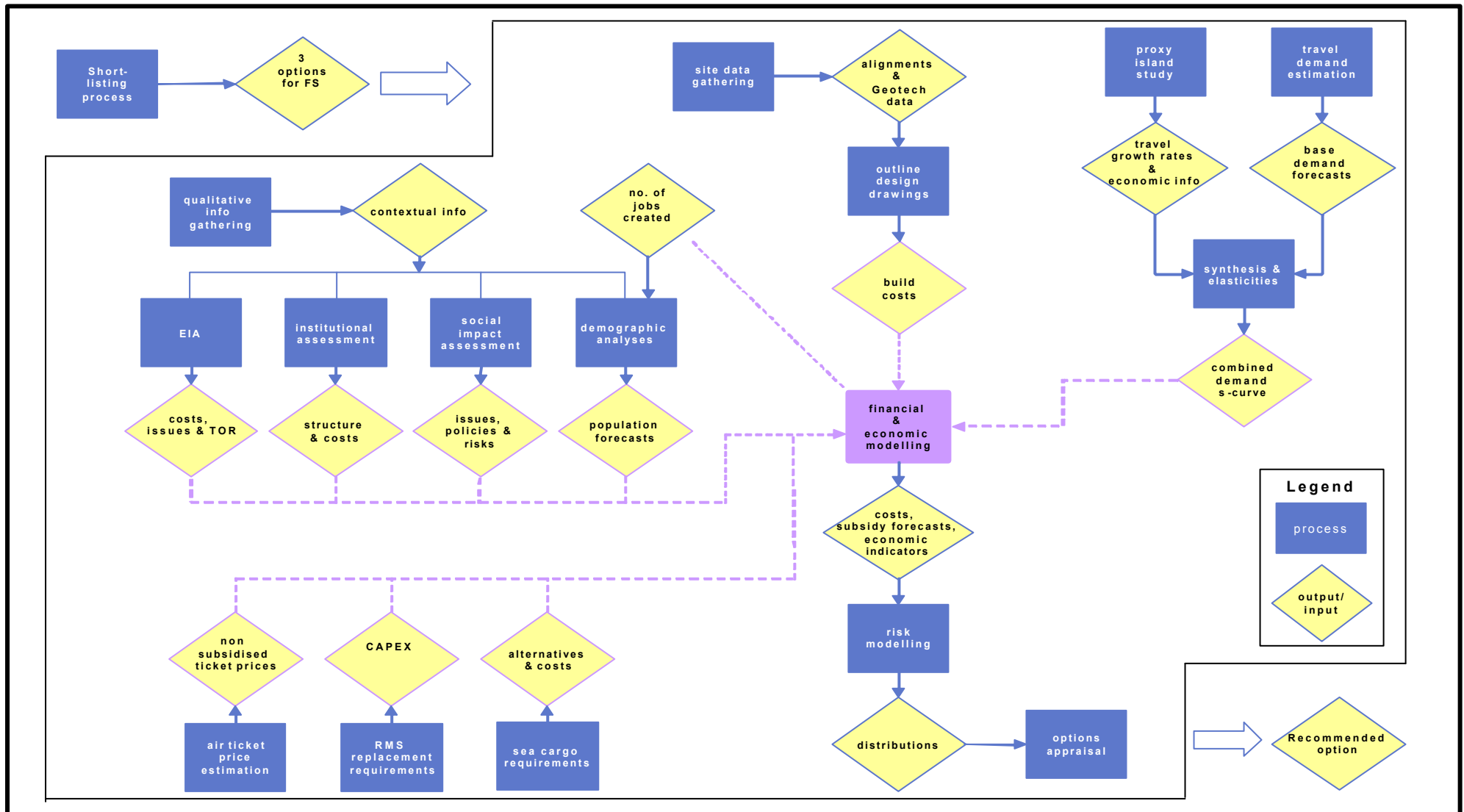
specialist charter operators. It consulted with aircraft manufacturers for performance information and maintenance costs and requirements, with the UK's Regulator for its Overseas Territories on matters related to safety and their impact on choice of aircraft and the inter-dependent impact on runway design, and with the UK DfT on matters relating to operation of the air service.

- 5.11 For sea access, capital and operational costs are estimated for various solutions of passenger and cargo combinations, uses information about mix and volumes of cargo and for passengers, minimum standards and on-board needs. The reviews for this stream of work consulted ship operators, including the operators of the RMS, AWSL, 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 addresses supply of both dry goods and fuels. It engaged a ship design firm to ensure full and proper appreciation of issues of a technical and operational nature and it advises on implications for landing infrastructure on the island.
- 5.12 The work on sea access also included supply of goods to St Helena in the case of air access where the RMS service has been discontinued.
- 5.13 Using all this demand and cost information, the Study modelled the various possible outcomes. Financial modelling (revenues, costs, sensitivities) and economic modelling (revenue and price elasticities, investment and institutional effects on GDP growth) uses 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 is 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 helps to decide which type of access will optimise the net benefits while minimising costs. The modelling concept is based on a 40-year projection of the effects on the St Helena economy.
- 5.14 The Study then examines alternative sources of procurement: public, private and variations and suggests that which maximises value for money.

### **Conduct of the Study**

- 5.15 Figure 5.1 overleaf indicates the key work process components, identifies the types of output generated as costs and qualitative information, and illustrates how these outputs form inputs to the core analytical processes, resulting in the recommended access option. This diagram is intended to act as a form of reference for the reader from this point forward.
- 5.16 This diagram indicates that the principal workstreams – represented by the boxes – are initiated by a short-listing process and conclude in the recommended Access Option. The Study commenced in mid-May 2004 with an Options short-listing process, the output of which was produced during June with the Options Paper, included as Appendix D.
- 5.17 The Study is an exercise in comparison of three Access Options (and their variants). While it assesses value for money of each solution, it does not set out to establish economic rates of return for each option, as would be done under a more conventional cost-benefit study. It does however, compare the options in terms of rates of return.

Figure 5.1 – Principal processes and outputs of the Feasibility Study



5.18 This process (discussed below in this Section) concluded that three Access Options should be studied in relative detail:

- ? a Long Runway capable of operating Boeing 737s or equivalent Airbus 319 or 320
- ? a Medium Runway capable of operating business jets seating 19 passengers
- ? a replacement for the RMS as the 'base case' comparator.

5.19 The principal workstreams of the Study were as follows:

- ? Options shortlisting, in which a series of access options were studied and reduced to three by a process of elimination and ranking.
- ? Site data gathering: runway site survey (on the Prosperous Bay Plain site) followed by a geotechnical survey that gathered rock samples and surveyed site access routes; these activities are reported on separately in self-contained reports. The outputs were a marked out site, including definition of the ecologically sensitive area on Prosperous Bay Plain, analyses of rock samples by laboratories in South Africa and UK, and an Interpretive Report used by the engineers to produce outline designs.
- ? Aerodrome design: in which outline design drawings were produced based on analyses of aircraft performance and interpretation of the Regulator's requirements<sup>2</sup>, together with broad specifications of the key elements.
- ? Aerodrome capital and operating cost estimates based on the foregoing information.
- ? Ancillary aerodrome design studies.
- ? A proxy island study, in which a group of ten islands were selected from a long list. Economic, tourism and domestic policy-type information was gathered for all ten and analysed to show what could be expected to occur on St Helena should air access be provided (given certain pre-conditions such as effective marketing, freedom to invest and work in St Helena, etc.).
- ? A tourism study, in which tour operators and other market players were asked to estimate levels of take-up, should air access be provided, and to discuss the market requirements with respect to accommodation facilities and activities that would be the necessary pre-conditions for the island to attract tourists. The output of this study, when combined with the proxy island study yielded tourism time-demand curves.
- ? A series of 'qualitative' information-gathering and analysis and quantitative survey techniques covering environmental impact, social impact, institutional impact and economic impact and addressing all three Access Options. An extensive survey of Saints in Ascension Island, the Falkland Islands, Cape Town, UK, as well as St Helena was carried out. The outputs of these analyses include costs, Saints' propensity to travel and price sensitivity under the three access options, issues to be addressed, policies to be developed, risks and population forecasts.
- ? Bottom-up air ticket price estimates and an appraisal of the alternatives for providing an air service to St Helena.
- ? An assessment of the risk posed by the current arrangements between the UK and USA Governments on the use of Ascension Island for commercial flights.

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<sup>2</sup> The UK Overseas Territories air Regulator is Air Safety Support International (ASSI), a wholly-owned subsidiary of the Civil Aviation Authority

- ? An assessment of sea cargo requirements in the case of air access, yielding alternatives for provision of security of supply, also costs.
- ? RMS replacement requirements, yielding replacement and operating costs.
- ? Financial and Economic modelling, in which a complex model representing the economy of St Helena at a macro level was built based on discounted cash flows over 40 years (selected as being the life of a runway or two RMS ship lives). This is the core analytical tool of the Study. It yields subsidy forecasts and allows analysis of the economic impacts of each access option.
- ? A separate, formal risk model based on Monte Carlo simulation was built from the core Financial / Economic model, using uncertainty intervals and Risk Matrices produced by the Study team. It provides an understanding of the behaviour of the principal outputs of the study, given various combinations of risks and levels of uncertainties, and hence an understanding of the ways in which risks could be managed, going forward. Crucially, it yields confidence ranges for various outputs.
- ? An Options appraisal, in which the three Options were compared with each other on grounds of Value for Money, taking into account the risk analysis work.
- ? A Procurement strategy, taking account of the various contracts required to provide and operate each of the Access Options, and also of the alternative means of procurement, from public through to full risk-transfer to the private sector.
- ? An outline implementation plan, commencing with ministerial approval of the preferred Option through to start of operations of the new asset. This yields timeframes and responsibilities of the principal stakeholders and any third parties.

## DEVELOPMENT OF THE ACCESS OPTIONS

5.20 The Study commenced with this workstream.

### Compilation of the Long List

- 5.21 The consultants leading the various streams of work outlined above 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 as Annex A to Appendix D of this Report.
- 5.22 '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. A key assumption was that capital costs would be borne wholly by SHG/DFID. A second was that the on-island supply side of the demand generated by residents, visitors and inward investors would be met (to permit economic development). 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 fail the principal criteria was immaterial in creating the Long List. It was important to identify all possible means of access, regardless of restrictions.
- 5.23 [That this Study has excluded some people's ideas for improved access does not mean that they cannot still advance them, at their own expense, within any commercial or

legislative conditions that might be imposed by SHG / HMG. They were discounted by this Study because they did not meet its criteria].

### **Approach to performance and cost estimation for Long List**

- 5.24 In compiling the Long List the consultants carried out desk research, looking at technical, performance and cost aspects. Consultants' knowledge was used, augmented as needed by engaging external specialists in specific areas.
- 5.25 The combination of this technical knowledge, encompassing both design and operational aspects, the prior knowledge gained through involvement in the DFID April 2003 EoI evaluation, and the consultancy skill sets and experience, enabled the consultants to arrive at comparative capital costs for use in broad comparison of Long List options. Sufficient additional research was carried out to ensure that costs were selected from a middle range, as opposed to proposing extremes. This gave 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.
- 5.26 In addition in some cases, cost estimates were available from previous work, whether by Atkins or others.
- 5.27 These comparative costs were then left behind once the process of creating a Short List was complete. [The feasibility study would estimate costs in appropriate detail for the chosen options].

### **Criteria applied to reduction of the Short List**

- 5.28 The Access Options had to satisfy the following high-level criteria to maintaining passenger access and cargo provision to St Helena:
- ? 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)?
- 5.29 The options that passed these tests were then considered against a further nine criteria sets, the aim being to establish how options perform comparatively across all nine sets. The criteria sets were: Costs, Environment, Economic, Travel and Fares, Institutional, Social, Evacuation Services, Operations and Procurement, each with its own set of sub-criteria. At this stage of the Feasibility Study no values were available to be assigned to these criteria; rather, a scoring mechanism was used to rank the outcome of the options being considered.

## Development of short-listing

### Stakeholder perspectives

- 5.30 To get round the problem of potential disagreement on weights assigned by the consultants to the sets, we adopted a stakeholder approach. We brainstormed the relative values of weights that each stakeholder might assign to the different criteria sets. Note that these 'stakeholder views' are the consultants' own, brainstormed views, although SHG submitted some of its own.

### Air access options

- 5.31 The results of the final weighting exercise are shown in Table 5.1.

**Table 5.1 – Summary of Air Access Options, showing preferred options**

Stakeholder Perspective	Short Runway With Extension for Take-Offs, St Helena Based Aircraft	Medium Length Runway	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

- 5.32 The table highlights the top three options by each perspective group. This indicates that at least two air access options be taken forward for consideration:

- ? Medium length runway
- ? Long runway.

### Sea Access Options

- 5.33 A simple DCF analysis based on knowledge of capital costs to date showed that fast passenger vessel variants of sufficiently large dimensions to meet historic demand and cater for future tourist demand increases would provide significantly less apparent value for money than a straight replacement of the RMS, leaving this as the only sea option worth studying.

### Sub-options

- 5.34 As the Study progressed it became apparent that two sub-options were worth studying. The first was to consider modifying the medium length runway to accommodate B-737s, possible by making it wider, though less safe than the long runway for this type of aircraft, given St Helena's inhospitable topographical features in relation to flying large commercial jet aircraft. The second was to consider subsidising the medium length runway (19-seat business jet option) ticket price for Saints.

- 5.35 The technical features of all the options are described in Section 7 below.

### **Note on approach to capex estimation and its treatment under risk modelling**

- 5.36 In estimating the capital cost (capex) of the aerodrome alternatives the Study developed a considerable level of engineering detail, and although still restricted by the information available to it, it achieves a reasonable level of confidence in the estimates. These estimates, along with all the data from other workstreams, are fed into the Financial / Economic model to arrive at the 'baseline' NPV of costs and other outputs. The next step is then to examine what happens to the baseline outputs when subjected to variances to the assumptions underlying the input data, one of which is the capex estimates. The Study team developed the view that more rigour would be achieved by minimising the addition of arbitrary amounts of 'contingency' on the inputs side – a universal engineering estimating practice – instead opting to vary the underlying assumptions. If one regards the capex estimates as built up by assuming that nothing out of the ordinary happens for example, once construction starts, e.g. rock conditions behave as the available data suggests, and the available data is regarded as reliable, then it should be realistic to vary the 'ordinary' as a means of testing effects of variance on the outputs. This is what we have done. We have taken the capex estimates, added a deliberately small amount of contingency (5%), used them to create 'baseline' (or expected) outputs, and then subjected the outputs to variances on the inputs. The manner chosen to test variances on the inputs was to ask the question "what could go wrong", "by how much could it really go wrong, and "what is the probability that it could go wrong?". This application of quantified risks, uncertainties and probabilities therefore replaces the convention of applying arbitrary amounts of 'contingency'. Risk modelling by simulation is a very powerful means of conveying understanding of the behaviour of the outputs of financial / economic modelling when the underlying assumptions are varied.



## 6 DEMAND ASSESSMENT AND IMPLICATIONS FOR DEMOGRAPHY

### INTRODUCTION

6.1 This Section considers demand for travel from four sources:

- Tourists
- Visiting Saints
- Business travellers
- Cruise and yacht visitors.

6.2 The fourth category, while discussed below, is excluded from the passenger forecasts as these visitors use a separate, independent form of access by sea.

### ASSESSMENT OF TOURISM DEVELOPMENT PATTERNS ON PROXY ISLANDS

#### Introduction

6.3 A study of ten comparator or 'proxy' islands was undertaken that aimed at creating an important international context against which the scenarios developed within the financial / economic model could be realistically assessed. The study generated useful information on successful models of tourism development pursued by other island economies together with related economic impacts; provided indicators of the investment requirements in infrastructure and facilities associated with different tourism models; and yielded insights into the policies and measures that have stimulated inward investment and development of sustainable tourism.

6.4 Examination of the experiences of the proxy islands and their tourism development patterns allowed us to verify and calibrate the preliminary estimates of demand and potential growth pattern for St Helena derived in the course of our research directly with operators and other organisations in the market place.

6.5 The full analysis of the findings is presented in Appendix E.

#### Proxy Islands Examined

6.6 The focus was on examining islands whose economic development is dependent on tourism, that have air access, and that are similar to St Helena in size, terrain, climate and remoteness from the mainland. Although the size of the population was another main criterion in selecting the comparator islands, it became clear that the majority of potential candidates would have much larger population. Table 6.1 presents the ten proxy islands.

6.7 Table 6.2 compares the islands with respect to the relevance of their characteristics for the potential tourism development on St Helena.



**Table 6.1 – Island Comparison (2001)**

Island	Population	Area (km <sup>2</sup> )	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 <sup>1</sup>	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 <sup>2</sup>	-	78
Easter Island	3,700	164	-	26
<b>St Helena</b>	<b>4490</b>	<b>121</b>	<b>3227</b>	<b>&lt;1</b>

### Tourism growth

- 6.8 All have experienced significant growth in tourist numbers years: from 15% for Easter Island, 8-9% for Mauritius, Dominica, Galapagos and Grenada, 5-6% for the Seychelles and Cook Islands, to under 4% for the Cook Islands and Vanuatu. In the last 15-20 years Easter Island, the Galapagos, Dominica and Mauritius have seen growth far outpacing that of the respective regions. Their ability to attract consistently a growing share of tourists is an indication of the success of their tourism models compared to other destinations in the region. In comparison the Seychelles, St Kitts and Nevis, Vanuatu and the Cook Islands have seen lower growth in tourist numbers than that of the respective region.

### Models of Tourism Development: Easter Island and Dominica

- 6.9 The sample exemplifies a variety of models of tourism development from a more traditional mix of beaches, sunshine and diving (Mauritius, the Seychelles, St Kitts and Nevis, Grenada, Vanuatu and the Cook Islands) to unique ecosystems and wildlife (the Galapagos), nature-based tourism (Dominica) and heritage (Easter Island).
- 6.10 Several islands have developed particularly successful tourism models: Easter Island, the Galapagos, Mauritius and Dominica. The common success factors, regardless of the nature of the model are: focus 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.
- 6.11 Easter Island and Dominica pursue tourism models of particular relevance for St Helena. Dominica's is an eco-tourism model based on the appeal of its nature. Like St Helena it has little in the way of sandy beaches, resort hotels or night spots to attract tourists. Easter Island has developed a tourism proposition based on special interest in archaeology and cultural heritage.

<sup>1</sup> Includes more than 80 islands, about 65 of which are inhabited

<sup>2</sup> Land mass over an area of 50 000 km<sup>2</sup> of ocean.

Table 6.2 - Proxy island characteristics

Islands Characteristics Relevant to St Helena	Easter Island	Dominica	Galapagos Islands	Mauritius	Cook Isles (Rarotonga)	Vanuatu	St Kitts	Grenada	Seychelles	Madeira
World heritage attractions (cultural and/or natural)	✓✓✓	✓✓✓	✓✓✓	✓✓✓						
Activity holiday around nature & culture	✓✓✓	✓✓✓	✓✓✓	✓✓	✓✓	✓	✓	✓	✓	✓✓
No beach-focused tourism	✓✓✓	✓✓✓	✓✓✓				✓✓			✓✓✓
12-month season	✓✓	✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓	✓✓	✓✓✓	✓✓✓
2 – centre or multi - centre holiday destination	✓✓✓	✓	✓✓✓		✓	✓				
Attractive to middle/high-income/professional market	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓
Relatively high-priced holidays	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓	✓✓	✓✓
Relatively high cost of access from European markets	✓✓✓	✓	✓✓✓	✓✓	✓✓✓	✓✓✓	✓	✓	✓✓	
Remoteness – distance from mainland	✓✓✓		✓✓	✓✓	✓✓	✓✓			✓✓	
Small Population (see below for definition)	✓✓✓	✓	✓✓		✓✓		✓✓		✓	
Small Area (see below for definition)	✓✓✓	✓			✓✓✓		✓✓✓	✓	✓✓	✓
Topography – mountainous, volcanic	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓	✓✓✓
Low degree of luxury hotel development	✓✓✓	✓✓	✓✓✓		✓✓	✓✓		✓		
Low leakages (see below for definition)	✓✓✓	✓✓	✓✓✓	✓✓	✓	✓	✓	✓	✓✓	✓✓✓
Annual Growth in Tourism	15%	8.5%	8.4%	8.5%	5.9%	3.8%	3.9%	8.2%	5.9%	n/a

✓✓✓ - Very strong characteristics; ✓✓ - relevant characteristics; ✓ - some characteristics

Small Population: <10k= ✓✓✓ >10k<50k= ✓✓ >50k<100k= ✓ (where k='000s)

Small Area: <200km<sup>2</sup>= ✓✓✓ >200 km<sup>2</sup><500 km<sup>2</sup>= ✓✓ >500 km<sup>2</sup><1000 km<sup>2</sup>= ✓

Low leakages: <40%= ✓✓✓ >40%<60%= ✓✓ >60%<100%= ✓

- 6.12 Both Dominica and Easter Island target particular (and growing) niches of the international tourist market and have developed propositions in terms of accommodation, facilities and activities that cater to the requirements of their target markets. The main focus on investment has been on facilities that develop and promote the central concept to the target market: national parks, eco-zones, museums and heritage sites. Accommodation is 'low key', comprising mainly 3star hotels of up to 50 rooms and smaller guesthouses, primarily financed and run by local investors and entrepreneurs. Yet the islands attract customers with higher than average income, and have seen impressive growth in tourist numbers: 15% annual growth for Easter Island and over 8% for Dominica.
- 6.13 Easter Island is very similar to St Helena in population, area and climate. In terms of distance from main international tourist markets it is even more remote. Its model of culture/heritage tourism is not based on luxury surroundings and tropical beaches and is not dependent on massive investment in tourist infrastructure, yet successfully attracts visitors with higher than average income, and has direct parallels with the type of tourism St Helena might aspire to develop. Easter Island managed to grow the size of its tourist market from a modest 5000 tourists in 1990 to just under 26,000 in 2001. Given the slow down in 2002 after the 9/11 effect, this represents a 15% annual growth over a 12-year period. Because of these striking parallels we have used Easter Island's growth pattern to calibrate the initial demand projections for St Helena, derived as a result of the market research with operators.

### **Main Source Markets**

- 6.14 The analysis of the geographical breakdown of tourists by country of origin highlighted the importance as source markets of large economies that are geographically close, of domestic markets and of countries with cultural links to the destination. Thus Chile and Ecuador represent major markets for tourists for Easter Island and the Galapagos, New Zealand is by far the largest source market for the Cook Islands, the USA is a major market for the Caribbean islands, whereas France remains a major market for the Seychelles and Mauritius.
- 6.15 These trends underscore the continued importance for St Helena in the future of 'traditional' source markets such as the UK and France, and the potential for developing South Africa as another main potential source market.

### **Benefits and Adverse Impacts of Tourism for Local Economy**

- 6.16 Tourism is a major contributor to GDP in the proxy islands considered, accounting for up to 53% of GDP, 21-52% of total exports, up to 29% of total employment and between 21 and 56% of indirect employment. Tourism tends to attract foreign direct investment and to drive the development of 'linkages' across the economy: the regeneration of sectors such as fisheries and agriculture on many islands is attributed to tourism development. The number of jobs directly or indirectly associated with tourism development can be related to the volume of tourists that a destination attracts via the stock of hotel beds created. We have used such data from the proxy islands to determine the potential number of direct and indirect jobs that tourism can be expected to generate on St Helena.
- 6.17 Negative impacts include leakages through tourism expenditure on imports, environmental pollution, excessive use of natural resources and increases of land values beyond the

affordability of the local population. The low-key, locally financed infrastructure developments on the Galapagos, Dominica and Easter Island and the specialist nature of their tourism which in its core relies on activities and resources developed and executed by local people, are associated with lower levels of leakages compared to the more intensive, foreign input driven infrastructure development on the Seychelles or most Caribbean Islands. SHG would need to aspire similarly to lower levels of leakage. This means engaging its own workforce and working toward avoiding being 'swamped' by international 'big business'.

- 6.18 A number of islands, e.g. the Seychelles, Mauritius and Madeira have implemented measures aimed at containing the growth of tourist numbers to mitigate against the impacts on fragile ecosystems, overcrowding and waste management problems. These measures revolve around restrictions on permitted development and capping the number of hotel beds.

### **Incentives for Stimulating Tourism Development**

- 6.19 All the islands reviewed have implemented a variety of measures aimed at stimulating tourism development and incentives for attracting foreign direct investment. Such measures include tax holidays and tax exemptions for tourism projects, preferential tax rates and credits, more liberal labour policies with respect to employment of foreign workers and specific policies on land ownership and use for tourism-related projects. Given the high proportion of imported goods and capital equipment associated with tourism, exemption of tourism projects from import duties is amongst the most commonly adopted measures for encouraging investment and one of particular relevance for St Helena.

## **THE TOURISM MARKET**

### **Introduction**

- 6.20 Here, we discuss the potential tourism market for St Helena and present the estimates of potential tourist demand. A two-pronged approach was adopted in evaluating the potential tourism market on St Helena: an empirical study based on market research with operators and a review of the tourism development patterns of the ten selected proxy islands.
- 6.21 The market research with operators and other travel and tourism organisations generated ample information on the likely target customer segments and their requirements with respect to accommodation, attractions and facilities, on the preconditions for generating tourist demand and operator interest and on the likely levels of tourist spend. As a result of the study a preliminary set of tourist demand estimates was derived.
- 6.22 The principal aim of the proxy island study was to review the tourism development 'models' and economic development patterns of other island economies that could be used to inform the tourism demand projections for St Helena, to set realistic boundaries on potential economic development parameters and inform policy decisions particularly with respect to encouraging inward investment and promoting tourism. The proxy island study thus provided a richer base for the tourism development scenarios used in the financial / economic model. Crucially, it also allowed us to verify and modify the preliminary tourist

demand estimates derived by the market research, for each of the air access options and their variants.

## Assumptions and definitions

### The tourism concept for St Helena

- 6.23 The strengths, constraints and opportunities for St Helena as a tourist destination have been extensively researched and analysed and a concept and strategy for tourism developed in the Tourism Master Plan prepared for SHG by the World Tourism Organisation<sup>3</sup>. The Tourism Master Plan develops a tourism concept for the island based on its **natural and cultural heritage features** including: the appeal of an island destination, equitable climate, intact natural environment, varied landscapes, historical buildings and fortifications, the Napoleonic heritage, marine environment and endemic flora and fauna. Our discussions with government representatives and environment specialists from St Helena added to the list of potential opportunities sports fishing, diving and dolphin watching. The Government's tourism policy – one which forms the basis of the Tourism Master Plan – is one of sustainable 'low volume – high value' tourism.
- 6.24 The Tourism Master Plan also recognises that the island "does not have internationally competitive heritage and nature based sites". This would make it difficult for St Helena to compete directly with other destinations, islands and other long-haul destinations in general, which have already positioned themselves successfully as ecotourism, natural history and wildlife or world cultural heritage sites.
- 6.25 In the course of this study we have been guided by the tourism concept already developed for the island, and to our understanding, endorsed by SHG. In our interviews with operators and travel agents we explored the following features which the island could potentially market itself on:
- remote, less-known, 'unusual' destination
  - 'unspoilt' nature
  - varied landscapes, potential for a variety of walks and treks; geology
  - safety and tranquillity
  - Napoleonic heritage
  - other historical buildings and features: colonial buildings, the East India Company, Boer War prison camps, fortifications
  - 'picture postcard' Jamestown
  - warm, safe and clean marine area
  - endemic species – flora and fauna
  - dolphin watching
  - bird watching
  - deep sea/game fishing
  - diving: wrecks, caves and marine life.

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<sup>3</sup> *A Strategy for Heritage and Nature Based Tourism Development: Tourism Master Plan*, World Tourism Organisation, Madrid, 1997

- 6.26 The choice of islands in the proxy research has also been guided by this tourism concept: alongside criteria such as remoteness, similar climate, terrain and population we included criteria such as tourism development based on cultural heritage, ecotourism or the appeal of the natural environment.

### Definitions of tourist demand

- 6.27 At the highest level of definition tourist demand falls into two categories: domestic (residents of a country on tourist visits within the country) and in-bound (overseas residents on tourist visits to a destination). In this study tourist demand is defined as in-bound travellers from overseas on tourist visits to St Helena. The demand for travel from Saints resident overseas is dealt with separately from tourist demand. Travel for business purposes is also dealt with separately.
- 6.28 The next level of classification of tourist demand is based on the way tourists purchase their holidays. Potential In-bound tourist demand for St Helena is broken down into two main categories: **organised tourists** (who purchase their holidays via a tour operator or travel agent) and **independent tourists** (who make their own holiday arrangements). The latter are also known as Fully Independent Travellers or FITs. The tourist market can be segmented further based on the type of holiday purchased.
- 6.29 The tourist demand projections refer to overnight tourist visitors, i.e. tourists that stay in overnight accommodation on the island. Cruise visitors are 'day visitors' and are discussed in this report as are yachtsmen who form a separate segment. The spend associated with yachts calling at St Helena and cruise ship day-visitors is reflected in the financial / economic model but the scale of tourist numbers associated with these two segments do not affect any of the access options evaluated and are therefore not included in the overall projections.

### Types of 'all-inclusive' holidays

- 6.30 Although the products purchased via tour operators and travel agents are mainly all-inclusive 'packages' the term 'package holiday' refers to a particular type of holiday: the combination of a flight or other form of transport and accommodation with or without meals. The 'package holiday' is the most common type of all-inclusive holiday and forms the mainstay of the large generalist tour operators.
- 6.31 In contrast specialist tour operators offer a set of activities: guided tours of cultural, historic or nature sights, sports or other special interest pursuits, bundled together with transport and accommodation. It is this set of activities that forms the core of the offer and differentiates it from competitors' offers. Specialist operators eschew the term 'package' as applied to these types of holidays in favour of labels such as 'tour', 'trek' or 'voyage'.

### Objectives and Approach of the market study

#### Objectives

- 6.32 The tourist market study had the following objectives:

- to identify the interest of tour operators in St Helena as a destination and determine the impact of the three access options
- to identify the likely target customer segment or segments
- to identify the market requirements with respect to accommodation, activities and facilities
- to determine the likely levels of customer spend on transport, accommodation and 'on-island' activities
- to estimate the likely demand for travel to the island by tourists under the three access options.

6.33 Primary research with travel organisations was seen as the best approach to addressing these objectives. The proxy island study, based on secondary or 'desk' research, provided useful information about the way other islands have targeted specific markets and developed and sustained particular 'tourism models'. The growth patterns characteristic of the proxy islands proved useful in calibrating the initial demand projections that were developed as a result of the research with operators.

### Scope

- 6.34 The research considered potential tourist market demand for visits to St Helena from four countries: the UK, South Africa, France and Germany was analysed. The choice of countries was driven by two common factors underlying tourism demand for a particular destination: cultural/historic links and geographical proximity to the destination. The effect of these factors is already reflected in the historic data on tourism for St Helena: the main source markets to date have been the UK, France and South Africa. Thus, our research can be regarded as building on an established base and is therefore consistent with experience on St Helena. The breakdown of tourists by country of origin for the proxy islands researched also bears out the effect of these factors and in particular the emergence of the closest large economy as a main source market for both tourists and investors in the destination.
- 6.35 Germany was added to the scope as it is the biggest spender on overseas holidays in Europe (and in global terms second only to the USA); has a developed activity tourism market and in recent years has become a major growing source market for two destinations in relative proximity to St Helena: South Africa and Namibia.
- 6.36 Clearly, St Helena could be marketed in many more countries than the four selected for the primary market research. We attempted to identify the potential interest from other market territories such as the United States and Japan. However contacts with prominent tour operator associations in those countries yielded no obvious interest. Two major reasons could be the low level of awareness of St Helena and the potentially high cost of flights from the USA or the Far East to this region, relative to other tourist destinations (see Table 6.7 below). Data on inbound tourism to South Africa illustrates the relatively small share of US and Japanese visitors. The UK and Germany are the two largest source markets for South Africa, representing 24% and 14% of overseas visitors, respectively. In comparison the USA represents 10% and the whole of Asia, only 9%<sup>4</sup>.

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<sup>4</sup> Source: Statistics South Africa in Grant Thornton Kessel Feinstein: *Western Cape Trends Card*, 2003



## Approach

- 6.37 The primary market research was based on a mix of face-to-face and telephone interviews and exchanges by e-mail with a range of organisations. These were predominantly **specialist tour operators** in the activity/adventure sector, operators specialising in walking holidays, natural history/nature holidays, culture/heritage, focused on offering tours and holidays in Africa. A number of interviews were conducted also with large generalist or 'package holiday' operators, operators specialising in luxury/'exotic' destinations, travel agents, Napoleonic societies and associations and with representatives of Tourist Boards or organisations acting on their behalf. A small number of travel agents were also interviewed. In total, 138 organisations were contacted and interviews or responses obtained from 80. The following types of organisations were included in the study:
- activity/adventure tour operators
  - operators specialising in nature/natural history holidays
  - operators specialising in walking holidays
  - operators specialising in culture/heritage holidays
  - operators specialising in tours and holidays in Africa
  - operators specialising in game fishing
  - large generalist ('package holiday') operators
  - operators specialising in 'luxury' holidays and 'exotic' destinations
  - cruise operators
  - operators targeting the older customers
  - napoleonic societies and associations
  - travel agents
  - national tourist Boards.
- 6.38 The emphasis was placed on interviewing tour operators rather than travel agents because it is tour operators that choose destinations and promote them to the end customers. Agents act predominantly as resellers of tickets, tours and holiday packages. Although their importance increases with the growth of the independent traveller market, they tend to react to customer travel requirements rather than promote actively a particular destination. It is the tour operators as a group with which future marketing of St Helena would need to establish close links. Napoleonic societies and associations around the world were also contacted in view of estimating the potential demand for special interest trips organised through them.
- 6.39 An exploratory, inductive approach based on semi-structured questionnaires was adopted for the interviewing process. This approach, rather than a survey based on structured questionnaires, is more appropriate when trying to elicit views on a destination such as St Helena: one largely unknown to operators and one that does not compare easily to the majority of the destinations they would be familiar with.
- 6.40 Contacts were aimed at general managers and product managers at the tour operators and travel agents as they are the main decision makers with regard to the choice of destinations and the planning of the holiday offer. A three-step approach was adopted: they were first contacted by telephone, followed by a more detailed e-mail, followed up by



transmitting material describing the island's characteristics, after which an interview was requested. In most cases the initial reaction was one of little or no interest in St Helena. The interview then sought to elicit under what conditions the island might become potentially attractive and to what type of customer and operator.

- 6.41 Questions were aimed at deriving the profile of customers who would be likely to visit the island and their requirements with respect to facilities and activities. Emphasis was placed on exploring the preconditions that would make the operator consider the island as a destination, on determining 'reasonable' cost levels for access, and gauging customer expectations with respect to the standard of accommodation, facilities and activities based on operators' experience and current 'market norms' set by destinations that St Helena would be competing with.

### **Summary of the main findings**

- 6.42 Below, we present the main findings of the primary research with tour operators and other travel organisations.

#### **Access options**

- Air access was regarded as the absolute pre-requisite for the island to develop into a tourist destination.
- Small-size business jets associated with medium-length runway option was not attractive to operators which together with higher airfares, greatly reduces potential market size.
- There was no interest from operators in marketing holidays on St Helena based on access by the RMS.
- Likely higher cost of airfares from main potential source markets relative to other island destinations limits the size of the potential market.

#### **Type of tourism considered viable**

- Our initial forays quickly identified that St Helena, under current conditions of awareness and knowledge would not be sold by tour operators as a principal holiday destination.
- The overwhelming view is that St Helena is a potential nature-based holiday destination.
- Culture/heritage features were considered strong complementary features to an overall nature-based experience.
- Napoleonic heritage would attract a very specialist (and limited) market.
- The safety and tranquillity characteristics of St Helena are particularly important for the South African market.
- There is a growing interest in new destinations but limited interest in St Helena as standalone destination, with the exception of the South African market.
- For the European source markets St Helena is seen as an add-on to another destination, South Africa or Namibia.
- There is growing customer interest in add-on options and customisation of itineraries reported by operators.

- The likely duration of holiday on St Helena is one week.
- St Helena is attractive as an international cruise destination but the lack of berthing facilities limits growth potential.

### **Customer profile**

- Well-travelled, middle to upper income, well-educated, preference for customised itineraries, specialist operators or independent travel, FITs lying mainly in the older socio-economic groups.

### **Type of operator with potential interest in St Helena**

- Main target type of operator: specialist (mostly small) operator; walking or nature focus.
- Potential to attract operators targeting the 'retired' or 'grey' market.
- The type of specialist operator likely to find the island attractive tends to make greater use of local resources and facilities and is thus associated with fewer 'leakages'. This is good news for St Helena and its marketing efforts would need to target this type of operator.

### **Market requirements with respect to accommodation and activities**

- Mid-range, local character accommodation facilities are preferred over international hotel chains.
- The market has high expectations about the information and presentation content of natural and historic sights; local guides and staff at attractions and information centres trained to international standards. This is where St Helena could expect to minimise economic leakage.

### **Main market segments<sup>5</sup>**

- specialist tour operators (nature, walking, heritage, 50+ market) in long-haul markets
- tour operators in the Western Cape region<sup>6</sup>
- Napoleonic societies and associations
- independent travellers
- cruise operators
- sport fishing operators and associations<sup>7</sup>
- the ocean sailing community.

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<sup>5</sup> Often market segmentation is undertaken along socio-demographic characteristics such as age, income, nationality, etc. Such criteria are useful as they characterise the customer profile, but are insufficient when trying to target marketing activities. The two most important criteria for segmenting the potential tourist market for St Helena would be the way customers buy holidays (how they organise their trip) and the type of holidays they buy (why they would choose to go to St Helena).

<sup>6</sup> As will become clear further in the text, for tourists originating from the Western Cape region of South Africa, the appeal of St Helena is one of a safe and tranquil destination only a short flight away. St Helena could therefore be expected to have a wider appeal across a larger cross-section of operators.

<sup>7</sup> The feasibility of game fishing needs to be confirmed.

- 6.43 These findings need to be assessed in the context of the general factors that drive tourism and the specific trends in the growth and purchasing patterns of the customer segments likely to form the main target market for St Helena, discussed below.

#### **General Trends and Outlook for Tourism**

- 6.44 Tourism has grown to be the world's largest industry with international arrivals worldwide predicted to reach 1.56 billion by 2020 from some 700 million in 2000<sup>8</sup>, implying a compound average growth rate of 4.1% p.a. Its share of world GDP is expected to reach 12%.
- 6.45 The holiday market in general is driven by factors such as the economic conditions in the main source markets, the weather, political instability, movements in exchange rates and the cost of travel.
- 6.46 Alongside these general factors some of the trends of particular significance to the future development of the tourist industry in St Helena, as identified by our research, can be summarised as follows:
- slow down in the growth of 'standard' package holidays
  - growth of specialist holidays (targeted at specific demographic groups or involving particular activities or interests)
  - growth of independent travel
  - growing demand for quasi-independent holidays and customised itineraries and increasing importance of specialist operators
  - growing importance of the older age customer group
  - increasing role of the Internet at all levels of the travel industry
  - increasing sophistication of customer tastes and rising expectations with respect to the holiday experience
  - increasing competition amongst destinations to attract customers in an increasingly global market place.
- 6.47 These trends are all good news for St Helena.

#### **Slow down in mainstream 'packages' and growth of 'specialist' holidays**

- 6.48 Customers are becoming increasingly sophisticated in their tastes and requirements with respect to their holiday experience, demand a greater variety of activities and are a lot more experienced in comparing destinations. This evolution of consumer tastes explains the decline in the growth of mainstream package holidays and the rapid growth of activity and special interest holidays.
- 6.49 Activity holidays involve some special interest, physical, sporting or related activity as the main purpose of the holiday: e.g. walking, climbing, golfing, fishing, scuba diving etc. Although reliable data on the size of the activity and special interest market is scarce, it is estimated to grow at an average of 10% p.a. for most European countries. A number of

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<sup>8</sup> Source: *Tourism 2020 Vision*, WTO

sub-sectors of the activity market: walking, trekking and special interests have seen higher growth in recent years, in the range of 15-20% p.a., which is set to continue.

- 6.50 Walking/trekking is the most popular form of activity holidays<sup>9</sup>. Nature trips are increasing in popularity across European markets<sup>10</sup>. According to a survey of tourists in eight countries, for up to 49% of European tourists 'enjoyment of nature' is the most significant feature of a good quality holiday experience<sup>11</sup>.
- 6.51 Similarly special interest tours in the areas of history, cultural heritage, music or archaeology have seen buoyant interest in recent years, however there is no available data on the size of the market or growth rate. A survey of tourist customers<sup>12</sup> indicates that "interesting sightseeing" or the historical or cultural features of the destination is perceived to be the second most important element of an enjoyable holiday experience after "warm weather guaranteed". St Helena can satisfy these requirements.
- 6.52 Analysis of the growth in tourist number of the ten proxy islands indicates higher growth rates associated with ecotourism, nature-based or heritage based tourism. Thus the Galapagos has experienced a growth rate of 8.4%: this is a 'managed' growth rate resulting in the context of policies aimed at restricting tourist numbers through high prices and limits on the supply of accommodation. Dominica has experienced an 8.5% annual growth and Easter Island – 15%. These are much higher growth rates than those for the respective regions (refer to Appendix E). St Helena could look to the proxy islands for role models; its marketing function could engage actively with them.
- 6.53 It has to be borne in mind however that activity holidays account for a small proportion of the overall holiday market: mainstream 'package holidays' continue to dominate the all-inclusive holiday sector and the overseas all-inclusive holidays sector in particular. The share of activity holidays out of the total number of overseas holiday trips from the UK is estimated to be in the region of 15%<sup>13</sup>. This emphasises the size of the opportunity in which St Helena could engage.

### **Growing demand for independent travel and customised itineraries**

- 6.54 There is lack of reliable data on the size of the independent traveller market, but our research with operators and data from other sources<sup>14</sup> suggests that in the UK there is a 50:50 split between inclusive and independently arranged holidays for holidays abroad, in Germany and France this proportion is currently lower – around 40%, but is rapidly growing. Our study revealed that independent travel is growing in the Republic of South Africa, as experienced by the growing number of internet-based operators and travel agents. However no readily obtainable data exist on the size or growth rate.
- 6.55 The main drivers behind the growth of independent travel are the emergence of low cost airlines, the growing use of the Internet in the development of travel services and the greater sophistication amongst Internet users, allied to the growth in FIT activity.

<sup>9</sup> *Activity Holidays*, Key Note, 2003

<sup>10</sup> Source: The European Travel Commission

<sup>11</sup> Source: Danmarks Turistad, 1995

<sup>12</sup> *Holidays – destination marketing*, Mintel, 2000

<sup>13</sup> *Activity Holidays*, Key Note, 2003

<sup>14</sup> *Independent Travel UK*, Mintel, 2000; *Independent Holidays*, *Leisure Intelligence*, Mintel, 2002; *The French Market*. In "Insights", British Tourist Authority, 2004

- 6.56 Other than the domestic tourism market, independent arrangements tend to dominate short breaks overseas and long overseas holidays (over 28 days). For European tourists, long-haul destinations where independent travel tends to be the prevalent form of tourism include New Zealand, Australia and Japan.
- 6.57 Although the number of independently arranged holidays has been rising in recent years, the proportion of independent travellers is not expected to change much: i.e. both organised and independently arranged holidays will continue to grow in equal measure<sup>15</sup>. However, with the increasing experience and sophistication of the international traveller, the organised tourist will behave more and more like an independent traveller: **the demand for customised itineraries, flexible packages and 'add-ons' will continue to grow**. St Helena could satisfy some of this demand.

#### **Increasing role and growth of the specialist, 'niche' operators**

- 6.58 The demand for specialist holidays and tailor-made packages will continue to provide a boost to the smaller, independent 'specialist' operators. For a destination such as St Helena specialist operators are of particular importance for a number of reasons. They tend to serve less well-known, 'off-the beaten-track' destinations and target the more affluent, higher spending customers. They provide non-standard, more complex products designed around specific interests and activities and built around the particular characteristic features of the destination. Specialist operators tend to sell directly to their customers rather than through travel agents and are thus able to respond more quickly to changes in customer preferences.
- 6.59 The highest growth in the activity and adventure holiday sector is attributed to the smaller, independent operators rather than the respective arms of the large mainstream package holiday operators. A number of special interest associations – e.g. ramblers associations, have established their own tourist operations and cater specifically to the holiday requirements of their members.
- 6.60 Tourism via specialist operators is associated with fewer 'leakages'. Specialist operators tend to establish long-term partnerships with local suppliers at the destination and make local products and services core features of their offer to the customer. Being smaller, low volume operators, specialist operators tend to pay higher prices to local suppliers. A challenge for St Helena would lie in identifying these specialists.
- 6.61 All four country markets examined revealed proliferation of small, independent specialist tour operators targeting specific customer segments and offering a wide variety of quasi-independent travel products and tailor-made itineraries for individual tourists, families and small groups. The main current and potential interest in St Helena identified was from small specialist operators.

#### **Growing importance of the older customer segment**

- 6.62 The 60+ age group accounts for a growing share of the international travel market. 'Senior citizen' travel is seen as one of the 'best growth segments' across European countries and

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<sup>15</sup> *Independent Holidays, Leisure Intelligence*, Mintel, 2002

is a main market for adventure holidays and trips to 'exotic' destinations<sup>16</sup>. For some countries, e.g. Germany, this age group accounts for over 27% of overseas travel<sup>17</sup> by volume and its share is set to rise. In France the 55+ age group is expected to increase by 41% by 2020 to reach 6.1 million people<sup>18</sup>.

- 6.63 Future growth of this segment is driven by the natural demographic developments characteristic of most developed countries. This customer segment would be attractive for a destination such as St Helena because it is generally associated with high disposable income and comprises more experienced travellers. Older customers are more likely to purchase long-haul holidays via tour operators or travel agents.

### **The role of the Internet**

- 6.64 The Internet has had a profound effect on all players of the tourism market: customers, operators, travel agents, transport companies, local suppliers and destination management companies. It allows direct access to the customer and diffuses differences in size and marketing budgets by allowing cost-effective marketing and distribution of products for both small and large organisations. It is more flexible in communicating products and information than traditional means such as printed brochures and media advertising.
- 6.65 On-line sales of leisure travel are growing but still form a small proportion of total travel sales or indeed, of total on-line sales<sup>19</sup>. However over 70% of holidays made through traditional channels such as travel agents or over the telephone have been researched on the Internet first.<sup>20</sup> For small destinations such as St Helena the Internet is perhaps the most cost-effective marketing tool as it provides enormous media space and immediate exposure to a virtually global travel marketplace.
- 6.66 The Internet has been a main driver in stimulating the growth of the independent traveller market. Internet-based 'virtual' travel agents such as Travelocity, ebookers or Expedia, which offer maximum flexibility to customers in designing their own travelling and accommodation arrangements and booking individual components of their holidays, have enjoyed impressive growth. The majority of specialist operators use the Internet as the main communication channel for both customers and suppliers.

### **Increased competition among tourist destinations**

- 6.67 With the increased competition among airlines and the cost of flights dramatically reduced in the last 15 years, St Helena would be competing with a number of long-haul destinations – and not solely island destinations – to attract a share of the increasingly global tourist market. In the high earner segment it would be competing with established island destinations in the Caribbean, the Indian Ocean and the Pacific which are able to offer the most popular mix of beaches, diving and other water sports. In the nature/natural history segment it would be competing with destinations such as the Galapagos archipelago, South America, New Zealand, Antarctica, the Falklands and numerous other locations. In

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<sup>16</sup> Source: The European Travel Commission

<sup>17</sup> *Travel and Tourism in Germany*, Euromonitor, 2004

<sup>18</sup> *The French Market*. In "Insights", British Tourist Authority, 2004

<sup>19</sup> According to Forester Research leisure travel accounts for 17.8% of total online sales in Europe.

<sup>20</sup> *Independent Holidays*, *Leisure Intelligence*, Mintel, 2002

the culture/heritage segment it would face competition from locations such as Sri Lanka, India, China or Peru, and island destinations such as Easter Island or the Marquesas.

## The Tourism Market for St Helena

### Industry Structure

- 6.68 The tourism industry in each of the countries researched is very fragmented. A small number of large operators account for the bulk of outbound tourist volume primarily via package holidays. There is a large number of small and medium size operators that tend to be owner-managed and specialise in a particular destination or type of holiday. Table 6.3 below gives an idea of the fragmentation of the travel industry in the four country markets.

**Table 6.3 - Number of travel agents and tour operators**

Country	Number of travel agents and tour operators
Germany	18,500
UK	7,000
France	5,200
South Africa	1,200+

Source: ECTAA, ASATA

- 6.69 The precise number of operators active in the countries considered is unknown. The figures in Table 6.3 include separate divisions, offices, brands and trade names of the same main organisation. Many operators are not members of tour operator associations. In general the number of agents by far exceeds the number of tour operators. Large tour operators have a large number of agents at home and abroad reselling their products. Many travel agents are becoming tour operators. In an effort to add value hotel chains are also assuming the roles of travel agents and operators. The German travel industry is characterised by an even greater degree of fragmentation, with many state co-operatives and special interest associations acting as tour operators and agent for the tourism activities of their members.
- 6.70 There are 620 members – travel agents and tour operators - members of the Association of South African Travel Agents. The total number of travel agents and operators including non-members is likely to be at least double.
- 6.71 We estimate that there are in excess of 350 tour operators in the UK, 1300 in Germany, some 400 in France and in excess of 250 operators in South Africa. The vast majority are small, specialist operators.
- 6.72 St Helena's marketing function would need to become expert in all of these characteristics and understand and become familiar with the myriad 'channels to market'.

### Operator interest

- 6.73 There is limited current interest among small or medium size specialist operators in offering St Helena. This interest would only be realised if adequate air access, facilities



and activities are developed and the destination is proactively marketed. This is a classic 'chicken and egg' situation.

- 6.74 Of over 70 UK-based operators contacted in the course of the study only six expressed interest. These were medium size and small operators offering specialist walking and nature trips and an operator catering solely for the 'retired' market.
- 6.75 The type of operators in Germany and France that may potentially be interested in offering St Helena are similar to those in the UK: specialist operators, serving the older customer, primarily specialising in nature, walking or heritage tours. For the French market the attraction is perceived to be the Napoleonic connection, although none of the French operators contacted expressed direct interest in St Helena, which came as a surprise to us and seems to contradict experience on St Helena. It should be noted however that only 20 - 25% of French holidays are taken abroad<sup>21</sup>, the lowest figure in Europe. The majority of French overseas trips are to French overseas department and territories (DOM-TOM) in the South Pacific and the Caribbean, a trend reinforced by the relatively low cost of access.
- 6.76 The German market may prove to offer greater potential for St Helena as its activity holiday and walking holiday markets in particular are more developed. Interest in the potential of St Helena as a walking/ nature-based destination was identified as well as interest in developing game-fishing should the potential prove to be viable. Special interest associations at national and state level are very active as tour operators for their members – one example is the national Ramblers Association, the Wandern Verband.
- 6.77 There was considerable interest in St Helena from South Africa-based operators and particularly those operating in the Western Cape region. For the Western Cape region St Helena has the potential additional appeal of a short-haul destination and is likely to appeal to a more diverse customer base and cross-section of operators. St Helena would need to ensure that its safety and tranquillity was not undermined by fostering tourism.
- 6.78 Cruise companies see potential in including St Helena in cruise programmes and already call at the island. For many cruise operators however the lack of berthing facilities is a major drawback but the lack of an airport is an even greater impediment to scheduled commitment. It is not a 'given' that even with air access, cruise operators would schedule St Helena in their programmes.
- 6.79 None of the large generalist operators view St Helena as a potential destination of interest. For a destination to be considered viable, this type of operator would have to be able to send in tens of thousands of tourists a year as a minimum. The island was not considered competitive relative to the majority of islands and other long-haul destinations popular with these operators' customers, including the high-earner segment.
- 6.80 Similarly none of the operators specialising in 'luxury holidays' and 'exotic destinations' were interested in potentially offering St Helena: the island was not perceived to have some necessary components of a 'luxury' destination such as unique beaches, world class coastal and marine environment, world class diving or wildlife. Should a third party decide to invest heavily in resort-style amenities on St Helena this might impart confidence to tour operators to sell it as a destination (assuming they had access to sufficient of the island

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<sup>21</sup> Source: Direction du Tourisme



and the amenities). Again, SHG would need to manage the balance of inward investment (for profit-making) and economic leakage; it would need to ensure its own workforce was not marginalised.

- 6.81 The majority of Europe-based operators specialising in or offering Africa were not interested in offering St Helena. These operators serve predominantly first-time visitors to Africa (some 85% of their customers). For first-time visitors to Africa a two or three-week safari holiday is the typical choice. When extensions are purchased, beach holidays on islands in the Indian Ocean are the dominant option.
- 6.82 The majority of European operators as well as South Africa-based operators serving predominantly foreign travellers do not consider it viable to offer St Helena as a destination on its own: it is seen as an extension to another tour, e.g. one of South Africa or Namibia. The latter option would be particularly attractive to the German tourists and operators: Namibia is emerging as one of the most popular long-haul destinations for German tourists, helped by the improvement in the scheduling and cost of direct flights.

### **Customer Profile**

- 6.83 St Helena would appeal to the older customer, middle to upper income group (but not necessarily rich), well-travelled, mostly retired, often well-educated, with preference for customised itineraries, travel in small groups or individual travel.
- 6.84 A small number of operators stated that they could market the island to their younger customer base: 30-50 age group, often professionals with special interest in walking, nature or botany.
- 6.85 European operators interviewed in the course of this study were unanimous in their view that in comparison to many other long haul and island destinations in particular, the potential market for St Helena would be “very small”. Features such as its remoteness, “obscurity” and underdevelopment as a tourist destination were quoted as its main source of appeal but also the reason for the reduced potential market size. Such a perception at present may be due to the general low level of awareness about St Helena across the travel industry. At the same time however the potentially high cost of access relative to competing destinations is likely to represent a challenge to its development.
- 6.86 The South African market is more price-sensitive and the total potential market size is smaller than the West European markets considered, due to the relatively smaller mid- to high-income population group. However, the closer proximity of South Africa to St Helena might enable the latter to gain a significantly larger share of this market than that of the European market in the same way as Chile, Ecuador, New Zealand and Australia are the largest providers of tourists to Easter Island, the Galapagos, the Cook Islands and Vanuatu respectively.

### **Customer Requirements and Spend Estimates**

#### Access Options

- 6.87 Operators dismissed the sea access option as a viable route to generating significant tourist demand. The length of time at sea, the overall duration of the journey in relation to

the typical holiday leave for most people and the high cost of travel are seen as the main constraints to demand. In any case, the sea option is capacity constrained unless the replacement RMS was not to operate on an exclusive basis.

- 6.88 Operators across all four countries (including those that did not think St Helena would be of interest to them) stated air access as the absolute prerequisite for even considering the island as a possible destination. (Cruise operators are the obvious exception).
- 6.89 The medium runway option with the associated 19-seater business jet is likely to have very limited appeal to operators. Operators do not believe the 19-seat business jet provides a viable option for servicing organised tourism demand, for both cost and operational reasons. In their relationships with airlines operators require flexibility in booking and cancellation, including generous discounts and ability to cancel part or the whole of the order a short period before the date of travel. Whilst operators of large aircraft (100 seats or more) would generally be able to accommodate these requirements, operators of a smaller size aircraft would be less likely to provide such terms. Based on their experience, tour operators did not think an operator of a 19-seater aircraft service would allow them to block-book as many as 12-15 seats – a typical group size for the majority of the operators that are likely to offer the island – nor be able to offer them flexible cancellation terms. The likely higher cost would be an additional deterrent in attracting operators' interest in the island. It would also act to reduce the size of the potential independent traveller market.
- 6.90 Customers from European countries or other potential overseas source markets are likely to use the cost of flights to other long-haul destinations such as New Zealand, the Caribbean or South Africa in particular, as a benchmark against which to assess whether the flights to St Helena offer 'value for money'.
- 6.91 Most operators would be reluctant to offer St Helena if the return airfare to St Helena from a regional airport hub exceeds the cost of the long haul flight to that hub. A price of around £600 for a return flight to St Helena from Cape Town is considered to be the appropriate benchmark<sup>22</sup>. A smaller proportion of tourists and operators are perceived to be able to bear higher prices, in the £800-1000 range.
- 6.92 The South African market is more price-sensitive, the major reason being the volatility of the Rand. For South Africans St Helena would be competing with destinations such as Namibia and Mozambique, and the cost of a return flight would be expected to be comparable. To attract the South African market the cost of a return flight from Cape Town to St Helena would have to be lower than £600.

#### Accommodation and Length of Stay

- 6.93 Operators stated that the preferences of the type of customer likely to typify the tourist market for St Helena would be for **smaller, 'local character' hotels**. *En suite* facilities, cleanliness and the level of service characteristic of accommodation facilities at other developed tourist destinations are prerequisites.

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<sup>22</sup> Cape Town is used as a typical example of a hub for flights to St Helena. The airfares to St Helena from other gateways, e.g. Johannesburg or Windhoek would have to be comparable.

- 6.94 In general 3-star hotels are considered by the market as appropriate for the type of nature/culture-enthusiast expected to form the main market for St Helena. For walkers, guesthouses and bed and breakfast type accommodation are the preferred options particularly outside the main urban centres. For South African tourists, self-catering and bed and breakfast type accommodation is the preferred option. Operators' experience shows that even though the type of customer likely to visit St Helena would be of higher than average income, their preference in the main would be for smaller hotels rather than for the high value international chain hotels.
- 6.95 These findings echo the experiences of islands such as the Galapagos, Dominica and Easter Island, reviewed in the course of the proxy research where low key, local character hotel investment keyed to the requirements of the target market has stimulated significant tourist demand and contributed to the success of the tourism models pursued by these destinations. **For the nature-based, ecotourism, heritage market a major investment in luxury hotel infrastructure on St Helena is not considered a necessary condition to prime demand.**
- 6.96 A range of accommodation facilities would be required in order to meet customer preferences. Price ranges perceived to be adequate are £20-30 for self-catering and bed and breakfast accommodation, and £50-90 for the higher end hotel accommodation. (Up to 30% discounts would be typical for the smaller niche operators, i.e. the income to the hotel would be 70% of the rates stated above).
- 6.97 The length of stay would depend primarily on the range of activities on offer, St Helena being seen mainly as an add-on to another destination. **One-week stay was perceived as the most typical holiday duration**, although some operators anticipate demand for shorter, 3-4 day breaks. Under air access, long runway, flight frequency in the early years would be limited to one per week.

#### Facilities and Activities

- 6.98 Most operators stressed the importance of a variety of activities being developed for a remote destination such as St Helena to be able to stimulate tourist demand. As the island's primary attractions would be its landscapes, cultural heritage and botany, and the typical customer is expected to be the well-educated, experienced traveller, the quality, comprehensiveness and availability of information are the main requirements with respect to creating the activity offer for the island. Operators that showed interest in offering the island pointed out that developing detailed information about its features and weaving it into activities such as guided walks and tours, is often more important than the perceived 'quality' of the feature relative to what is available elsewhere in the world. Availability of multilingual information sources is of paramount importance if tourists from countries where English is not the official language are to be attracted.
- 6.99 If the island is to develop successful nature and heritage tourism with the associated walking, trekking, botany, geology and history, customers would expect well-trained, experienced and multilingual local guides. Operators in turn would have similar expectations as to the training, experience and language ability of the local agents or ground-handling operators.

6.100 The estimated spend on activities such as nature walks, treks or cultural tours lies in the region of £20-50 per person per day. Between 50% and 70% of this would go directly to the local guide or activity provider.

### **The Cruise Market**

6.101 The cruise market has experienced very fast growth in the last 15 years, of 10-12% average p.a., facilitated by the expansion of capacity coming on stream. St Helena is seen as a possible stop-off destination for a round-the-world cruise programme or a circumnavigation cruise around Africa (round-Africa cruises however are not very common). The island is not regarded by cruise operators as a suitable destination for a fly-cruise option. The island is perceived to be an attractive port of call for world cruises that finish in Europe or the USA.

6.102 With an increasing number of operators reluctant to use the Suez Canal, the number of world cruises passing around South Africa and potentially calling at St Helena is likely to rise. We estimate that St Helena may expect some 20-25 cruise ships p.a. in future years and potentially up to 20,000-25,000 day visitors. Although the average spend on the island per cruise passenger would be low – in the region of £10-15 – the segment is important in terms of marketing. The customer base for world cruises is predominantly the high income, 50+ age group – the customer profile that the island would be likely to attract as independent travellers or via tour operators. For this type of customer word-of-mouth tends to be the dominant marketing mechanism: cruise customers may therefore play a major role in promoting the island to friends and relatives. SHG's marketing function would need to take this into account.

### **The ocean yacht sailing market**

6.103 There is limited information on the size and growth of this small but rapidly growing market segment. The potential for St Helena to attract a growing number of yachts should in any case be growing, under-pinned with the Cape of Good Hope developing into a major yachting centre. The trend is already evident in the statistics for St Helena: over the last ten years the number of yachts calling at St Helena has been growing by an average of 7% p.a. Therefore it already caters to long-distance ocean sailing, which is and has been for decades a developing sport attracting considerable commercial and public interest. Should air access become a reality, St Helena could become an attractive 'scheduled' 'staging post' for organised long-distance racing, similar to ports along the coast of South America. It would also be able to be counted on as a mid-ocean port of refuge capable of receiving urgently needed yacht spares, possibly also providing a rescue service.

6.104 Although sailors would not, in general, require accommodation they tend to be high spenders. We estimate an average spend of £40-50 per person per day (mainly on food, beverages, fuel, repairs and tourism activities on the island). With an average (historic) stay of 8-9 days per yacht this segment can potentially be developed into a sizeable niche. There also is the potential for crew changeovers to occur in St Helena if air access were to become available.

## The Game Fishing Market

6.105 The game fishing market is a fast growing, albeit small, segment of the special interest/activity tourist market. It is unclear whether the waters around St Helena have been tested in view of determining the potential for game fishing. Potential competitors would be established game fishing centres such as Mexico, Florida, the Caribbean, Madeira, New Zealand. Local competitors include South Africa and Ascension Island. We have identified some interest from operators in establishing a base on St Helena. **Air access is considered an absolute requirement for this type of tourism.** Typical costs of a fishing holiday are in the range of US\$400-1200 per person per day all inclusive. With typical group sizes of 4-6 people the number of tourists per annum is likely to be small; however the profile fits St Helena's 'high value' target.

## Napoleonic Societies and Associations

6.106 There are some 50 Napoleonic Societies and Associations around the world, most of which have less than 1000 members. **The key factors in attracting this market would be air access and the cost of travel.** Should air access become possible, demand is expected to be more buoyant in the initial years of operation of the airport. Trips to St Helena are not perceived likely to be repeat ones but rather as once-in-a-lifetime events. Growth in tourist numbers over time is not likely to be substantial as the membership base of these associations itself does not expand very much. The main demand is likely to come from the French membership base and to a lesser extent the United States and Canada. Most of the other associations contacted felt demand would be limited to less than 10 people p.a. from the respective country.

## Demand Estimates

6.107 For each of the three access options we present demand projections over a 40-year period.

### Long Runway Option

6.108 The tourism demand projections are based on a number of assumptions, based on the foregoing, including:

- The island is proactively marketed to operators for at least the two years preceding the opening of the airport.
- The minimum market requirements with respect to the range and standard of accommodation are met.
- A range of tourism interest facilities and activities is developed with rich multilingual information support.
- Local guides at attractions and facilities are trained to international standards, equipped with good information.
- Plentiful information about the island, access, accommodation, facilities and activities is communicated to operators on an on-going basis and is available on the Internet.

6.109 The projections include only tourists using the air service to get to the island. Cruise passenger numbers and ocean sailors are not included in the projections.

#### Initial 'build-up period'

- 6.110 A demand build-up period of 5 years from the start of airport operations is assumed. Tourism demand has been estimated separately for each country market. The demand for organised travel via operators is estimated first, in a bottom-up manner, from estimates of the number of operators likely to offer the island and the average size of tourist groups as elicited in the course of the market research.
- 6.111 Average group sizes for the activity type of holidays to be offered on St Helena is 12-15 people. The smaller operators would have 2-3 trips per annum, or an average of 30 tourists. The larger operators estimate 160-500 tourists p.a. as a maximum, in larger groups. Often operators in this sector would offer one or two trips to a new destination in the first year and would rapidly double or triple that in the next 2-3 years. If St Helena markets itself proactively and, most importantly, manages to meet the expectations of operators and their customers in the first 1-2 years, a rapid build-up of demand is likely.
- 6.112 The demand for special interest trips organised via Napoleonic societies and associations is estimated separately. Likely to be higher in the first years of operation of the airport, it is estimated at 100 tourists a year (or approximately one flight p.a.). Thereafter specially organised trips are likely to become less frequent, and are assumed to be equivalent to one flight every two years.
- 6.113 Taking account of the general trends in overseas independent travel from the source markets, the independent tourist demand for St Helena is then taken to be equal to the operator-generated demand for the UK, France and South Africa, and at two thirds of operator-generated demand for Germany.

#### Growth patterns

- 6.114 The proxy island research provides insights into the potential tourism take up pattern for St Helena. Two islands exemplify models of tourism development similar to the one envisaged for St Helena: Dominica with its model based on experience of nature and Easter Island where heritage tourism is being successfully developed.
- 6.115 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 heritage tourism which is targeted at high income customers, 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 of 15% p.a.
- 6.116 The similarities give us sufficient confidence to project a similar development pattern for St Helena. The growth rate for the 12 years following the 5-year build-up period is therefore assumed to be 15% p.a. (Year 6-Year 17). For the next 10 years (Year 18 – Year 27) the growth rate is 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. The longer term growth rate, from Year 28 to the end of the 40-year forecast period is set at 3.8%, equivalent to the slowest growth rate in



the sample of 10 proxy islands: that of Vanuatu and St Kitts. The growth rates are summarised in Table 6.4.

**Table 6.4 - Long runway tourist demand projections: Growth rate assumptions**

Time period	Annual Growth Rate	Rationale
Years 1-5	Initial build-up period	Based on estimates of operators and group sizes from primary market research. Rapid build up as operators double number of groups year on year
Years 6-17	15%	Average growth rate for Easter Island (1990 – 2001); heritage tourism, similar in target market, population, remoteness, cost of travel
Years 18-27	7%	Average of growth rates of Dominica, Grenada, Seychelles, Cook Islands
Years 28 - 40	3.8%	Growth rate of slow-growth islands in proxy island sample (Vanuatu and St Kitts)

## TOURIST DEMAND PROJECTIONS

6.117 Figure 6.1 below illustrates the tourist demand growth pattern derived for St Helena. Table 6.5 presents a summary of the demand projections. The rapid build-up in the first 5 years of operation of the airport starts from a relatively low base of just under 1500 tourists to reach over 6000 in Year +5.

6.118 We recognise that there may come a need to constrain the growth of tourism once a volume of tourists is reached, such that may exert pressure 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 1300 tourists on any one day, given that in excess of 7000 - 8000 people could be expected to be living on the island by that point in time. In Section 8 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. There is evidence from the proxy island study to support this policy.

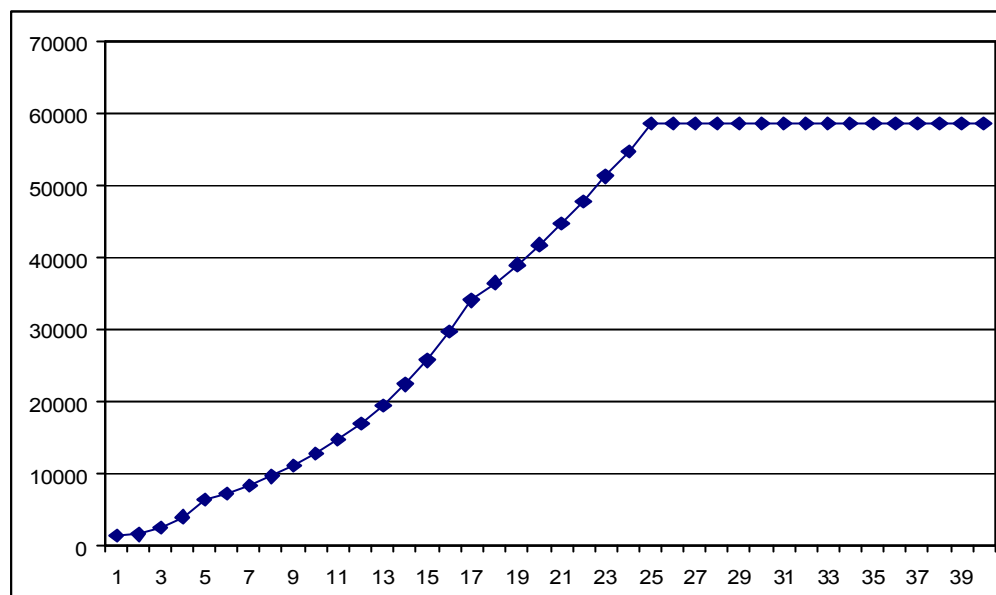
6.119 In our forecast, the tourist demand growth is restricted to 0% after Year 25 of the start of airport operations – a 'cap'. This is the year when the number of tourists on any one day is projected to have grown to some 1300. (It is assumed that 40% of the total tourist demand will be realised in the four warmest months, December-March, with the rest spread evenly over the other months of the year).

6.120 This tourism development pattern thus forms a link from our independent assessment of demand for what is an unknown quantity in the market, via the experiences of other islands, to our economic modelling. In effect, we have advanced or accelerated the perceived, quiescent demand by applying the proxy experiences to the St Helena situation (given access by B-737 or equivalent, at least). As a device for capping tourism influx capping



the number of beds available would have this effect. As specific reference, this is in accordance with policies effected in the Seychelles, Mauritius, and Madeira.

**Figure 6.1 – Long runway: annual tourism demand projections (number of tourists)**



**Table 6.5 - Long runway: tourist demand estimates (number of tourists)**

Country	Year 1	Year 5	Year 15	Year 25	Year 40
UK	804	2,956	10,835	24,641	24,641
Germany	50	789	3,611	8,213	8,213
France	30	473	2,465	5,605	5,605
RSA	360	1,420	6,209	14,120	14,120
Other <sup>23</sup>	249	736	2,670	6,022	6,022
Total operator-led demand <sup>24</sup>	802	3,316	13,301	30,203	30,203
Total FIT demand	691	3,059	12,488	28,398	28,398
<b>Total demand</b>	<b>1,493</b>	<b>6,375</b>	<b>25,789</b>	<b>58,601</b>	<b>58,601</b>

### Geographical breakdown of tourist numbers

6.121 The geographical breakdown of tourist numbers naturally reflects the choice of country markets for the primary research. As discussed earlier this choice has been guided by factors such as geographical proximity, cultural and historic links – factors that underpin the tourism development patterns of many destinations around the world including the proxy islands. The geographical breakdown of tourist numbers for St Helena also indicates the effect of these factors.

<sup>23</sup> Rest of the world and demand from Napoleonic associations

<sup>24</sup> Includes demand from Napoleonic associations

6.122 The estimates of the tourist demand for each country market are the 'composite' result of the bottom-up approach to determining demand rather than reflecting a pre-conceived share of an overall 'global' tourism market. Should St Helena choose to market to other source markets the shares would be different.

6.123 The resulting shares of the source markets for Year 1 are as follows: UK – 54%, South Africa – 24%, Germany – 3% and France – 2%. By Year 15 the share of the UK has fallen to 42%, whereas the shares of Germany and France have increased to 14% and 10% respectively. The share of South Africa has remained stable in an overall growing market, at 24%. The category 'other' reflects demand from the rest of the world together with demand from Napoleonic associations. Its share has decreased from 17% in Year 1 to 10% in Year 15.

6.124 The demand estimates for South Africa reflect the significant operator interest determined by our research. Tourist data for St Helena in recent years also reflects the growing share of South African tourists. The potential of South Africa as an important potential source market for St Helena is backed up by evidence from proxy islands where the nearest major economy usually forms a major market for tourists.

#### Comparison of demand estimates to tourist numbers on other islands

6.125 Our demand projections indicate a level of just under 59,000 tourists reached by Year 25 of the start of airport operations. Table 6.6 below compares this forecast to the number of tourists achieved on the proxy islands within a 25-year period up to 2001.

**Table 6.6 – Comparison of tourist numbers**

Island	Number of tourists 1976 (‘000)	Number of tourists 1986 (‘000)	Number of Tourists 2001 (‘000)
Madeira	n.a.	n.a.	843
Mauritius	103*	165	660
Seychelles	50	67	130
Grenada	25	57	123
Galapagos Islands	12	26	78
St Kitts & Nevis	n.a.	57	75
Cook Islands	n.a.	57	75
Dominica	n.a.	50	68
Vanuatu	25*	18	53
Easter Island	n.a.	5**	26
<b>St Helena tourist number estimates over forecast period:</b>			
	Year 1	Year 15	Year 25
<b>St Helena</b>	<b>1.5 (est.)</b>	<b>26 (est.)</b>	<b>59 (est.)</b>

\* 1977 data

\*\* 1990 data

6.126 The level of tourism demand projected for St Helena 25 years from the start of airport operations is lower than that of most proxy islands researched. Of course most of the proxy islands are much larger than St Helena both by area and population. Tourist demand levels would reflect the model of tourism developed: islands offering a combination of sun,

beaches and water sports would attract larger volumes of tourists. It can also be argued that the periods are not 'comparable' in the strictest sense: the real impetus to long-haul tourism growth was in the 1990s when the cost of air travel dramatically decreased; whereas in the years to come, St Helena potentially would be facing a much more mature market place and intense competition from these and many other 'established' destinations. The table can nevertheless be used to provide a general context for assessing the tourist demand estimates for St Helena.

- 6.127 For most of the proxy islands there is no readily available tourism-related data prior to 1980 and thus does not allow us to assess the time it has taken these economies to attract the current levels of tourism demand. A snapshot of tourism demand 25 and 15 years prior to 2001 (the last year for which tourism data is available for all islands) reveals that most islands 'start' from a much higher base than St Helena which might be another reason why St Helena tourism demand levels might appear relatively more modest.
- 6.128 Compared to other islands the potential size of the tourist market for St Helena is likely to be constrained by a number of factors: by the tourism concept focused on nature and heritage, away from the most popular combination of sun, beaches and diving; by the relatively limited size of the customer base the island can successfully market itself to – older age group, mid-to high-income, well-travelled, experienced customer; by the type of operator it can attract – small, specialist operator handling small groups of tourists per destination.
- 6.129 An important factor likely to restrict demand is the cost of access from main source markets relative to transport costs to other competing destinations. Table 6.7 overleaf compares the cost of a return flight to St Helena from major potential source markets to the cost of access to other island destinations, based on current airfares. The cost of a return flight to St Helena from Cape Town is estimated in the range of £1,100 or US\$1,700. With the cost of a return flight from most main potential source markets in the range of US\$1,100 St Helena is likely to be amongst the most expensive tourist destinations. This represents a challenge for SHG: ensure that as a holiday destination, St Helena adds value to the range of choices open to the type of customer it wants to attract.
- 6.130 For most tourists starting their journey in Europe the cost of a return flight to St Helena would be in the range US\$1,100 compared to airfares of less than \$1500 to the Caribbean islands and the Galapagos and under US\$1000 to Mauritius. For tourists starting their journey from the USA the cost of getting to St Helena is estimated in the region of US\$1,100, compared to airfares to the Caribbean islands (US\$400-800), the Galapagos or Easter Island (up to US\$1400) of Cook Islands (less than US\$2000). For the Far East markets, e.g. Japan, the costs of getting to St Helena are £1,100 the airfares to other destinations, in the range of US\$1,100. Cost of travel is therefore a differentiator that SHG could use in choosing its target markets.

**Table 6.7 – Airfare Comparison (US\$)**

<b>US\$</b>	<b>USA</b>	<b>Caribbean Islands</b>	<b>UK</b>	<b>Germany</b>	<b>France</b>	<b>Australia</b>	<b>New Zealand</b>	<b>Reunion</b>	<b>Japan</b>
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
<b>St Helena via Cape Town</b>									

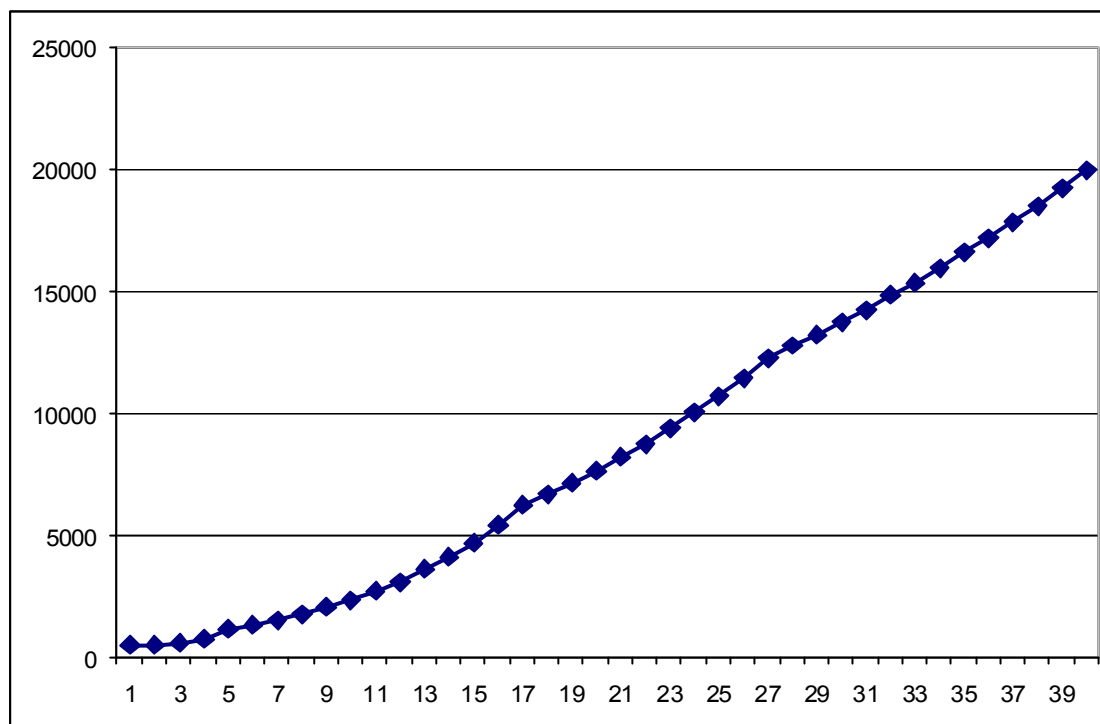
### Medium Length Runway Option (19-seater business jet)

- 6.131 The demand projections for the medium length runway option are based on the same assumptions about proactive marketing and development of facilities and activities in the years prior to the opening of the airport as described in the previous section.
- 6.132 It is likely that the operator-generated demand would be substantially reduced if an air service based on 19-seater business jets is the only air access option. The two main reasons are the likely much higher airfare, likely to affect all types of tourists, and the small capacity of the aircraft, which would make it difficult to serve operator-based tourist demand.
- 6.133 As discussed above the 19-seat capacity would be too small for average group sizes of 12-15 tourists. There is no evidence from other islands of developing a sizeable and successful tourist industry whereby the main form of access for international tourists is via a small size aircraft. There are numerous examples of small-scale airport facilities supporting only small size aircraft, but they are used to provide airborne connections across smaller distances (e.g. between individual islands of an archipelago) and flight times are much shorter than the 4.5 hour flight from Cape Town to St Helena.
- 6.134 The demand estimates for the 19-seater medium runway option are derived from the estimates for the long runway option. The two main sources of demand, organised tourists and independent travellers, are estimated separately. The independent traveller demand is estimated from the projections under the long runway option for each year, on the basis of price elasticity of 1.3<sup>25</sup> and return airfares Cape Town-St Helena of £1 1/2 and £1 1/3 for the long and medium length runway respectively.
- 6.135 Although our research indicates that operators in the main would not be interested in marketing St Helena to their customers if the air service is provided via 19-seater business jets, we have assumed in the projections some limited operator demand starting in Year 4. It is reasonable to assume that some interest from operators might be generated if the island is marketed effectively and if operators have evidence of independent tourist demand. It is also reasonable to expect that in the first few years of the opening of the airport and in the absence of organised forms of travel to the island, the independent traveller demand may be somewhat higher than demand elasticity calculations imply.
- 6.136 The forecasts are based on the current state of aircraft design. In the future larger aircraft may be developed that are able to take off from shorter runways. The demand projections for the medium length runway 19-seater business jet option are presented in Figure 6.2 below and summarised in Table 6.8.

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<sup>25</sup> This is the price elasticity for leisure travel used by the Department of Environment, Transport and the Regions in the air traffic forecasts. (See *Air traffic Forecasts for the United Kingdom 2000*, DETR, September 2000). Fares would have a stronger influence on the decision to travel for leisure travellers than on business travellers. The price elasticity for business travel is 0.5. The forecasts are based on passenger volumes from a wide cross-section of overseas markets.

**Figure 6.2 – Medium length runway: annual tourism demand projections (number of tourists)**



**Table 6.8 – Medium length runway: tourist demand estimates (number of tourists)**

	Year 1	Year 5	Year 15	Year 25	Year 40
UK	268	542	1,988	4,521	8,414
Germany	17	145	663	1,507	2,804
France	10	87	452	1,028	1,914
RSA	120	261	1,139	2,591	4,821
Other <sup>26</sup>	83	135	490	1,105	2,037
Total operator-led demand <sup>27</sup>	0	319	1,289	2,930	5,448
Total FIT demand	498	851	3,442	7,822	14,542
<b>Total demand</b>	<b>498</b>	<b>1,170</b>	<b>4,732</b>	<b>10,752</b>	<b>19,990</b>

<sup>26</sup> Rest of the world and demand from Napoleonic associations

<sup>27</sup> Includes demand from Napoleonic associations

## Replacement of RMS St Helena

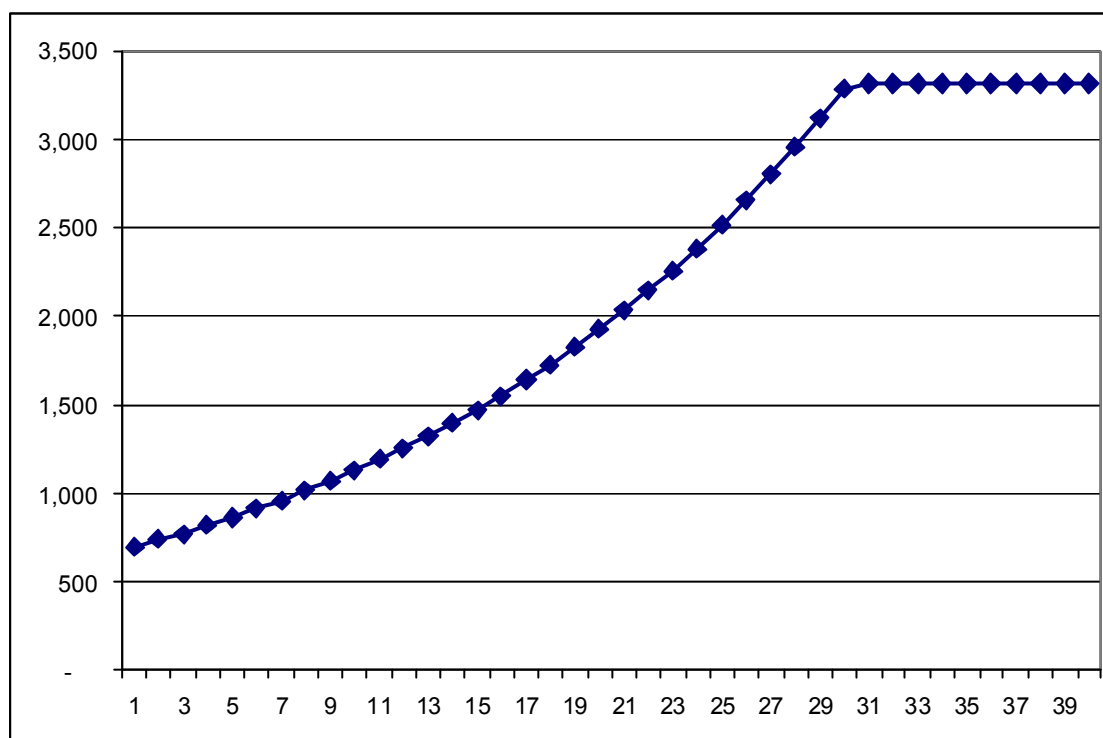
- 6.137 It is difficult to extrapolate a tourist demand trend from the travel data of the RMS. There are large fluctuations in tourist numbers including the most recent period 2000-2003. The number of tourists may be constrained by the overall capacity of the ship given a certain level of demand from Saints. AWSL has experienced an increase in the demand for travel by Saints since 2001 but it is not clear whether this growth is set to continue. The 2004 change to the ship's itinerary and schedule makes it too early to assess the impact of this change on the current and potential tourist demand for travel.
- 6.138 The more important constraints to tourist demand under the sea access option relate to the time involved in travelling to and from the island. Our research showed that the demand for St Helena would be for up to a week stay on the island, most likely as an extension to another tour, e.g. South Africa or Namibia. Even if the ship's schedule is changed to accommodate this type of package, the amount of time spent at sea is likely to act as a deterrent to the main target customer base: the tourist in pursuit of activity holidays on St Helena. The likely high cost of travel would act as an additional constraint to tourist demand. The potential market would likely be reduced to a subset of the cruise market where the ship would face stiff competition from other cruise operators and especially those offering round the world cruises.
- 6.139 The view of AWSL is that the potential tourist market demand is not likely to grow much beyond the current levels. Allowing for some growth and with considerable marketing effort, their own estimates are for up to 800 -1000 tourists p.a.
- 6.140 Analysis of the last ten years of available data on the number of tourists (1994-2003) does not allow for extrapolation of a meaningful growth rate. On average the number of tourists in the period has fluctuated at around 520 p.a.
- 6.141 Assuming a larger capacity of the replacement ship of 180 berths (see Section 7), 30 trips per year and 95% capacity utilisation, the total number of passengers that the ship would be able to handle is 5130 p.a. This would provide the upper limit of potential tourist numbers if no demand from Saints or business travellers is allowed for. The business travellers have historically been around 250 p.a. For our economic modelling we assume the number of business travellers to grow with GDP: with minimal GDP growth under the RMS replacement option, the number of business travellers is unlikely to exceed the historic level of 250.
- 6.142 In the context of continuing outward migration it is not clear at what level of trips to and from the island the Saints demand for travel would settle. As the population declines, the demand for travel from the island can be expected to decrease, however the demand for travel from Saints residing abroad would increase. The demand from Saints can therefore be assumed to remain stable throughout the forecast period. The 2003 figure of 1560 passengers p.a. is the level assumed.
- 6.143 Figure 6.3 below illustrates the growth pattern of tourist demand under the RMS replacement option, assuming a 5.5% annual growth rate. (This is the long term tourism growth rate for the Africa region forecast by the WTO<sup>28</sup>). With business travel and demand

<sup>28</sup> Source: *Tourism 2020 Vision*, WTO



from Saints constant throughout the period, the capacity of the ship acts as a cap on tourist demand, at a level of 3320 tourists p.a. Table 6.9 summarises the tourist demand estimates.

**Figure 6.3 – RMS replacement: annual tourism demand projections (number of tourists)**



**Table 6.9 – RMS replacement: tourist demand estimates (number of tourists)**

Year 1	Year 5	Year 15	Year 25	Year 31	Year 40
696	862	1,473	2,515	3,320	3,320

#### Variations to central estimates of demand

6.144 The tourist demand projections provided above for the three access options were subjected to substantive variation under our approach to risk modelling (see Section 11; note at end of Section 5 above applies here also). The projections provided in this Section are taken forward as input to the financial / economic model (described in Section 9), which is used to generate the baseline outputs, and thence into the risk modelling. Since we have adopted an approach to risk modelling that precludes necessity to vary the input numbers we therefore do not present demand projections in this Section other than central projections.

## COMPARISON OF THE DEMAND ESTIMATES WITH ESTIMATES DERIVED BY OTHER SOURCES

### Air access options

6.145 Table 6.10 below compares our estimates of tourist demand to those derived by High-Point Rendel | | | | |<sup>29</sup>.

6.146 High-Point Rendel considers two air access options: a long runway providing for an international air service to South Africa and a short runway providing for a shuttle service to Ascension island. After an initial “market build-up period” tourism demand is projected to grow at 6% p.a. For both air access options the forecasts are higher than ours with the numbers projected for the first 5 years of operation of the airport considerably exceeding our estimates. It is not clear how these forecasts were derived, what target markets, customer and operator types or overseas source markets were assumed.

6.147 | | | | | .

6.148 | | | | | .

6.149 | | | | | .

<sup>29</sup> | | | | | .

**Table 6.10 – Air access options: Comparison of demand estimates from different sources**

Source	Long runway			Short/medium length runway		
	Year 1	Year 5	Year 35	Year 1	Year 5	Year 35
High-Point Rendel	4,358	11,428	65,636	2,178	4,324	24,836
Atkins	1,493	6,375	58,601	498	1,170	16,589

6.150 In contrast we have made explicit the bottom-up manner of building up our demand estimates derived as a result of extensive primary research with market players at the 'sharp end' of the market: tour operators and travel agents in main source markets. The rationale in selecting the source markets is also explicit and is borne out by tourist breakdown patterns for other tourist destinations: country markets with cultural and historic links and large economies that are geographically close. Our estimates reflect demand from specific market segments that the island can potentially attract, based on the mix of natural and heritage features it is able to offer. They rest on the assumption that the customer requirements with respect to facilities and activities are met and that the island is proactively marketed. Our longer term growth pattern for the island takes account of experiences from other islands around the world and in particular the patterns of development on islands such as Easter Island and Dominica that pursue a similar tourism model. No other such robust estimate of demand for tourism to St Helena has been compiled by any other party.

### **RMS replacement**

6.151 The tourist demand forecasts for the RMS replacement option reflect different assumptions about ship capacity, schedule and demand from other travel segments, in particular Saints. This makes direct comparison of forecasts from different sources difficult. Table 6.11 below compares our estimates to those of High-Point Rendel.

6.152 High-Point Rendel's projections are based on a 2% annual growth rate. Our estimates are based on 5.5% annual growth rate, which is the WTO long term tourism growth rate for the Africa region. In our projections travel demand from Saints and business travellers are kept constant. The ship capacity acts as a cap on tourist demand at 3320 tourist p.a.

**Table 6.11 - RMS replacement option: Comparison of demand estimates from different sources**

Source	Year 1*	Year 10	Year 35
High-Point Rendel	1,336	1,629	2,420
Atkins	734	1,127	3,320

\* Year 1 is 2010, the year when the larger capacity replacement ship starts operations.

### Confidence levels – Tourism demand

6.153 In our approach to risk modelling (see Section 11) we separate uncertainty (which we define as 'normal' levels of estimation in the absence of specific risks) from risk.

### DEMAND FOR TRAVEL BY SAINTS

6.154 Using the approach described in Appendices F and G to this Report we compiled 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<sup>30</sup> and Ascension Island.

6.155 Demand for air travel was drawn from surveys of Saints resident on the island and those living abroad. The survey report can be found in Appendix F to this Report.

6.156 This analysis presents estimates of travel by Saints over a 40-year horizon from the point at which an airport becomes operational.

6.157 For the long runway, it is estimated that there would 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.

6.158 For the medium runway, it is estimated that there would 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.

6.159 Upper and lower bounds for passengers for each runway type were also estimated.

6.160 Under the RMS replacement scenario it is assumed that there would 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.

<sup>30</sup> 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 routing to the world in general. There is no significant reason why another African hub could not be selected, if preferred.

6.161 These projections are taken forward as input to the financial / economic model (described in Section 9), which is used to generate the baseline outputs, and thence into the risk modelling.

## POTENTIAL FOR INVESTMENT IN TOURISM

6.162 Given the current relatively small number of tourist visitors and the low occupancy rates of existing visitor accommodation, there is little incentive at present to invest in tourist facilities on St Helena. This will only come about with the major change in the speed and cost of travel to the island that air access would bring. A substantial increase in tourist numbers would clearly require more accommodation, either purpose-built or converted from other uses. It would also require investment in tourist related facilities, such as restaurants, shops, historic sites and leisure activities. The greater the investment in shops, historic sites and leisure activities to serve visitors the more value added will be generated and the higher the proportion of spend retained on the island.

6.163 Existing visitor accommodation options cover a limited number of hotel rooms (30 as of mid-2004) plus some 60 other rooms spread across guest houses, bed and breakfasts and self-catering. The hotels are traditional style and there is no modern international standard hotel on the island. However, because of the present very low occupancy rates (in the range of 10% to 20% only) there is substantial spare capacity. In theory therefore the sector has the ability to absorb a significant increase in the number of visitors. This provides a window of opportunity of one or two years following the opening of an aerodrome during which there could be investment in refurbishing, upgrading and expanding existing accommodation. In practice much of the necessary investment expenditure should begin while the aerodrome was under construction, or even earlier. It is important that this early investment response is forthcoming if full advantage is to be taken of the expected visitor interest, and especially to ensure that there is no negative publicity.

6.164 The likely speed of response to a positive decision on improved access, in particular air access, was explored during mid-2004 by the Study team in meetings on the island with local businesses and also in focus groups. It appears that the local response could be expected in three phases:

- **Decision on Air Access.** A limited number of businesses would respond following a positive decision on air access.
- **Construction Period.** The evidence of plant and equipment on site would induce further start-ups (early work on an access route could be beneficial here).
- **Operating Phase.** Full response would follow only when visitor numbers were seen to significantly increase.

6.165 In the present unfavourable business climate there is little sign of any significant private sector tourism investment initiatives (other than that of Shelco). At meetings and focus groups in mid-2004 various reasons were put forward for the lack of investment:

- uncertainty over future access to the island
- a non-incentivising inward investment regime, including both taxation and immigration regulations

- a lack of entrepreneurial spirit in the community.

6.166 The availability of finance does not appear to be a major constraint on investment in tourism facilities at present but it could become one as the sector expands. Much could be achieved through minor investments in guesthouses and self-catering accommodation financed through savings and small loans. However, this is unlikely by itself to provide the level of investment necessary to ensure sustainable growth and decreasing reliance on budgetary support. For the many larger investments needed, such as the upgrading and expansion of hotels, historic property conversions, such as Ladder Hill Fort and High Knoll Fort, and new restaurants, significant loan capital would be required.

6.167 The Bank of St Helena, the former Government Savings Bank, was incorporated as a quasi-independent commercial bank in April 2004 and offers loans to the business community. However, virtually all of its lending to date, apart from the few relatively large local businesses, has been for consumer loans, principally for houses and cars. Our understanding is that it would be able to respond in a limited way to an upturn in demand for small and medium sized loan financing, because their capital (£3.5 million) is able to support total lending of up to approximately £25 million. Their loan book is only about £2 million (most of their deposits of £22m is invested in gilts). However, lending to large projects would be restricted by banking regulations, e.g. a restriction on 'concentration' would limit total lending to any one project / customer to little more than £2 million, and a significant expansion in their overall activities would require an injection of capital.

6.168 The SHDA was established by SHG and DFID in 1995. It provides support services and concessional finance to small and medium-sized businesses. The activities of SHDA focus on support and finance to higher risk start-ups, which would not normally be considered by commercial banks. It is experiencing the same lack of demand as the Bank with few new start-up businesses. SHDA's funds are limited and unless its revolving fund is increased, it would not be in a position to provide finance for significant new investments. It is understood that the advisory service function would also require strengthening if it were to be equipped to respond to any significant expansion in demand. Institutional aspects of SHDA are discussed in Section 8 below.

6.169 The principal conclusion is that access to international finance would be required for any significant new investments. However, borrowing offshore is extremely difficult for most Saints since their collateral assets are normally held on the island and not viewed as accessible by international lenders. A further conclusion is therefore that foreign inward investment is required if the benefits of improved access are to be fully realised. Ideally, this would in many cases be in partnership with local businesses. In general, our investment financing assumptions for tourism-related facilities are as follows:

- Investments in expanding and refurbishing existing St Helenian owned small hotels, guest-houses, bed and breakfasts, and self catering accommodation: Financed principally by equity, the Bank of St Helena and SHDA.
- Investments in small restaurants, tearooms, and shops: Financed principally by equity, the Bank of St Helena and SHDA.
- Investments in international standard hotels: Financed offshore.
- Investments in major conversions of historic sites: Financed offshore

6.170 Examples of the types of new opportunities that could attract inward investment include:

- **Hotels and guest houses.** A high proportion of the tourist market identified for St Helena during this study confirms the shift to relatively well off independent travellers, focusing on walking, heritage tourism and nature tourism as key products. This segment can be catered for largely through the types of small hotels and guesthouses which already exist in small numbers on the island. These will need to be refurbished and upgraded and the number will need to be substantially increased. New premises are likely to be attractive to inward investors. This type of tourism will tend to minimise leakage of value added through imports. In our economic model we have also explicitly allowed for investment in a major international 4\*/5\* hotel which would cater for the luxury-seeking end of the market. This would probably need to be financed offshore.
- **Villas and other self-catering accommodation.** This type of accommodation could attract significant inward investment. A proportion of the requirement may be provided by refurbishing and letting existing properties. There were 297 houses unoccupied at the end of 1998 and this number can be expected to have substantially increased following the further depopulation in subsequent years. This does not appear to have stemmed the demand for housing as 159 were under construction at the end of 2003. The opportunity exists to turn many of the unoccupied houses into holiday lets. This could also include the restoration of derelict, traditional buildings where tourist use could give them a new lease of life. We also envisage additional inward investment in high standard villas, some of which could attract residential tourists. The villa style investment has been explicitly allowed for in our economic model.
- **Bed and breakfasts.** These are likely to continue to be required but we do not envisage significant investment in expanding in their number as they tend to cater for the lower end of the market.
- **Historic sites.** There is a number of historic sites with very high potential for development as tourist venues, either for accommodation or as shopping and souvenir complexes, or a combination of all three. These should prove attractive opportunities to inward investors and examples include:
  - ? Ladder Hill Fort built high on the cliffs in the late 19<sup>th</sup> century with magnificent views over the sea to the north-west and over Jamestown to the north-east. This site has an ideal location for access to Jamestown as well as the coast and countryside in the western half of the island. It would be possible to convert much of the accommodation without detracting from its historic significance.
  - ? High Knoll Fort is St Helena's largest fortification, occupying a dominant position a mile south of Jamestown, affording views across much of the island. It may be inappropriate to convert to accommodation but it could be rehabilitated and developed to include restaurants and shops.
  - ? There is a building, once a fortification, close to the seashore at the bottom of Lemon Valley where there is at present no vehicular access. The use of this building as a coffee bar / café / restaurant could be accompanied by the construction of a jetty or similar structure to enable small boats to disembark



passengers and supplies from Jamestown and also to facilitate swimming in the bay.

? Mundens is a small complex of cottages and batteries on the cliffs between Jamestown and Rupert's Valley. Built in the early 18<sup>th</sup> century these buildings occupy a commanding position overlooking the moorings outside Jamestown. Access is difficult at present even on foot and these buildings require considerable investment, including possible rock stabilisation.

- **Napoleonic sites.** The Briars Pavilion, Longwood House and Napoleon's Tomb are in the ownership of the French State and managed by the French Consul on St Helena. Tourist access is currently available and they represent the most important historic tourist attractions. Any investment in these properties would be subject to the approval of the French Government. There is certainly scope for expenditure on rehabilitation of the houses. Peripheral investments could include discreetly located restaurants and souvenir shops.
- **Other Sites of interest.** These include the Governor's residence, Plantation House, where old Tom, the giant tortoise, resides, the Boer Camp, the Old Jail and the local museum. These are other potential sites of development as tourist attractions.
- **Tourist style shops.** The Grand Parade and Main Street areas of Jamestown offer excellent locations for investment in shops and restaurants. Clearly the distinctive architectural nature of the buildings and environment would need to be preserved.
- **Activity related investments.** There is considerable scope for inward investment in activity related investments, for many of which the potential has hardly been exploited. Activities which have been identified to date include:
  - ? Organised walking tours. A number of enterprises offering this activity already exist but the present volume of tourism is such that they only operate intermittently. The island has a number of recognised walks which have been graded by degree of difficulty. A stamp is available at the end of each walk so that the walker is able to prove completion of the walk by marking a card accordingly.
  - ? Deep sea fishing. This activity is developed on Ascension Island but it cannot cater for perceived demand due to the limited airline seats available. We have identified interest from foreign operators in developing this activity on St Helena. However the potential for deep sea fishing needs to be verified.
  - ? Golf. A golf course exists at Longwood but it is poorly landscaped. A full professionally landscaped 18-hole course in an attractive environment, |||| may be a commercially viable venture. Alternatively, improvements could be made to the existing course to make it more attractive to tourists.
  - ? Scuba diving. There are three wrecks in the waters around the island, one being an old Dutch galleon and another the HMS Dartmouth sunk during the Second World War. The crystal clear waters reputedly enhance the diving experience of these wrecks. There are scuba diving facilities already available of the island but

these will need to be expanded and regulated to ensure safe but exciting conditions for tourists.

- ? Water sports, paragliding, hang-gliding. These would be activities that would contribute to a more varied tourist experience around the core proposition of heritage and nature-based activities. Investment is scaleable and well-positioned to respond to market demand.
- ? Horse riding. The island is not natural horse riding country as it is mountainous. However, pony trekking could be an attractive proposition for some tourists wanting to see remote parts of the island via another mode of transport. The tours need to be properly organised, regulated (for safety and animal well-being) and based on an investment in pony trekking paths.

## DEMOGRAPHIC ASSESSMENT

### Introduction

6.171 A description of recent demographic trends was presented in Section 3 above, which concluded that the existing age structure of St Helena's population, coupled with below replacement fertility, predisposes a decline in population numbers and an increasing proportion of elderly people.

6.172 This section briefly summarises the approach to population projections and sets out the projections of the population of St Helena for each of the access options. 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 St Helena population based on census data and vital events can be made for 2003 and this is used as the starting point for these projections covering the period 2003-2048. Details of the methodology and the factors influencing the choice of the underlying assumptions are described in Appendix B to this Report.

### Approach

#### Principles of population projection

6.173 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.

### **Cohort component projection**

- 6.174 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.
- 6.175 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.
- 6.176 These projections were constructed using the software application, *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 application 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. It is based on well known and long-used principles of demography and is little more than a calculating tool, i.e. it is not unique and has been in use since the early 1990s.

### **Small population size**

- 6.177 It must be stressed that the population of St Helena is very small. Information about fertility, mortality and migration is based on extremely small numbers of demographic events (births, deaths, etc.) and period rates are relatively unstable. 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 of available data<sup>31</sup>, together with information provided through discussions with members of the Department of Public Health and Social Services, and the statistical staff of the Department of Development and Economic Planning.

### **Projections**

#### **Mortality Assumptions**

- 6.178 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 undoubtedly 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. Since there is no real basis for assuming any significant change, 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.

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<sup>31</sup> A discussion of sources of data and their interpretation is presented in Appendix B: Demographic developments: Estimation of the future population of St Helena

## **Fertility Assumptions**

- 6.179 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. In the low fertility regimes which 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.
- 6.180 It seems unlikely that the current level of fertility in St Helena will fall further. If the conditions are right it could rise. A key factor may be confidence in the future. This is not 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. Existing residents may feel confident that they are settled in St Helena rather than at risk of having to make a new home 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.
- 6.181 In the following projections the fertility assumptions are influenced by the expectations for economic growth and prosperity. A discussion of the values selected is contained in Appendix B.

## **Migration Assumptions**

- 6.182 Migration is likely to be more important than either fertility or mortality in determining the scale of population change in St Helena. It is most likely to be influenced by the same factors as influence fertility behaviour.
- 6.183 Job opportunities would play an important role. It is probable that economic growth, prosperity and confidence would attract both people in the working age range and people in retirement. 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.
- 6.184 Three factors have been taken into consideration in selecting the age profile of migration to be used in the 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.
- 6.185 The scale of inward migration for the air access options is determined 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 is described in Section 9 of this Report.

6.186 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.

6.187 Details of the selection of age profiles for in- and out-migrants and the calculations of the available and required workforce are given in Appendix B.

### **Projections for the Access Options**

6.188 Throughout the following projections, 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. The data supporting these projections are included as Annex A to Appendix B.

### **Replacement of the RMS**

6.189 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.

6.190 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.

6.191 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 6.12).

**Table 6.12 – 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 6.12	
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**

6.192 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.

6.193 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.

6.194 The results of the projections are shown in Tables 6.13 and 6.14.

6.195 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.

6.196 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 6.13 – 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 6.13						
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

6.197 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.



**Table 6.14 – Air access: medium runway B-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 6.14						
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

6.198 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

6.199 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.

6.200 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.

6.201 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<sup>32</sup> 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 6.15. The assumed numbers of jobs created, workforce, required, participation rates, etc. are set out in the Assumptions panel to Table 6.15.

**Table 6.15 - 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

<sup>32</sup> 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.

Assumptions for Table 6.15						
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				
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

6.202 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 20<sup>th</sup> 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+.

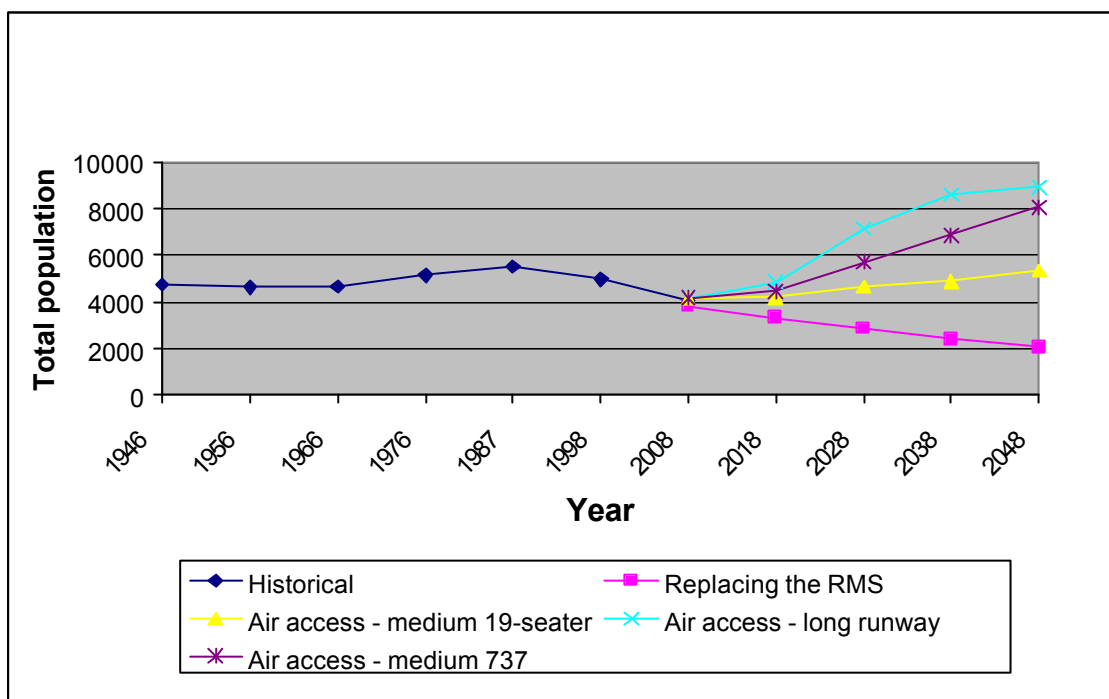
6.203 It must be noted that the major contributor to this population growth is migration, with in excess of 3,000 people being added to the population over the period through net in-migration. In the peak period it is assumed that on average more than 200 people per year are added in this way.

6.204 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. This is 150 in the context of a working population of over 4000; 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

6.205 The results of each projection are shown in the historical context in Figure 6.4. 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 6.4 – Total population, historical and projected (1946 – 2048)**



## Conclusions

6.206 The existing age structure of St Helena's population, coupled with below replacement fertility, predisposes a decline in population numbers and an increasing proportion of people over 60. Within reasonable expectations for fertility and mortality the trend of population decline will not be reversed without a significant and sustained inflow of people.

6.207 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.

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

6.209 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 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.

6.210 The medium runway (B-737) sub-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.

6.211 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.

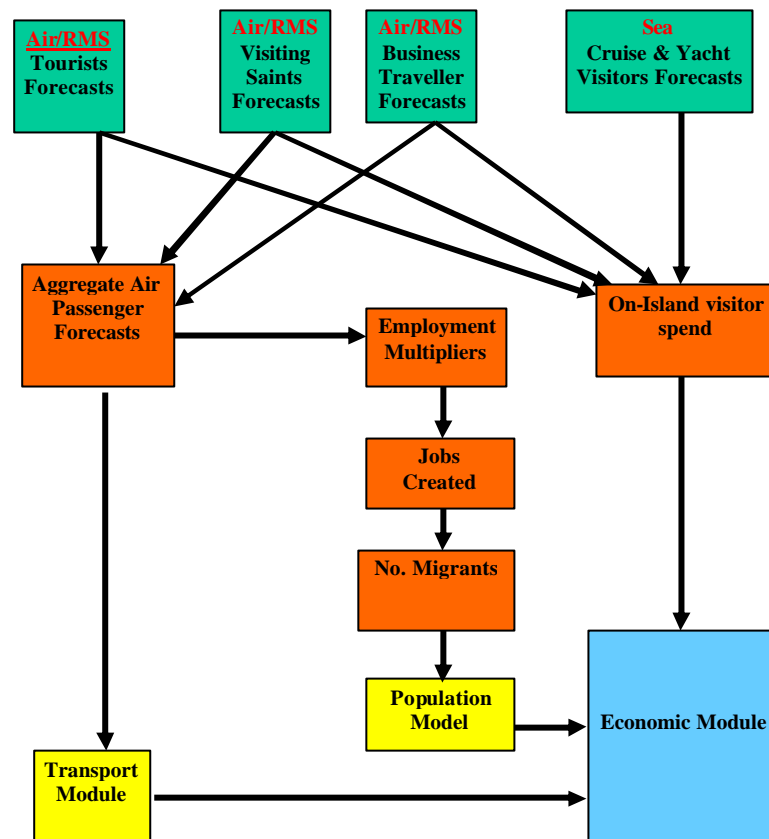
6.212 The size and structure of the populations shown in the Tables above are taken forward into the economic model.

## METHODOLOGY FOR COMBINING DEMAND INPUTS

6.213 Figure 6.5 summarises how the components of forecast visitor demand are combined to input to the economic workings module of the overall model. The four sources of total demand are utilised as follows:

- **Tourists:** These form a component of air passenger forecasts. A tourist-specific daily spend rate is used to determine the on-island spend.
- **Visiting Saints:** These form a component of air passenger forecasts. A visiting Saint-specific daily spend rate is used to determine the on-island spend.
- **Business Travellers:** These form a component of air passenger forecasts. A business traveller-specific daily spend rate is used to determine the on-island spend.
- **Cruise and Yacht Visitors:** All travel by sea. A cruise and yacht visitor-specific daily spend rate is used to determine on-island spend.

Figure 6.5 - Demand Inputs to Economic Module



6.214 The aggregated air/RMS passenger forecasts are input to the transport module where they are used to determine flight frequencies, passenger landing fees, and the need for any capacity related payments to (or receipts from) the airline operator. The relevant cost and revenue items are then input to the economic module. The calculated on-island spend for each of the four components of total visitor forecasts is input directly to the economic module. The aggregated air/RMS passenger forecasts generate a calculated demand for room accommodation on the island. This is then converted, through the use of employment multipliers, into an estimated number of new permanent jobs created. These jobs in turn are used to estimate the required number of migrant employees which is input to the population model and forms one of the key variables necessary to develop population forecasts. Population forecasts are input to the economic module and drive a range of revenue and expenditure items.

## 7 TECHNICAL CONSIDERATIONS AND COST ESTIMATES<sup>1</sup>

### INSTRUMENT APPROACHES AND RUNWAY ALIGNMENT

- 7.1 There is a regulatory requirement, when supporting ETOPS flights, for the aerodrome to be equipped with an instrument approach arrangement. The lowest level of aerodrome instrument approach is a descent through cloud and visual manoeuvre to land. An approach would only offer a descent through cloud to a minimum height of some 600ft above aerodrome level and this might not result in an acceptable runway utilisation.
- 7.2 The next level of instrument approach to the runway on Prosperous Bay Plain is one deploying ground-based navigation aids such as a NDB<sup>2</sup> and a DVOR/DME<sup>3</sup>. This would give lower minimum descent heights but because of the high ground to the west of a northern approach, would require an offset approach. This is known as a non-precision instrument approach. The lowest achievable minimum descent heights require the coupling of an LLZ<sup>4</sup> with a DVOR/DME. The regulator, in this case ASSI<sup>5</sup>, classes this as a precision instrument approach for aerodrome safeguarding purposes.
- 7.3 The northern approaches to Prosperous Bay Plain are flanked on the western side by high ground starting with the Barn. This makes the construction of an instrument approach difficult to achieve. The correct alignment and location of the runway are critical in achieving an instrument approach that would give the required minimum descent height. This in turn limits the scope for selecting the optimum engineering solution for construction. However without an instrument approach the provision of a viable air service is not possible. All three of these approaches have been assessed.
- 7.4 Initial designs for the approaches were undertaken with the following results:
- descent through cloud with visual manoeuvre to land – minimum descent height 600ft
  - DVOR/DME/NDB – an adequate minimum descent height could not be achieved because of the offset requirements
  - DVOR/DME/LLZ – minimum descent height 490ft.
- 7.5 It should be noted that future advances in the use of Ground Positioning Satellites (GPS) linked to a GPS Landing System (GLS) may well allow the use of lower descent heights. However, the runway safeguarding requirements would not change.
- 7.6 The investigations of the possible instrument approaches revealed that the location and the alignment of the runway on Prosperous Bay Plain were critical to the creation of a

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<sup>1</sup> For detailed assumptions - descriptive, qualitative and quantitative – refer to Appendix C. This Appendix contains all the data compiled as output of all the workstreams of the Study and which was used as inputs to the Financial / Economic model, as indicated in Figure 5.1 above. All of the technical arguments made in this Section are based on the detail of Appendix C and where otherwise noted throughout.

<sup>2</sup> Non-Directional Beacon (NDB)

<sup>3</sup> Doppler VHF Omni-range/Distance Measuring Equipment (DVOR/DME)

<sup>4</sup> Instrument Landing System Localiser (LLZ)

<sup>5</sup> Air Safety Support International, Crawley, UK



usable runway, i.e. one that could have a sufficiently high utilisation. This in turn limited the availability of land that could be used for the runway construction. Therefore the design can not be one based solely on engineering reasoning, but rather one that makes optimum use of the land available.

## OPEN SKIES POLICY

7.7 A basic requirement of SHG/DFID was to ensure that an 'Open Skies' policy could be implemented for the provision of air services to St Helena. This requirement was interpreted in four ways, such that:

- in the early stages of traffic development, the competition to supply the air service could be open to a number of possible suppliers
- in the latter stages of traffic development, it should be possible for these air services to be provided by a number of different suppliers
- dedicated air cargo operations could be provided
- independent air charter operations could take place.

7.8 In order to achieve this, a runway of sufficient length and width to accommodate as wide a group of aircraft as practical would be required. However, the land available on Prosperous Bay Plain is limited by the descending bluffs to the North and the precipitous ground to the South. The cost of extending the runway over a runway strip length of 1700m is extremely expensive as this involves filling large areas of Dry Gut. Further, the requirements for RESA<sup>6</sup> and the nature of the engineering construction place practical limits on the maximum possible runway length. An examination of the likely aircraft that would be available, both current and in the near-term (10 years) was undertaken. The performances of several types of aircraft were analysed. From this analysis it was determined that a take-off runway of 1950m with an associated landing runway of 1650m would meet the requirements of the 'Open Skies' policy.

## MEDIUM RUNWAY – DESCRIPTION

### Concept

7.9 This access option was based originally on a concept around an extended Code 2 runway. At an original capital cost estimate of between £1<sup>7</sup> and £1<sup>7</sup>, this option represented an investment more in line with that of replacing the RMS. The runway length would enable a fast 19-seat business jet scheduled air service to be operated, one that was not reliant on the use of Ascension Island. The faster- and longer-range business jets would operate frequently to a large number of African destinations and link to flights operated by long-haul carriers such as BA, SAA, Air France, Lufthansa and Kenya Airways. This option 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. By linking with long-haul carriers at a number of African destinations this would provide the traveller with a variety of ways to access the island. The capacity of the aircraft matched the original current and short-term forecasts and therefore aircraft seat utilisation would likely be high from the outset; this in turn would enable the ticket cost to be adopted

<sup>6</sup> Runway End Safety Area (RESA)

<sup>7</sup> See Appendix D: Access Options

at low risk to the operator. As traffic grew, further aircraft could be acquired to match traffic demand.

- 7.10 The maximum length extension<sup>8</sup> that would be allowed for a Code 2 runway is 10% of 1199m<sup>9</sup>, giving a total take-off run of 1319m. The major advantage of a Code 2 runway solution for St Helena is that the RESA need only be 120m long. Thus the original concept required a land take length of 1679m<sup>10</sup> allowing for the use of a long starter strip. This obviated the need to fill large areas of the Dry Gut feature.
- 7.11 During the detailed investigation it was found that the proposed business jets needed a take-off run of between 1340m and 1400m to service the route to Cape Town. It is therefore not possible to apply the Code 2 runway concession concept and provide a non-stop service to Cape Town, which is considered as a key destination. In consequence the medium runway was re-classified as a Code 3 runway, necessitating RESA of 240m and a wider runway strip. Selecting a take-off length of 1399m enables use of a concession on strip width, reducing it from 300m to 210m. However the total land length take then became 1999m<sup>11</sup> and this requires considerable fill into Dry Gut; consequentially construction cost savings are not as great as had been originally expected for this option.
- 7.12 The medium length runway is shown in drawing 5022355/CI/010<sup>12</sup>. The declared distances for this runway would be:
- TORA (Take-off Runway available) 1674m
  - TODA (Take-off Distance available) 2511m
  - ASDA (Accelerate stop Distance Available) 1674m
  - LDA (Landing Distance Available) 1399m.
- 7.13 This would require filling Dry Gut valley over a distance of around 400 metres, to an average depth of around 75 metres, corresponding to approximately 6 million cubic metres of total excavations.

### Design Aircraft for Medium runway

- 7.14 For the purposes of the Study, it is necessary to base the runway dimensions and air service performance on a particular design of aircraft. The design aircraft chosen was the Dassault Falcon 900 business jet: performance data for a range of their aircraft were obtained from the manufacturer. Other business jets were considered and their performance envelopes examined but the Falcon had the advantages of greater annual utilisation. In addition, at a practical level, maintenance facilities are available for the Falcon in Cape Town. There is a relationship between aircraft performance and runway dimensions, particularly length, which comes into focus in cases where the runway length limits aircraft performance e.g. allowable payload. This relationship applies on St Helena and is the reason why so much emphasis must be placed on accurate interpretation of the regulatory and safety requirements.

<sup>8</sup> Extension: ASSI concession based on Annex 14 guidance

<sup>9</sup> See Appendix M, 5313 *Aerodrome Technical Feasibility Paper*

<sup>10</sup> 1319m landing distance plus 2 x 60m strip end plus 2 x RESA at 120m = 1679m

<sup>11</sup> 1399m landing distance plus 2 x 60m strip end plus 2 x RESA at 240m = 1999m

<sup>12</sup> Companion to Appendix M 5313 *Aerodrome Technical Feasibility Paper*

### **Future Extensions to Runway Length**

- 7.15 The runway has been designed to handle small business jets operating in commercial conditions and in consequence it has a design width of 30m. Operations with larger aircraft would require a design width of 45m because of the high probability of a crosswind component greater than 13kts. In consequence, were this runway to be lengthened to cater for larger aircraft, it would also need re-profiling. Apart from the extra costs involved this would disrupt operations. The adoption of a policy whereby the runway designed to handle business jets would be lengthened and widened is therefore not recommended. The medium runway option should be regarded as a stand-alone solution to the problems of creating an air service to meet the future requirements of St Helena.

### **Provision of the Air Service**

- 7.16 The business jet Air Service would have to be a discrete air service with its own operating crew backed by managing, marketing and technical support, all run from St Helena. It is envisaged that DFID/SHG would enter into a contract with a known operator of business jets to provide such a service based on St Helena. A major operator of business jets and the manufacturer, Dassault Falcon, were interviewed concerning the viability of such a contract. The operator showed strong interest but would not discuss the prospect in greater detail until such time as a firm decision had been made to construct an aerodrome and some budgetary information was available. However, from the interviews it was apparent that there was likely to be sufficient interest in the market place for a robust air service provision competition to be held.

### **Route Capability**

- 7.17 The direct route options open to the business jet operating from this length of runway would be limited to flights to African airports such as Cape Town, Johannesburg, Kinshasa, Accra and Abidjan. Greater distances would only be possible by incorporating a re-fuelling stop en route.

### **Aircraft Movements**

- 7.18 The forecast demand figures for the business jet option give forecasts of some 12,000 visitors (tourists and Saints) by year +20. This would equate to some 30 aircraft movements<sup>13</sup> per week and by year +40 this would be in the region of 70 aircraft movements per week. The business jet cannot fly the same number of hours as a conventional passenger jet, it is not rugged enough. In consequence, more business jets and more flight air crew are needed. This is explained in greater detail below in the paragraphs on ticket prices. This option therefore assumes a policy of increasing fleet numbers to meet growing traffic requirements as it is not possible to employ larger aircraft without costly modification to the runway.

### **ATC Requirements, Weather and Instrument Approaches**

- 7.19 Any air service provided to serve St Helena needs to be reliable and regular in order to support the needs of a growing economy. The nature of the weather (recording of local

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<sup>13</sup> An aircraft movement is either a landing or a take-off; 20 movements means 10 aircraft

variations – wind direction and strength, visibility, temperature and cloudbase - only started in mid-2004) on Prosperous Bay Plain has not been assessed in detail for long enough. Currently weather readings are being gathered but at least one year's and preferably three years' recordings will be needed. The requirement for meteorological data gathering is discussed in Appendix H to this Report. Further there are a number of issues relating to the use of Ascension Island as an emergency diversion in the event of a failure to land at St Helena. These are discussed in Appendix I to this Report. The business jet, at less than 45,360kg and carrying no more than 19 passengers does not come under the ETOPS requirements. However, because of the need to maintain a regular air service an instrument approach system based on an off-set Instrument Landing System Localiser (ILS LLZ) has been included in the plans for this option.

- 7.20 A detailed specification for the complete requirements for the air traffic services was drawn up. This included the full requirements for the Control Tower, telecommunications, NAVAIDS<sup>14</sup>, AFTN<sup>15</sup>, airfield and approach lighting and remote obstacle lighting. This outline specification was subsequently agreed with the Regulator, ASSI.

### **Buildings and Supporting Facilities**

- 7.21 The business jet requires a small passenger terminal to support the 19 passenger loads and to handle the limited amount of baggage. Further, the RFFS<sup>16</sup> and sea rescue requirements are less than for larger, conventional, passenger aircraft such as, say, the B737-800 which can carry up to 162 passengers. Scale savings were possible on these facilities and associated support vehicles when compared to the larger aircraft option discussed below. Since the business jet solution requires the creation of an air service based on St Helena this requires support buildings such as offices, workshops and a hangar which are not needed for the B737 case. In consequence when all costs, other than the provision of fuel storage and the runway, were measured against the longer runway option discussed below, there was little difference between the overall costs of the two options in these areas.

### **Fuel**

- 7.22 The fuel requirements calculations were based on a three month re-supply schedule and a holding, on-island, of one month's reserve. The study team were made aware of a possible requirement for fisheries protection aircraft and an allowance was made for this extra requirement in the fuel calculations. The fuel storage policy was based on the creation of a bulk storage facility at Rupert's Bay with extra ready use fuel storage on the aerodrome. Fuel transfer between Rupert's Bay and the aerodrome was assumed to be by road tanker until year +20 after which a capital allowance has been made for enlargement of the bulk fuel storage and the installation of a fuel transfer pipeline. The details of the fuel storage calculations and assumptions are given in Appendix J to this Report. A summary of the requirements for the business jet operations is shown in Table 7.1.

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<sup>14</sup> Ground Based Navigation Aids (NAVAIDS)

<sup>15</sup> Aeronautical Fixed Telecommunications Network (AFTN)

<sup>16</sup> Rescue and Fire Fighting Services (RFFS)

- 7.23 It should be noted that the fuel paper (Appendix J) contains a number of recommendations on the provision of fuel, including a survey of the tank farm at Rupert's Bay,  $\frac{1}{2}$  and agreement with the MOD on use of the bulk supply to Ascension Island.

**Table 7.1 – Basis of estimate for storage: Medium Runway**

Item	Civil aircraft use	Fisheries protection
Aircraft	19-seater business jet	Twin turbo-prop
Route assumptions	CPT-STH-ASI-STH-CPT (re-fuel at ASI)	On STH station: 800 hrs/year Transit ASI: 2 per week: 208 hrs
3 months storage	Per aircraft: 23,238 gals	1 aircraft: 27,582 gals
1 month reserve	Per aircraft: 7,746 gals	1 aircraft: 9,194 gals
Total, incl allowance for future growth	10 aircraft/week: $10 \times (23,238 + 7,746) = 309,833$ gals	1 aircraft: 36,776 gals
Total storage	346,609: say 360,000 gals	
At bulk store	330,000 gals	
At aerodrome	33,000 gals	

### Ticket Prices

- 7.24 The business jet used during the calculation was the Dassault Falcon 900. This is a very reliable aircraft but despite this, because business jets are not built to be as rugged as commercial aircraft such as the B737NG, it is not possible to achieve as high a utilisation. A maximum of 1500 flying hours per year is only just possible. The business jet needs to fly more rotations to carry the required number of passengers. Flight deck crew are allowed to fly a maximum of 900 hours per year under UK regulation<sup>17</sup> and therefore more pilots are needed to achieve the required passenger transfers.
- 7.25 These factors combine to give high fixed costs and these more than outweigh the benefits of lower operating costs of each aircraft. Further, the business jet solution has to be a stand-alone service and therefore needs dedicated teams to manage the aircraft operation, aircraft maintenance, marketing, ticket sales - again increasing the fixed costs.
- 7.26 For the model, ticket prices were based on the year +10 forecasts. The envisaged air service comprised two business jets flown by seven pilots, with associated support. The operating cost per seat mile was calculated and gave a derived basic ticket cost for Cape Town return of £1  $\frac{1}{2}$ . However when route costs, finance costs, profit and other business costs were factored in the derived ticket price rose to £1  $\frac{1}{2}$ . The basis for this calculation is described in Appendix K.

### Cargo Operations

- 7.27 There would very limited air cargo capability, restricted to small packages and mail. Dedicated cargo aircraft such as the L100 Hercules would not be able to operate effectively from this runway length. In consequence, St Helena would remain virtually 100% dependant on sea freight for re-supply. This is discussed in greater detail in

<sup>17</sup> This total varies slightly between nation states

Appendix L, which concludes that requirement for air cargo would be likely to grow in line with the growth of the economy and the tourist industry. Any potential income to SHG derived from the air cargo business would be lost if this option were to be chosen.

### Emergency Relief

- 7.28 MEDEVAC<sup>18</sup> would be fast and to a variety of destinations. The emergency/disaster relief would have to rely in the main on the use of military Hercules aircraft operating to Military Operating Standards. An examination of the performance of the RAF C130J Hercules showed that reasonable payloads could be carried into and out of this runway. St Helena would therefore be unable to seek fast and effective disaster assistance other than from military sources.

### Summary – Medium length runway

- 7.29 The total capital cost of this option was estimated at £11.1m, with an additional £1.1m to be spent upgrading the fuel facility (run a pipeline to Prosperous Bay Plain) in Year +20. The medium length runway coupled with the provision of an air service using business jets has a number of advantages with regard to flexibility. However, the option gives rise to high ticket prices, severely limits the capability for air cargo and would rely on the use of military aircraft in the event of disaster relief being needed.

## THE LONG RUNWAY – DESCRIPTION

### Concept

- 7.30 As a result of the requirement to operate an open skies policy, the landing and take-off requirements of a number of aircraft were examined. These were:
- Boeing B737-600, -700, -800
  - Boeing B727
  - Airbus A319, A320
  - Antonov 148.
- 7.31 Detailed performance calculations were obtained from Boeing and Antonov. Airbus performance details were supplied by Leapp consultants. Whilst it was determined that the smaller aircraft, e.g. B737-700 and A319 could operate with landing distances as low as 1400m, the larger aircraft such as the B737-800 and the A320 require some 1650m to land when carrying commercially effective payloads. The Antonov 148, whilst it could land within 1100m, needs a take-off run of 1950m to carry 60 passengers to Cape Town.
- 7.32 Aircraft performance was analysed for dry and wet runways and for wet runways with either a porous friction course (PFC) or grooved surface. As a result of this analysis, it was determined that the optimum solution to meet the open skies requirement was a PFC or grooved runway with 1650m landing distance. The long runway is shown in drawing 5022355/CI/012 (part of Appendix M). The runway declared distances would be:

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<sup>18</sup> Medical Evacuation by Air (MEDEVAC)



- TORA 1925m
- TODA 2887m
- ASDA<sup>19</sup> 1925m
- LDA<sup>20</sup> 1650m.

7.33 This would require filling Dry Gut valley over a distance of around 600 metres, to an average depth of around 52 metres, corresponding to approximately 8 million cubic metres of total excavations.

### Provision of the Air Service

7.34 A number of sub-options were assessed for the provision of an air service based on the long runway. These are discussed at length in Appendix N. The six sub-options considered were: use of a 19-seater business jet, a 50-seater Boeing business jet, a Boeing 737<sup>21</sup> with a strong 'airline link' i.e. using the facilities of an established airline as explained below, a chartered Boeing 737, a leased Boeing 737, and the purchase of a used Boeing 737. It was determined that the 737 had the advantage in most areas of our analysis. The 737 type is widely available and over the distances involved, the smaller aircraft are significantly more expensive, even though for the small number of passengers involved there are benefits to having smaller aircraft.

7.35 For the purposes of designing the support requirements for the long runway option, we assumed the air service would be provided by an established airline or charter company. As such, only minimal support services would be required on St Helena: these being a small office, ground equipment to support operations and a small aircraft equipment spares holding. All ticket sales and maintenance would be carried out by the operator. This arrangement would represent a significant advantage to SHG as it confers access to the worldwide ticket sales network.

7.36 The treaty and legal implications for the provision of an airline providing international air service are discussed below in Section 8, Legal Issues.

### Route Capability

7.37 The direct route options open to the B737NG operating<sup>22</sup> from this length of runway could include to flights to African airports such as Cape Town, Johannesburg, Cape Verde, Kinshasa, Accra and Abidjan. For flights to Johannesburg the B737-800 would be payload-limited, reducing the maximum number of passengers carried by around 10. Reasonable passenger payloads can be carried as far as Cape Verde and the B737-700 should be able to fly a 75-80% passenger load to Madrid. Greater distances than this, e.g. to London, Paris and Amsterdam would only be possible by incorporating a refuelling stop en route.

<sup>19</sup> Accelerate Stop Distance Available (ASDA)

<sup>20</sup> Landing Distance Available (LDA)

<sup>21</sup> Where the aircraft B737 is mentioned, this includes equivalent passenger aircraft such as the airbus A319 and A320

<sup>22</sup> Performance assumptions:- aerodrome; 1000ft asl, zero wind, temperature 23°C, runway PFC wet, aircraft; 3% performance degradation, manufacturers Operating Empty Weight + 2%, island reserves; upper air 85% annual winds



## ATC Requirements, Weather and Instrument Approaches

- 7.38 The aircraft would have to operate to the requirements of ETOPS and as such, an instrument approach would be a requirement for certificating the flight operations. However, in all other aspects, the requirement is the same as that for the medium length runway discussed above. The UK DfT decides the standards to be met.

## Buildings and Supporting Facilities

- 7.39 The use of larger aircraft requires a larger passenger terminal: accordingly provision has been made in the estimates for a terminal to handle 162 passengers of which 12 would be business class and 150 would be economy class. Whilst the security requirements for baggage search for a 19-seat aircraft can be accommodated adequately by hand search procedures, the B737 aircraft requires full xray facilities to enable passengers to be processed in a reasonable time.
- 7.40 The aircraft would not need a hangar facility or supporting workshops on St Helena. However, the larger aircraft gives rise to a larger RFFS<sup>23</sup> requirement and in consequence a larger fire station and greater sea rescue capability than that required for the business jet. The number of passenger transport vehicles is also greater.

## Aviation Fuel

- 7.41 As with the medium runway option, the fuel requirements calculations were based on a three month re-supply schedule and a holding, on island, of one month's reserve and the fisheries requirement was included. Again, fuel transfer between Rupert's Bay and the aerodrome was assumed to be by road tanker until year +20 after which a capital allowance was made for enlargement of the bulk fuel storage and the installation of a fuel transfer pipeline to Prosperous Bay Plain. A summary of the requirements for the B737 aircraft operations is shown below in Table 7.2.
- 7.42 The B737 would need larger tankers on the aerodrome to refuel the aircraft efficiently but fuel transfer from Rupert's Bay could be accomplished adequately by the use of a smaller, 2100 gallon transfer. As mentioned above, it should be noted that the fuel paper (Appendix J) contains a number of recommendations on the provision of fuel, including a survey of the tank farm at Rupert's Bay, | | | | and possible agreement with the MOD on use of the bulk supply run to Ascension Island.

## The fuel capacities are designed to fit the air access options studies

- 7.43 The aerodromes designed in this Study are based on the two air access options described herein, so the capital cost estimates for the fuel provision would need to be revised if the concepts changed. Depending on the type of aircraft proposed by others, this estimate could increase to the point where a pipeline from Rupert's Bay to Prosperous Bay Plain would be required. This could double the present cost estimate. Any such increase would need to be offset by landing charges or other such levies. This would require careful analysis.

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<sup>23</sup> Rescue and Fire-Fighting Service (RFFS)

**Table 7.2 – Basis of estimate for fuel storage: Long Runway**

Item	Civil aircraft use	Fisheries protection
Aircraft	B737 or equivalent	Twin turbo-prop
Route assumptions	Week 1: CPT-STH-CPT Week 2: CPT-STH-ASI-STH-CPT (re-fuel at ASI)	On STH station: 800 hrs/year Transit ASI: 2 per week: 208 hrs
3 months storage	Per B737: 50,642 gals	1 aircraft: 27,582 gals
1 month reserve	Per B737: 16,881 gals	1 aircraft: 9,194 gals
Total, incl allowance for future growth	6 aircraft/week: 6 x (50,642 + 16,881) = 405,134 gals	1 aircraft: 36,776 gals
Total storage	441, 910: say 440,000 gals	
At bulk store	400,000 gals	
At aerodrome	40,000 gals	

### Ticket Prices

- 7.44 Ticket costs for the B737 variants were calculated on two bases: firstly for a charter aircraft solution and secondly on the assumption that the aircraft would be supplied by an existing airline under contract. Boeing standard configurations were used for business and economy seating. These were: B737-700, 8B and 118E; B737-800 12B and 150E ; ;
- 7.45 For the charter concept, a charter rate of £1 ; per operating hour<sup>24</sup> was assumed as a medium range cost, based on the use of one 124-seat aircraft rotation per week to Cape Town. This yields a derived return ticket price of £1 ; . This includes all route costs except landing fees. The charter option was also assumed to require a small marketing and business support team. When these factors were included, the return ticket price rose to £1 ; .
- 7.46 For the air service concept (service provided by an existing airline), it was assumed that such a link would enable the air service to be provided, taking advantage of the airlines' economies of scale and the existing airline marketing and management support. The derived return ticket price came to £1 ; ; when an on-cost for airline support on St Helena was included this rose to £1 ; . The derivation of these ticket prices is given in greater detail in Appendix K.
- 7.47 A ticket price of £1 ; per return trip to Cape Town is considered (as demonstrated by our primary research, see Section 6 above) to be competitive for the segment of the tourist market identified as the target market above. ; ; At such a price, the operator should realise good profits **as long as the demand expectations are realised**.

### Air Cargo Operations

- 7.48 The performance of a civilian L100 Hercules was analysed and this showed that independent air cargo operations could be carried out successfully from this runway. A major advantage of the adoption of the maximum length runway solution is that it enables

<sup>24</sup> Based on airline and charter company information

all the aircraft operating into St Helena to do so with high payload capability. If the passenger aircraft are not carrying full passenger loads, then advantage could be taken of payload capacity to carry air cargo thus optimising route cost efficiency. This would require active and co-ordinated management by SHG.

- 7.49 Robust forecasts for developing an air cargo market on St Helena are not possible at present. As tourism and other sectors grow, so the need for air cargo will increase. However to try to quantify this growth and the type of freight would be to rely on a series of inspired guesses which could be highly misleading. Based on the experience of other islands, the market is likely to be a mix of fresh produce, mail and equipment, the ratio and volume of which cannot be forecast until the market begins to develop. What can be said, based on others' experience, is that there definitely would be a need for air cargo to meet the requirements of a growing tourist industry and associated facilities. It may also be that some form of export market would develop on St Helena (e.g. agricultural products, coffee, and fish) and a dedicated and regular air cargo service prove viable at some time in the future. The economic development process itself, in the provision of tourist facilities and extra amenities, may generate the need for the occasional air cargo charter.
- 7.50 A major advantage of the adoption of the long runway solution is that it would enable all the aircraft operating into St Helena to do so with high payload capability. This extra payload can be used to carry belly hold air cargo to service the needs of the growing economy and the tourist industry. Additionally, dedicated air cargo such as the L100 Hercules could operate carrying high payloads of bulky freight. Not only would such a service prove beneficial to the island but also advantage could be taken of the extra income derived from air cargo operations to either provide income to SHG to defray aerodrome operating costs or fed back to allow lower, and therefore more attractive, ticket prices to both tourists and Saints.

### **Emergency Relief**

- 7.51 Medevac facilities would be provided via the air service operator's aircraft, to the gateway or 'hub' airport, initially weekly, increasing in frequency as traffic grows. For the long runway, full emergency and disaster relief could be provided by a range of civil aircraft and military aircraft operating to high payloads. The island would therefore, in these circumstances, be able to charter aircraft to meet its needs without necessarily having to rely on military support.

### **Summary**

- 7.52 The total capital cost of this option was estimated at £1.1m, with an additional £1.1m on upgrading the fuel facility (pipeline) in Year +20. It has the advantages of providing a full air service capability that would meet the requirements of a growing economy and enable a tourist market to be developed, based on ticket prices that are in line with market expectations. It has the further advantages of providing an air cargo capability that would support this growth and at the same time generate extra income for use by SHG. Lastly, it would enable the island to be supported in the optimum manner in the event of a major disaster or emergency. It has the disadvantage of being slightly the more expensive solution in terms of capital expenditure.

## **ONE-WAY RUNWAY CONCEPT**

- 7.53 This concept deals with the possibility of reducing capital expenditure by limiting normal take-offs to one direction, i.e. to the South. Landing would still be possible in either direction. This is discussed in the paper in Appendix O to this Report. The paper concludes that significant capital expenditure savings could be made for both the medium and long runway options whilst at the same time disruption to passengers arising from occasional limitations to payload would be minimal. The Study adopted this design for the aerodrome on St Helena and the saving has been built into the capex estimates.

## **MEDIUM RUNWAY SUB OPTION: COMPROMISE SOLUTION OF OPERATING B737NG AND AIRBUS AIRCRAFT FROM A 1400M LANDING/1675M TAKE OFF RUNWAY**

### **Description**

- 7.54 The possibility of operating a B737 air service from a 1400m landing runway was raised after the options short listing process had been completed (June 2004). This option comprises a widened (45m) runway of a similar length to the medium runway option. Appendix P considers the implications of this option in detail. The paper draws attention to the fact that only 54 of the B737-600 aircraft have been built to date.
- 7.55 We conclude that reasonable operations with B737-600, -700 and A319 aircraft would be possible but that the use of the larger aircraft such as the B737-800 and A320 would result in unacceptably high ticket prices. Further, this option would suffer from the same disadvantages as the medium length runway in respect of air cargo capacity and disaster relief.

### **Design and Cost (1400m Landing/1675m take off Runway)**

- 7.56 This option would comprise a mixture of the medium length runway and the supporting facilities required for the long runway option. The fuel storage would need to be enlarged to accommodate the higher fuel consumption of the aircraft (B737 Vs 19-seater business jet). The on-cost of this option has been estimated at £1 over the medium runway, providing the decision was taken early in the design process. This marginal capital cost increase is based on the detailed calculations undertaken for the medium and long runways, but the margin itself has not been subject to the same degree of detail (the idea was introduced in the latter stages of the Study).

### **Operational Limitations (1400m Landing/1675m take off Runway)**

- 7.57 The B737-600 and -700 operate successfully off similar length runways in a number of locations throughout the world. However, Boeing state that because of the nature of the approaches to an aerodrome on Prosperous Bay Plain and the possibility of crosswinds in excess of 13kts, the aircraft may be performance-limited for flights in-bound to St Helena. To allow a robust assessment, flight trialling of the prosperous Bay Plain site is recommended, to occur before the design for the chosen runway is finalised. Even then, further limitations might have to be imposed after reasonable experience had been gained operating into and out of St Helena. If this option was to be considered it should also include provision of flight trialling the approaches to the runway, upon completion, using a B737 a number of times over, say, two months. A budget cost of £500,000 would need to

be added to cover the costs of this (we have allowed for this in our financial / economic computations).

- 7.58 It should be noted that by operating the B737NG off a 1400m landing runway, the large majority of operations would be runway-limiting. This means that the large majority of flights would require the use of all the runway length on these occasions. It is the opinion of the Regulator that this would increase the risk of an undershoot or an overshoot on landing, and the risk of an overshoot in the case of an aborted take-off. Further, in the case of a catastrophic failure just after V1 (decision speed), the aircraft commander might have no option but to attempt an immediate landing with a heavy aircraft onto a runway which would be too short. In the light of this, the Regulator could seek to impose further limitations on aircraft operations.
- 7.59 The big risk with this solution is that if it proved unsuccessful it would have been built without the necessary confidence that it *could* be successful, operationally and commercially.

#### **Route Capability (1400m Landing/1675m take off Runway)**

- 7.60 The direct route options open to the B737NG operating from this length of runway could include flights to African airports such as Cape Town, Johannesburg, Kinshasa, Accra and Abidjan. Outbound, the -600 is not limited and although the -700 is payload limited, it could still carry a compliment of 124 passengers in mixed configuration. Inbound to St Helena, both the -600 and -700 would be payload limited but could still carry a full complement of passengers. The -800 would be limited both inbound and outbound: the worse limitation being the inbound leg when it would only be possible to carry 79 passengers. For flights to Johannesburg the -600 and -700 would be able to carry a full passenger load but the -800 would be further payload limited to a total of 66 passengers. This is discussed more fully in Appendix P to this Report.

#### **Cargo and Ticket Prices (1400m Landing/1675m take off Runway)**

- 7.61 Although the B737-600 and -700 could operate carrying full passenger loads, there would be little margin for the carriage of air cargo. The island would therefore revert to a dependency on sea freight. Further, any income to SHG or feed back to lower ticket prices would not be possible. The effect of this would be to raise ticket prices as discussed in Section 10 below.

#### **Aircraft Availability (1400m Landing/1675m take off Runway)**

- 7.62 The Study examines the future of St Helena to 2048. It is not possible to estimate what aircraft would be available at that time or what their capabilities would be. The last 40 years in aviation have seen the progression from the early jet passenger aircraft such as the Comet and the original B707 through to the much larger Airbus A380 and the Boeing 747. Great improvements have been made in wing and engine design and advantage has been taken of the development of computer technology to develop fly-by-wire systems, all of which have added greatly to the performance of the modern aircraft. That said, the trend in airlines is to progress from smaller aircraft during the first years of operation to larger aircraft. Recent examples of this progression are Ryanair, which has upgraded its total

fleet from the B737-200 to the larger B737-800, and Aer Lingus, which has replaced its smaller airbus aircraft with the larger A320.

- 7.63 This trend for operating larger aircraft must be taken into consideration when examining the possibilities for providing an air service to St Helena. It is therefore considered justifiable to include a provision, in the latter years of this option, for a modified medium length runway to be extended in length.

#### **Construction and Cost Implications of a Future Runway Extension (1400m Landing/1675m take off Runway)**

- 7.64 Were the 1400m runway to be constructed and an initial air service contract let, it is likely that it would prove inadequate in the future because of the availability of suitable aircraft and the runway would have to be extended to ensure the viability of the air service. It is not possible to estimate when this would occur. For modelling purposes this has been assumed to be at year +15 but it could occur as early as year +5. The cost of this extension, to the full 1950m take-off length has been estimated at £1.1m. The disproportionate nature of this on-cost is because the contractor would have to bear anew the full costs of mobilisation, machinery and shipping. There is of course a possibility that, the decision having been announced to build a shorter runway, during the tendering process it was found that, because of limited aircraft availability, a suitable air service provider could not be sourced. In this case, provided the decision to extend was made early enough, the extra cost should be contained within about £1.1m.

#### **Implications for the provision of an Air Service (1400m Landing/1675m take off Runway)**

- 7.65 The negotiation of an air service provision contract will depend on the nature of the air service agreements between Nations and the availability of aircraft capable of flying the ETOPS route from Africa to St Helena. The implications of the air service agreements are given in greater detail in Section 12 below but, in sum, it is likely that the country providing the gateway airport would insist that, as this is an international flight, the route is flown by a carrier national to that country. When these factors are considered, it is likely that the options will be limited. The selection of a 1400m landing runway would limit these options further. It may be that, given the air service provider would be required to meet the UK DfT safety standards for flying into the territories, a suitable air service provider cannot be sourced. In this case the only options for the UK, other than extending the runway length, would be to revert to a business jet solution or to acquire a suitable aircraft on a full term wet-lease basis and attempt to market spare flying capacity to countries on the African mainland. The cost of such a lease, with crew maintenance and insurance, on a full time basis is likely to be of the order of £1.1m per year. It would then be up to the UK to offset this cost by selling the spare capacity. Lastly, the dedicated wet-lease aircraft would have to operate to ETOPS requirements and this would further complicate and limit the provision of suitable aircraft providers. It is not possible to estimate how successful this strategy would prove.

#### **Environmental Implications of a Future Runway Extension**

- 7.66 The design of a runway is based, as much as is practical, on a balanced 'cut and fill' process. This means that rock is taken from the existing surfaces to fill the cavities to



create a level surface. In the case of this runway extension, this would not be possible as the requirement is to fill the remaining hollow in Dry Gut. Approximately two million cubic metres of fill would have to be won from a nearby site and this would be likely to leave an unacceptable scar on the landscape surrounding Prosperous Bay Plain.

#### Summary of costs (1400m Landing/1675m take off Runway)

- 7.67 The cost of this sub option is estimated at £1.1m, with an **additional £1.1m** to be added for runway extension in Year +15 and £1.1m for upgrades to the fuel supply (pipeline) in Year +20: in total, £3.3m. It has the advantage of being initially cheaper than the long runway option but the costs of extending the runway at a later date would make this option considerably more expensive in the longer term. Additionally, the environmental impact on Prosperous Bay Plain could be severe: if this option is chosen an environmental study should be undertaken to assess this impact. It suffers from the same disadvantages as the medium length runway in respect of air cargo and disaster relief. It further raises questions as to the viability of letting the air service contract initially and is therefore inherently risky. Should the strategy fail then HMG would have no option other than to revert to the provision of the air service by business jet or to embark on the risky strategy of acquiring a dedicated aircraft such as the B737-700 or the Airbus A319 MTOW variant.

#### MARKET SOURCES FOR THE PROVISION OF THE AIR SERVICE

- 7.68 An air service would need to be under-written by SHG, on the assumption that no airline would be expected to schedule flights into a destination for which demand was unproven<sup>25</sup>. Should this assumption prove inaccurate once market discussions commenced, the financial situation as assumed for our modelling purposes could possibly be improved, depending on the conduct of those discussions. For this and other such reasons related to other such supporting contracts needed to make the concepts discussed by this Study a reality, this Report **should be maintained as a commercially sensitive document until such time as all pertinent contracts have been let**.
- 7.69 The B737 or Airbus equivalent air service could be procured by charter or by a contract with an existing airline. Either way, there will be a limited number of sources that will meet the requirements for operating flights to St Helena. The operator and the aircraft would need to be certificated to operate ETOPS: there are no suitable three or four engine jet aircraft that can operate from the length of runway proposed. Alternative aircraft such as the L100 Hercules, with four turboprop engines, could operate the route but such a service level is unlikely to meet the requirements for building and sustaining a successful tourist industry. The provision of an aircraft by charter is not considered here as this should be regarded as the solution to be adopted only if all others fail. This discussion therefore relates only to the provision of the air service by an existing airline.
- 7.70 The range of aircraft currently in operation and, still likely to be in operation by Year +10 which could meet the requirements is:
- Boeing B737-600
  - Boeing B737-700

<sup>25</sup> Such an assumption should not be carried forward; rather, market testing should be undertaken to arrive at it or a different negotiating position.



- Boeing B737-800
- Airbus A319 MTOW version
- Airbus A320.

7.71 The aircraft used by the air service supplier must meet the safety requirements of the UK DfT to be allowed to operate into St Helena and operate from an airport whose security regime is acceptable to the UK DfT (Avsec). By way of example, the two international aircraft of Ghana Airways are no longer allowed to operate from UK airports; Sierra Leone has similar problems with both aircraft and airports.

7.72 The range of African options is limited. A search of Boeing and Airbus records shows that the following African airlines currently operate suitable aircraft:

- Air Algerie
- Air Mauritius
- Air Senegal
- Kenya Airways
- Royal Air Maroc
- South African Airways
- TunisAir
- Virgin Nigeria<sup>26</sup>.

7.73 | | | | . Although Cape Town was the gateway airport specified for this Study, Johannesburg is a larger airport with a greater frequency of international connections and, despite the slightly longer distance, might prove to be a more acceptable gateway airport.  
| | | | .

7.74 | | | | .

7.75 Other European airlines could fly direct to St Helena but would need to re-fuel en route. The ticket prices are likely to be higher as the long-haul element is basically being flown by smaller, regional aircraft rather than by larger, long-haul aircraft. Further, agreement would have to be reached to allow these aircraft to re-fuel at their selected airports and on the conditions of use of that airport.

7.76 Although attempts have been made to discuss the provision of an air service with airlines during this Study, until a decision has been announced to build an airport, any airline is unlikely to take the proposition seriously. The common view is that discussions should only start as soon as a decision has been made to build it. Further, there would need to be at least some indication from the DfT that any relevant, new, air service agreements are being considered. This would involve, at minimum, communicating Notes on the subject to the country operating the selected gateway airport.

7.77 Under these circumstances and in respect of the limited market sources, a negotiated rather than a tendered approach is considered to be the best option for creating the air service.

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<sup>26</sup> Virgin Nigeria is a Richard Branson start-up airline offering flights internally in Nigeria and to Europe

7.78 The process for providing the air service would include a number of phases before the start of commercial flying operations. These are:

- Short list of options
- Selection of the desired gateway airport
- Discussion with the gateway country in respect of air service agreements
- Early feasibility discussions with the desired aircraft operator
- Negotiation on use of refuelling stops if required
- Negotiation of the contract
- Pre-start up preparation
- Route proving flight(s).

7.79 It is important that the first five actions listed above start as soon as possible after any decision to build an airport is made. It is important also to establish any impacts on aerodrome design as early as possible. The first choice provider may not be willing or have sufficient capacity to meet the flying requirement and other options may have to be considered. The process of achieving agreement with a suitable air service provider could involve a number of iterations with various choices of supplier before a successful conclusion is reached. These initial processes could well take two to three years to complete if timely agreement cannot be reached with the early, preferred choices.

## CONSTRUCTION AND DESIGN

7.80 Topographical, Geotechnical and Environmental surveys of Prosperous Bay Plain, Prosperous Bay, and potential access and haul routes were undertaken between May and June 2004. The survey of Prosperous Bay included a survey of the in-shore areas to assess the Bay's suitability for ship-to-shore transfer operations. The results of these surveys, together with their associated interpretive reports, are published separately in four Reports<sup>27</sup>. The surveys confirmed the viability of the site for the construction of a runway and the viability of the two main haul routes - from Rupert's Bay and from Prosperous Bay. The subsequent cost estimates for the haul road showed that the Prosperous Bay route was slightly cheaper; allowance for this has been included in the financial modelling. The issues involving the choice of haul route, together with a more detailed summary of the survey findings are given in Appendix M.

7.81 As a result of the findings of the surveys, the runway designs are based on a rigid (concrete) runway construction with a design life of 40 years. The surface would be grooved in order to give aircraft the maximum landing performance in wet conditions. Major maintenance of the pavement in rigid construction would be less demanding than a flexible (tarmac) pavement, which would require major overlay treatment within the design life. Maintenance of the rigid concrete pavement could be limited to periodic repair of pavement joints and re-texturing of the surface to maintain skid resistance, the latter being an acceptable condition in respect of the relatively infrequent use of the runway and the low rates of wear to the surfacing. In addition, replacement of any irreparably damaged

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<sup>27</sup> Topographical Survey report; Geotechnical Factual Report on Preliminary Ground Investigation for Aerodrome on Prosperous Bay Plain, Vols I, II & III; Geotechnical Interpretation of Factual Report; Ecological Environment Protection Report, Prosperous Bay and Prosperous Bay Plain

concrete bays in the pavement could be carried out by essentially unskilled labour: it is a known technology, thus avoiding the need for expensive imports.

## FLIGHT TESTING

- 7.82 The designs of the aerodrome options on Prosperous Bay Plain have been undertaken in a rigorous manner and while there is high confidence in the designs and the associated cost estimates, they remain concepts. There are doubts concerning local weather conditions and, in particular, there are doubts about the amount of turbulence that could be expected on the approaches (due to the elevated location and the surrounding bluffs). It is therefore recommended that, regardless of which aerodrome option is chosen and before the runway design is finalised, a charter aircraft should fly test the approaches to and departures from the intended runway. This would ensure confidence in the final design and may be regarded as part of the design process applicable to St Helena's circumstances. The most suitable aircraft for this would be the four-engine L 100 Hercules: this could route via Ascension Island for refuelling and crew rest stops. A cost estimate of £1.1 to cover the aircraft charter and ancillary costs has been included in the Financial / Economic model for this purpose, for each access option.

## AERODROME COST ESTIMATES

### General

- 7.83 The cost estimates were derived in the first instance by dividing the aerodrome construction into a number of discrete components. Different estimation techniques were used on each of these in order to derive the most accurate cost estimates. These groupings were:

- civil engineering – runways, taxiways, hard standings, access roads, haul roads and utilities
- buildings – passenger terminal, cargo facility, Air traffic Control tower excluding cabin, aircraft hangar, workshops, fire station
- Air Traffic Systems - control tower cabin, telecommunications, NAVAIDS, AFTN, airfield and obstacle lighting, etc
- aviation fuel – storage tanks at Rupert's Bay and on aerodrome
- vehicles – fuel tankers, fire tenders, sea rescue boats, aerodrome support vehicles, runway sweeper, and aircraft crash recovery
- harbour facilities – Prosperous Bay / Rupert's Bay
- preliminaries
- shipping and transport.

- 7.84 Further allowances were made over the 40-year period of the study to cover maintenance of the runways and facilities as well allowances for vehicle and equipment replacement.

### Civil Engineering

- 7.85 The basis of cost estimation was the creation of detailed scheme designs, which gave close estimates of the amount of earthworks and associated pavement works.

- 7.86 Cost estimates of these works were undertaken using standard industry related references together with market researched costs. Costs were adjusted where appropriate to suit local (South African) conditions, which were found to offer benefits regarding labour and material costs. Plant and equipment would be likely to be procured on a worldwide basis and no cost-benefits in this respect were assumed through procurement of the works locally. Cost estimates take into consideration working methods with particular reference to mass earthworks, § § . High utilisation of plant and equipment was assumed and this has been reflected in reduced excavation rates.
- 7.87 An independent assessment of the rates for the earthworks and associated pavements was undertaken by Atkins' in-house cost consultants, quantity surveyors Faithful & Gould (F&G) using established QS techniques. F&G undertook further research to establish labour rates in the South African market place. The costs of both analyses were then compared and rates derived that were considered to be realistic in terms of such a project on St Helena.
- 7.88 The estimated cost calculations were based on the assumptions that the planning and management of the earthworks was undertaken by specialist earthwork contractors. These contractors would:
- plan the earthworks in advance to suit the overall excavation plan
  - undertake continuous monitoring of earthwork quantities and classification of the material excavated
  - undertake re-evaluation of the site finished levels to match the quantities of suitable material recovered
  - determine the quantities of non-structural material recovered and to be disposed of in the landscaped areas.

## Buildings

- 7.89 Outline designs were produced for each of the buildings required. For the simpler buildings such as cargo and workshops standard rates per square metre were used to estimate costs. The passenger terminals were designed to the standards commonly used for the type of traffic envisaged; the business jet terminal is a basic terminal capable of handling 40 inbound and 40 outbound passengers simultaneously, and could handle passenger traffic to Year +40, providing aircraft were correctly scheduled. The long runway terminal allowed for 150 economy passengers and 12 business passengers at any one time, which would also meet the forecast requirement to Year +40. The cost estimates for the terminal were based on prefabricated construction and include full fit-out with required information, security and other services. The simpler business jet facility was estimated at £1 § per m² and the larger, more complex building to serve the B737 aircraft at £1 § per m². Costs for the simpler buildings were based upon the construction of low cost, blockwork, buildings: this applied to all buildings except those with long spans such as the hanger and the passenger terminal. If local materials were used for the terminal construction, based on a sympathetic design, it might be possible to reduce these costs. The costs of the fire station were derived from the detailed design of similar facilities currently under construction in Central Europe.

### **Air Traffic Systems**

- 7.90 A detailed specification of the full requirements was drawn up and approved by ASSI. Quotations for the supply and installation of the systems, surveys and the associated construction were obtained. The specification is given at Appendix Q to this Report.

### **Aviation Fuel**

- 7.91 The costs for the supply and installation of the fuel facilities were obtained from standard industrial references but it should be noted that no detailed design was possible within the constraints of this study.

### **Vehicles**

- 7.92 Standard market sources were used to obtain prices for the support vehicles and quotations from the manufacturers were obtained for the specialist vehicle such as fire engines.

### **Harbour Facilities**

- 7.93 The harbour facilities are required to off-load plant and materials throughout the construction contract. Quotes for a temporary and a permanent facility were obtained. The temporary facilities may for example, use jack-up type platforms, depending on the marine environment of the landing point chosen, and the permanent facilities could be in the form of a prefabricated tubular structure jetty with piled moorings. For cost estimation purposes, the cheaper temporary facility was selected. Allowances for mobilisation and demobilisation were included in these estimates. The cost of supplying the harbour facilities has been derived from a simple spread-sheet model reflecting the construction periods of each option.

### **Preliminaries**

- 7.94 The cost estimates for the preliminaries were supplied by F&G as an independent exercise. These were quoted costs and included allowances for:
- contractor's team on site
  - contractor's UK support team
  - South African or Namibian support team
  - machinery, Plant and small tools
  - contractor's camp
  - CAR, finance, profit, overheads and contingency.

- 7.95 | | | | .

### **Shipping and Transport**

- 7.96 Shipping costs were derived using two methods of estimation. F&G provided standard quoted estimates of shipping costs per tonne in relation to construction plant and equipment. Secondly, it was assumed that a dedicated ship could be time-chartered to service the requirement to move plant and material. The spreadsheet model used for

calculating the costs of the temporary harbour facilities also generated a shipping cost for bulk materials based on the use of a dedicated time-chartered small bulk cargo ship (say, 2000 – 3000 dwt).

- 7.97 Shipping costs also included an allowance for providing a small chartered ship to service the re-supply and communications needs of the construction contract during the early stages of the contract. This vessel could be of the offshore supply type, for ocean-going service, with sufficient accommodation for non-paying construction crew passengers and able to carry reasonably large items of construction equipment items. At about the mid-stage of construction, this role was assumed taken up by the use of a chartered L100 Hercules operating from a temporary runway located in the main runway strip. Costs for this aircraft were also included under shipping.

### **Fees and Contingency**

- 7.98 Design fees were estimated at 10% of the total capital cost (the note at the end of Section 5 above refers). The majority of the costs are related to the earth and pavement works where traditionally, fees are low in relation to capital costs. Contingency on the cost estimates was also included, at 10%, reflecting only normal levels of uncertainty (divorced from specific risks, for which more refer to Section 11 below). Additionally, at a detailed level we have included contingency allowances for specific items to reflect normal levels of 'working uncertainty', for example, excavate and fill estimates and the bulking ratio. The estimates were used as the input to the financial / economic model to derive the baseline outputs and thence to the risk modelling.
- 7.99 Applying greater levels of contingency, under the concept of applying risk as a separate activity, would lead to inappropriate, over-estimations and double-counting of contingency. The risk severity (probability and impact) was designed to measure the levels of risk associated with a construction project of this nature and thereby to generate possible ranges of project cost.

## PROVISION OF SEA CARGO UNDER AIR ACCESS

7.100 St Helena appears, from analysis of AWSL records to import around 21,000 tonnes of dry goods per year. In the event of air access being provided we have no basis on which to presume that this volume would either rise or fall, particularly over the first five years of operation. Therefore, and in order to allow comparisons to be made with current arrangements, we assumed that this volume of imports would remain constant – at least for the first five years.

7.101 The cargo market research (discussed in Appendix R to this Report) shows that there is a choice of solutions for providing security of sea-borne cargo supply open to SHG in the event that air access is provided and the RMS withdrawn. These are:

- Sell the RMS and seek a contract for continuation of its use.
- Seek a risk-sharing agreement with a shipping company (requires a market testing exercise by SHG).
- Charter vessels on single-voyage basis for a period of time.
- Charter vessels on time-charter for a year or more at a time (significantly cheaper than single-voyage chartering).
- Buy a used cargo vessel, contract out its management and trial this approach for a few years (probably the most cost-effective solution in the long-term but actual demand data would be helpful in this decision).

7.102 The yearly cost of a time-charter solution appears to be of the order of two to three times less expensive than the equivalent in spot (single voyage) charters but of course the confidence in demand would need to be present to support a time-charter contract. The re-basing of the RMS in the South Atlantic as from September 2004 for a year is timely and would yield evidence to help with this decision. To lift the equivalent of the current apparent demand at today's rates would cost in the order of £1.1 to £1.3 per annum, using a one-year time-charter solution. To this must be added the cost of the land-based operation of stuffing and moving containers to the port of embarkation.

7.103 On the basis that the rates charged by AWSL are apparently higher than those that could be achieved by chartering, especially time-chartering, we conclude that the costs of providing sea cargo in the event of air access should be passed on to the customer and we exclude them from the financial / economic modelling.



## SEA ACCESS – RMS REPLACEMENT – DESCRIPTION

### Concept

7.104 This access option may be stated very simply as direct replacement of the RMS St Helena, for duty as a passenger-cargo vessel.

7.105 The principal assumptions made by this Study may be summarised as:

- The vessel's specification is taken to be that suggested in the High-Point Rendel study of 2001<sup>Error! Bookmark not defined.</sup>, Table 2.7, page 2-14.
- The vessel would operate solely in the South Atlantic, being based out of Cape Town. We have used AWSL's Business Plan<sup>28</sup> as guidance, as it specifically addresses this mode of operation, to inform operating costs, passenger fares, freight carriage costs, frequency of calling at St Helena and at other ports, and prognoses for passenger numbers and cargo lifts.
- The mode of operation of the vessel would remain the same as now; that is, there would be no investment in the port of Jamestown other than relatively small upgrades to passenger and cargo transfer and handling equipment.
- The vessel would be owned by SHG and managed under contract, as now.
- The new vessel would come into operation during early 2010 and the present vessel be sold off.

7.106 This option is being used as a 'Base Case comparator' against which to view the pros and cons of the air access options. It is not being as an exact like-for-like comparison, however. In the case that air access was abandoned, the replacement RMS would most likely need to be slightly larger and be of a higher specification. The reasoning behind this is as follows:

- To act as an improved form of access and therefore to help stimulate the economy of the island, the vessel would need to be made more attractive to, more in line with expectations of well-travelled tourists, than the present design, so that its accommodation would need to cater for this market segment, while still being affordable to Saints.
- Passenger accommodation would increase from 128 to 180, and crew from 53 to 60 to allow for expansion of the tourist trade.
- The present vessel is said by the people who operate it, AWSL, to be too short for the typical ocean conditions in which it sails. The new length at 123m, would not only accommodate more cabins and public spaces, but also achieve a better ship motion and thus a more comfortable ride and better speed management. The beam would remain the same, at 19.2m, as would the loaded draft, at 6m.
- Cargo capacity (bale) would increase from 3750 cubic metres to 4800 cubic metres. In the South Atlantic schedule, the vessel would have a greater port-calling frequency and would expect to lift greater tonnages than at present, for purposes of earning revenue as well as supplying St Helena. It would need to be self-sufficient in cargo-handling equipment, as at present.

<sup>28</sup> RMS St Helena Business Plan, Year 4, AWSL, 22<sup>nd</sup> April 2004

- Container capacity would increase from 52 to 76, as twenty-foot-equivalents (TEU), though migration to 40ft containers ought to be considered, for better economics.
- Vessel speed would be slightly increased to 15kts.

7.107 During the course of this Study the requirements of the RMS under this access option were given due consideration. The passenger capacity was considered in the light of the demand from Saints and in the light of the known demand from tourists; whereas the demand from Saints is relatively stable and known, that from tourists is not. We concluded that the analysis carried out by HPR could not readily be improved upon without entering into a formal design 'spiral' so accepted their passenger accommodation estimates. In practice, the design of the accommodation would need careful attention so that it would appeal to the tourist 'profile' being targeted. For example, it would need attention to the size and number of public spaces, to the arrangements for catering, e.g. buffet-style Vs formal dining, and to the mechanism (presumably pricing) for satisfying both Saints and tourists. It would be a difficult balance, being between a ferry on the one hand, and a cruise ship on the other.

7.108 The cargo capacity was examined in the light of variables such as amount of break-bulk, number and length of containers, achievable stowage coefficients (of containers and holds) and number of holds; and also in the light of historic demand volumes and possible future volumes when set against passenger volumes. The range of permutations was so great as to become meaningless without entering into formal ship design, but more importantly, it became evident that it would be difficult to estimate the capital and operating costs, without engaging shipyards – which is an implausible thing to do without a firm design in hand. Again, it was decided that the HPR dimensions should be adopted, as the cost of the vessel with these specifications was already known with a high degree of confidence.

### Costs and revenues

7.109 The capital cost of the replacement for the RMS was estimated by Three Quays Marine earlier in 2004, against the HPR specifications cited above and this was applied. This estimate was for £1.1m as the construction cost, to which has been added £0.1m (9.1% of capex) as design and other technical fees and services (also from Three Quays Marine). The ship would be procured on a worldwide competitive basis and it is quite probable that a Far East yard would win; in this case, project on-costs would be at their maximum.

7.110 In the time period that the Financial/Economic model covers, i.e. 40 years, there would be a need to replace the RMS for a second time. We have assumed that the same capex would apply a second time, at Year +20. We also assumed that the sale of the first (new) ship at Year +20 would realise £1.1m as a residual value.

7.111 The operating costs were adopted from the AWSL 2004 Business Plan as these are all based on historic and well-known experience.

7.112 Similarly, the revenues (passenger fares and cargo returns) were based on the same document, for the same reason.

## SUMMARY

- 7.113 Two air access options have been designed, being the medium length and long runways, and one sea access option design has been proposed.
- 7.114 All associated capital and operating costs have been identified, closely estimated and taken forward into the Financial / Economic modelling. In carrying out the design and cost estimates, full and robust account has been taken of local rock and terrain conditions and engineering properties, gathered painstakingly by surveys on the island expressly for this Study. In like vein, the requirements of the air safety Regulator, ASSI, have been examined and fully discussed with ASSI to exploit the last possible metre of runway 'strip' for use as operational runway. This was done to minimise the amount of fill in the Dry Gut depression – a particular source of capital cost. One example of this is the concept of the one-way take-off runway, developed by this Study.
- 7.115 The design of the medium runway solution changed between the point of submission of the Options Short List in June 2004 and the more detailed design stage. It was found that the aircraft under consideration would require a longer take-off run than previously thought and this pushed up the cost of construction of the runway to near that of the long runway, due to the encroachment into Dry Gut. Naturally, this reduced its effectiveness as a clear alternative to the long runway because the increased cost would need to be reflected in the ticket prices. However, independently of such matters, the study found that the tourism market (see Section 6) eschews the use of 19-seater business jets as a principal means of access, which also acts to downplay this solution. The result is a low forecast demand curve, which when combined with the high ticket prices substantially reduces its attractiveness.
- 7.116 In addition to the two principal runway solutions an additional sub-option design has been considered, being a modification of the medium runway to permit the use of B737s or Airbus equivalent. This design is felt to be limiting in aspects of aircraft performance and safety but is taken forward for comparative purposes.
- 7.117 To provide an air service to St Helena and Ascension Island the Study proposes a negotiated air service agreement, specifically for the case of the long runway solution. This would operate most likely from a South African city and Cape Town has been taken as the 'design hub' for purposes of deriving operational costs and thereby to derive ticket prices.
- 7.118 As it happens the ticket prices so derived are in line with market expectations.
- 7.119 For the medium runway 19-seater business jet solution, the Study proposes that a dedicated fleet be set up by SHG, its operations contracted out, the aircraft being based on St Helena, though maintained in South Africa.
- 7.120 The air service solution proposed for the long runway could be adapted to the modified medium runway proposal, the one using B737s.
- 7.121 Finally, to ensure that St Helena can provide itself with cargo, several alternative forms of sea cargo arrangement have been derived and their outline costs estimated. These costs are not so important at this point in time because it would appear (there are too many

variables involved to allow us to be precise) that the landed cost of goods by any of these alternatives should be at least comparable to and most likely less than the current RMS equivalent. On this basis it is assumed that the costs would be passed on in full to the consumer and so are not taken forward into the Financial / Economic modelling. It would be for SHG to decide how to proceed with provisioning sea cargo, if and when the time comes.

## 8 CONTEXTUAL ISSUES

### INTRODUCTION

8.1 This Section addresses the following aspects of the Study:

- Environmental issues
- Social issues
- Institutional and governance
- Legal and constitutional issues
- Opportunities for private sector involvement.

8.2 Some of these aspects were addressed in Sections 3, 4 and 6 above, while much discursive material is included in appendix form. In this Section we seek to identify the important issues with which SHG would have to engage under the different access options and to draw out the implications for action. This Section also derives costs related to institutional strengthening and forms a basis for designing subsequent arrangements for management of air access delivery.

### ENVIRONMENTAL ISSUES

#### Introduction

- 8.3 This Section of the Report provides a summary of information contained in Appendix S, Environmental Analysis.
- 8.4 In the Appendix we review environmental protection on St Helena, examine procedures for undertaking Environmental and Social Impact Assessments and scope potential impacts for the airport site, the alternative haul routes and the alternative operational access routes. Environmental impacts of tourist development are also scoped out and we describe the likely Environmental Assessment (EA) process, containing the Environmental and Social Impact Assessment (ESIA) and Environmental Management Plan requirements.
- 8.5 The ESIA ToR document is contained in Appendix T to this Report. Other Annexes to Appendix S cover protected areas, vegetation reconnaissance surveys and the St Helena Environment Charter.

#### St Helena's Environmental History

- 8.6 St Helena's natural environment was largely destroyed by the introduction of goats in the sixteenth century and by the introduction of flax in the nineteenth century. Piecemeal attempts have been made to protect the environment but no consistent attempts were made until the 1990s.
- 8.7 While the landscape is largely man-made it contains spectacular scenery, reflecting the rugged terrain and large variations in rainfall across the island.

## Environmental Legislation and EA Procedures

- 8.8 St Helena has some environmental legislation but no procedures for undertaking EIAs and no regulatory environmental procedures. The Environment Charter, signed by SHG in 2001, commits to undertaking EIAs but does not have legal status. We have reviewed different procedures for undertaking EIAs following EC, DFID and World Bank guidelines and a composite best practice approach is proposed in the ESIA ToR, in line with DFID policy where no local guidelines exist.
- 8.9 The ESIA is part of the overall process of Environmental Assessment (EA) which identifies, studies and mitigates physical and social development impacts. The main components of the EA are:
- environmental Scoping
  - agreement of the Terms of Reference for the Environmental and Social Impact Assessment
  - the Public Consultation and Disclosure Plan (PCDP)
  - the ESIA Report
  - the Environmental Management Plan (EMP) and its implementation.
- 8.10 The SHG Environmental Co-ordinator would need technical assistance if fulfilling a regulatory role for a major project such as airport construction.

## Impact Scoping of the Airstrip

- 8.11 Environmental scoping was undertaken for the long runway option since the medium runway impacts would be contained within that assessment. The replacement ship access option is seen as largely neutral in environmental terms.
- 8.12 The main potential impacts of airport construction are on the Prosperous Bay Plain (PBP) ecosystem as a whole and specifically on landscape, with just under 100 ha affected by the construction (including the filling of Dry Gut), and on the world important endemic invertebrate community in PBP's Central Basin. Lesser impacts would be on the flora of the area and on the endemic *Wirebird* (*Charadrius sanctaehelenae*).
- 8.13 While the impact on the landscape and invertebrates would be significant, careful design and construction would mitigate the effects substantially. The precise siting of the runway and terminal building as 'pegged out' during the May/June 2004 surveys reflect the need to try and preserve the invertebrate community in the Central Basin as far as possible; the construction of the runway in concrete would blend in with the natural landscape. The visual impact of the embankment in Dry Gut would be limited from a seaward direction.

## Impact Scoping of the Haul Routes

- 8.14 Three potential haul routes were examined in detail. The one to Turks Cap was eliminated because of rockfall risks and poor landing potential. The route via Prosperous Bay is short at 3.8 km, the cheapest to construct and offers the advantage of rapid response to the sea in the event of an emergency. It has few other advantages and represents an intrusion into a largely unknown (from an invertebrate point of view) and wild landscape. If

Prosperous Bay was selected as the preferred haul route an invertebrate survey should be undertaken of the affected area. The cost of doing this has not been estimated for the purposes of the Report.

- 8.15 The route from Rupert's Bay is much longer at 14.2 km but construction would be generally easier (and possible with existing island technology) so that costs would not be significantly more than for the route from Prosperous Bay. The main impact would be the crossing of Deadwood Plain and the effect on the *Wirebird* but this could be mitigated by careful final route planning to keep the length of impact short and by creation of new *Wirebird* habitat; construction timing to avoid peak breeding / nesting season would also lessen the impact. The route offers development potential in the Rupert's area and could also be used as an operational access route. Existing safety concerns in connection with fuel distribution in Rupert's would have to be addressed.

### **Impact Scoping for Operational Routes**

- 8.16 Five operational access routes were studied; they are all of similar length in terms of distance from the terminal to Jamestown arch (15-16 km). Two along Fishers Valley offer fairly cheap development and connect into a small business and housing development area being proposed in Beales Valley under the Draft Land Development Control Plan (September 2004). A route via Woody Ridge has no obvious advantages. The existing route through Longwood village may serve an airport in its early years but a traffic forecast would be needed during the design phase. The Rupert's route following the haul route offers a number of advantages and is the preferred route should the Rupert's haul route be selected. If the Prosperous Bay haul route was selected then one of the Fishers Valley routes would be preferable if the existing route through Longwood was considered unsuitable.

### **Impact Scoping for Tourist Development**

- 8.17 The impact of tourist development is likely to be minimal when tourist numbers remain below 200 per day. As numbers develop to between 200 to 500 impacts may occur on some marine activities such as dolphin watching and in vulnerable areas such as the Peaks and wilderness walking. Some level of control may be needed. Above 500 impacts are likely to increase significantly both on the natural environment and on utilities. Under the ESIA a more detailed capacity analysis should be undertaken if this has not already been completed under a proposed OTEP project. The effects of tourism on Easter Island's environment should be studied and used as a comparator together with experiences from other similar environments.

### **EA Process and Public Consultation**

- 8.18 The EA process is set out in the Annex to Appendix S and the need for a public consultation and disclosure plan highlighted. The ESIA is part of the EA process. The key stages in the EA process are:
1. Finalise draft ESIA ToR
  2. Develop Public Consultation and Disclosure Plan
  3. Develop project description and circulate to stakeholders together with draft ESIA ToR



4. Hold public meetings to gain stakeholder feedback on ToR
  5. Finalise ESIA ToR
  6. Undertake ESIA simultaneously with design stage
  7. Develop mitigation strategy and environmental management plan (EMP)
  8. Consult with stakeholders on draft ESIA
  9. Finalise ESIA
  10. Implement EMP
- 8.19 It is important to have consulted the public on the draft ESIA ToR before finalising the ToR and proceeding with the ESIA study, not only to mitigate risk of claims and other concerns but also to take on unconsidered ideas.

### Environmental Management Plan and Mitigation

- 8.20 Requirements for an Environmental Management Plan are set out in the Environmental Analysis Report (Appendix S) and include mitigation strategies. The most significant mitigation strategies are a detailed re-instatement programme for Prosperous Bay Plain arising out of more detailed field investigation of natural conditions and an expansion of *Wirebird* habitat.
- 8.21 At the start of the ESIA the leading authorities on St Helena's environment should be consulted through a seminar to guide the mitigation process and construction management process.
- 8.22 Costs associated with environmental related activities are displayed in Table 8.1 below.

**Table 8.1 – environmental costs**

Item	Period for execution	Budget estimate £
Signing and Protection of PBP	Upon project approval	
Invertebrate reconnaissance survey	Upon project approval	
Land re-instatement investigations	During the ESIA	
<i>Wirebird</i> status update	During the ESIA	
Pasture improvement at Bottom Woods	Implementation of EMP	
Undertake Environmental and Social Impact Assessment	During design phase	
Provision of TA environmentalist	3 year input starting after project approval	
<b>Total Budget Estimate</b>		£
Provision of local ecologist	Implementation of EMP	<b>*Ongoing post at £   per year</b>

## **SOCIAL ISSUES**

### **Introduction**

- 8.23 The community affected by proposals for changes in access to St Helena encompasses both existing residents of the island and a larger number of Saints and their families who are currently living and working elsewhere.
- 8.24 This section aims firstly to assess how the three options might affect this community in the short, medium and long-term, and secondly to consider the capacity of the island to cope with the effects of the long runway option, in particular to manage social and economic change in such a way as to make the most of opportunity and minimise potentially negative effects.

### **Approach**

- 8.25 The information informing this analysis has been obtained from the review of existing studies, meetings with government departments and other relevant organisations in St Helena, and group discussions with members of the St Helenian community in the Falkland Islands, Ascension Island, St Helena, Cape Town, and Swindon, London and Southampton in the UK (details of these meetings are set out in Appendix U to this Report). Additionally the survey of Saints on St Helena and overseas, while intended primarily to predict demand for air travel, served to reinforce several of the findings on social issues. The findings of this survey are presented in Appendices F and G to this Report.
- 8.26 Meetings with government departments and other organisations addressed how changes to access and consequent changes in the size and composition of the population, family and social life, and employment and income generating activities, might affect employment, unemployment and the demand for skills; demands on health services, social care, education and vocational training; housing; policing; leisure activities; and so on.
- 8.27 In a situation where there is the potential to generate profound social change it is important to understand the range of people's perceptions of potential impacts and attitudes to change. The group discussions enabled us to gain insight into community-based concerns, and to understand how the community views the trade-off between potential benefits / disbenefits of access options.
- 8.28 We set out at the start of this Study in the hope that this consultative approach would also contribute to a sense of public ownership in the final decision and whatever project may take place. We have been pleased by the number of participants in group discussions who have said that they welcome and approve the 'listening' approach and regard group discussions as an effective mechanism.

### **Direct and indirect effects**

- 8.29 None of the three options can be regarded as free of social change. Although the option of replacing the RMS in effect maintains the status quo the current situation is widely acknowledged to be one of decline rather than remain static, and thus this option allows current downward trends to continue and develop. The justification of air access is its potential to produce change and to reverse the current downwards trends.

- 8.30 Changes to access may be regarded as generating social change both directly and indirectly, as well as in the short, medium and long term.
- 8.31 The direct effects are changes generated by being able to get on and off the island more or less freely, and in reaction to new activities, new services and new infrastructure, or to the loss of these. Indirect effects arise through the influence that access has on the wider economic and social life of the community.
- 8.32 Air access is seen as a key to reversing current decline through the development of tourism and its consequences. There would be social change arising from increased numbers of visitors and the economic growth and diversification that they would generate. Employment and wealth-creating opportunities have the potential to reverse the trend of out-migration and attract new residents to the island. Social benefits would be generated by reversing the current trend of out-migration of Saints, increasing the size of the population and stabilising the dependency ratio.

### **Attitudes to Change**

- 8.33 Throughout the visit to the island and meetings with Saints living and working off the island, we found that people fully recognised that changes in access and the development of tourism have the potential to bring significant social change. Although some people expressed a degree of apprehension about some aspects of social change, many were firmly of the view that change is not just desirable but essential.
- 8.34 Overall there is no dispute that the island's current situation is one of decline, in the population, in economic activity, and in the quality of community life. People want to see this decline reversed and if air access and the development of tourism are the way to do this, then they will be welcome. The distinction is made between improved access in itself, and the economic development which can follow, and it is generally recognised that improved access alone will not solve the island's problems. If the decision is made in favour of air access then this is seen as the island's last big chance to re-establish itself.
- 8.35 Although there is little dispute about the scale and nature of direct benefits of air access there is debate among Saints about the extent to which the island can establish itself as an international tourist destination, and thus the likely pace and scale of economic development and indirect social changes.
- 8.36 A widely held view among our respondents is that St Helena is not suitable for the kind of mass tourism associated with islands such as Ibiza and Antigua. St Helena should play to its strengths and the approach to tourism needs to keep in tune with the low-key, easy style of life on St Helena, making the most of the friendly, informal atmosphere and the island's security and relative freedom from crime. The kind of 'low impact' tourists interested in walking, the environment, and heritage, which had been identified in the Tourism Master Plan prepared by the World Tourism Organisation<sup>1</sup> were regarded as acceptable.

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<sup>1</sup> A Strategy for Heritage and Nature Based Tourism Development: Tourism Master Plan, World Tourism Organisation, Madrid, 1997.

### **Assessing the nature of changes**

8.37 The likely effects of each option are considered in respect of the following areas. These are then summarised in tabular form for each option at the end of this section.

- family and community life
- opportunities for employment and income generation
- attitudes to newcomers
- individual morale/freedom of choice
- professional and business life
- health
- education
- social care and support for vulnerable households
- cost of living, availability of goods and services
- housing and land
- residential amenity
- security.

### **Family and community life**

- 8.38 The current situation is one of decline in the quality of community life. This is a consequence of both declining numbers available to participate and a reducing number of people willing to be proactive organisers. With a declining and ageing population there are fewer potential candidates for public office.
- 8.39 A community that is growing through the addition of active and entrepreneurial people in all stages of life has strong potential to reverse this position.
- 8.40 Saints are scattered around the globe. Family and social life would be enhanced by the capacity to make short visits (cost permitting) compatible with conventional leave of absence from employment and other commitments. For example, Saints travelling to and from the Falkland Islands reported that it was usual for 11 days out of a 28-day leave to be spent travelling. In addition the costs of staying on Ascension Island, affecting travellers from both the UK and the Falkland Islands, are regarded as high if people were unable to stay with relatives or friends. The survey of Saints (Appendices F and G) found that the expense of the journey and the inability to get time off work were the most frequently given reasons for not having visited the island recently. It is anticipated that the ability to make short visits would permit more frequent visits.
- 8.41 People would greatly value the ability to get to family members in a hurry when there is a crisis. Of course, Saints have long lived with the knowledge that they cannot get on or off the island quickly, but that does not make the inability to 'get home' any less distressing. Not all family occasions are distressing; people would also greatly welcome the ability to convene a family celebration without having to plan many months in advance because of the infrequent service and difficulty of getting tickets on the RMS at certain times.
- 8.42 At the moment there are estimated to be some 150 children in foster care (mostly with grandparents or other family members) while their parents are working overseas. Both the

professionals involved and members of the general public believe that this dislocation of family relationships is not good for the children, leading to behavioural and emotional problems, poor performance in school, and low career expectations. There are also numerous families with only one parent on the island. This is not a new situation, and to some degree social mores have developed to accommodate this way of life, but it is acknowledged that these situations are often a strain on family life. People make a trade-off between earning a better income and providing their family with a higher standard of living, and the personal and emotional elements of family life. The opportunity for couples and families to be reunited more frequently and for people working overseas to have the opportunity to find employment on St Helena would benefit family life.

- 8.43 There are general benefits to elderly people and others in need of help and support from within the community, when a greater number of people in their family and social network are present on the island.
- 8.44 The ability to move abroad in pursuit of employment tends to be the prerogative of the relatively young, able and qualified. Those left behind find themselves dependent upon a smaller number of relatives, friends and neighbours for support, and a smaller pool of people available for employment in the caring professions. This disproportionately affects children, elderly people, and people in need of social and health care.

#### **Individual morale**

- 8.45 Currently Saints describe themselves as disheartened by the lack of decision with regard to access and the development of the island, with a feeling of being 'on hold' awaiting a momentous decision. The announcement of a decision in favour of air access would be a big boost to morale.
- 8.46 Participants in group discussions identified freedom of choice (cost permitting) to take a holiday or short break, to come and go at a time that suits the individual (for whatever reason, be it leisure, family business, work, to seek health care, etc.), to travel without having to plan months in advance, and the resulting feeling of equality with other people in the world, as psychological benefits they would experience from the direct effects of air access.

#### **Professional and business life**

- 8.47 Business and professional life would also be enhanced through the ability to travel quickly, and at relatively short notice. People from a variety of walks of life recognised that however good telecommunications may be there is no substitute for personal contact with colleagues, customers and suppliers. Professionals described the importance of the exchange of ideas through attendance at conferences, short courses and professional gatherings and the value of these interchanges to avoid 'getting stale'.
- 8.48 Business people felt that their suppliers did not fully understand the situation on St Helena, while they themselves did not always recognise the range and value of new or alternative products, or to judge whether there would be benefits from changing suppliers. The ability to 'go and see' on both sides would benefit trade.

## Employment

- 8.49 Employment in St Helena has long been dominated by the public sector. It is currently estimated that opportunities for employment are contracting along with the economy as a whole, but that the government sector is contracting faster than the private sector. Data from the 2002 Yearbook shows that a substantial number of government posts are standing empty, and significant concerns are being expressed about the level of resignations from government departments and the difficulty of recruiting people into essential roles.
- 8.50 Recruitment and retention problems are widespread in the caring professions, as trained nurses, teachers, and care workers have given up their roles and left St Helena to work in other jobs overseas. The current limitations on access are identified as one of the factors making it difficult to recruit people from overseas into skilled and professional jobs on St Helena.
- 8.51 The reasons why people leave employment on St Helena are complex. There is no doubt that low wages on the island are a major factor, but there are other reasons as well. Numerous participants in group discussions cited lack of opportunity; failure to recognise qualifications or merit; attitudes held by government and people in authority; and unfair treatment, as reasons why they had left the island.
- 8.52 The disparity between the salaries and benefits packages paid to expatriates (particularly from the UK) and equally qualified Saints doing the same job is a particular source of resentment. Members of the off-island community were also keen to point out that one effect of low wages on the island is low productivity in the public sector. The feeling was strongly expressed that all these issues need to be dealt with quickly.
- 8.53 It is difficult to assess the balance of skills available and skills required within this pattern of a contracting economy, and without this information it is very difficult for the island to plan how to address issues of skills shortages.
- 8.54 Air access would have the potential to create benefits to people working both on the island and elsewhere. The development of tourism and the wider economy, predicated on air access, would create more jobs and a wider diversity of jobs. It is likely that it would create both full time and part time employment.
- 8.55 One aspect of benefit related to air access is that it could enhance the working lives of people who choose to remain in off-shore employment. Employers in the Falkland Islands and Ascension Island expressed their expectations that quicker and more frequent services to St Helena would improve the position of their employees over and above the direct personal benefits of quicker access to families and friends. Recruitment procedures might be speeded up and it would be more feasible to interview for relevant posts. Manpower planning issues would be eased with employers able to adopt more flexible policies towards the frequency and duration of periods of leave for their employees, and to consider a wider range of contractual arrangements with their Saints employees, which could be beneficial to career development.
- 8.56 Employers of Saints in Ascension Island and the Falkland Island are fully aware of the limitations of present access arrangements, and the costs (of all forms) are built in to their



contractual relations. People working in the UK, the USA, Europe and elsewhere reported that, not surprisingly, their employers have little understanding of the difficulties of travel to and from St Helena, and find it much more difficult to allow Saints the special leave concessions that they need to visit the island. A number of participants in group discussions described how the only way they could get enough time off to make a visit to the Island was by quitting their job, and taking it on trust that they could get another one when they got back to the USA or wherever.

- 8.57 The opportunities for new employment associated with the air access options would be felt primarily in the development of the private sector. This would create opportunities for both employees and entrepreneurs. During the group discussions the view was widely expressed that an economy developing through the successful establishment and growth of small and medium sized enterprises was the way forward which would create the most benefit to Saints.
- 8.58 A key benefit of air access would be the opportunity for people to start their own businesses. In the course of group discussions a significant number of participants, both on and off the island, expressed interest in starting their own businesses in the tourism sector. Many of these were people already working in relevant service sectors and had experience of developed tourism economies elsewhere.
- 8.59 Participants in group discussions identified a range of trigger points that would prompt them to make decisions about moving or investing. Some had acted already – setting up businesses and investing in self-catering accommodation; some said that they would act as soon as the formal announcement of a commitment to air access was made. Others were inclined to be more cautious, saying they would wait until they saw preparatory works or construction beginning. Others were even more sceptical and said that they would wait until an air service was actually operational, and tourists were starting to arrive in good numbers.
- 8.60 It was noted that there are relatively few examples of successful entrepreneurial activity on the island, and that some people gave examples of having been deterred from attempting to set up a business by controls designed to limit competition. While potential entrepreneurs would look to SHDA and the new commercial bank to support their enterprises, they would also rely heavily on personal funds and family support. People are well aware of the issue of business risk. They would welcome government-led initiatives to educate and support new entrepreneurs, and in particular, help to bridge the difficult period before air operations, during which it would be important to invest in new facilities, so that these were actually in place when larger numbers of tourists started to arrive.
- 8.61 Substantial development in the private sector would create opportunities which may appeal to people who have left the island because they do not feel at ease in public sector employment. It is also probable that the private sector would lead the way to higher wages in all sectors. The Saints survey found that better wage levels are identified as the major factor which would cause people to remain on St Helena, and the second most frequently cited factor which would encourage Saints to return from overseas.
- 8.62 Entrepreneurial activity and the influence of people bringing external attitudes to productivity and remuneration into the economy, are likely to act to support government



efforts to improve productivity and move away from the 'job for life' ethos in the public sector.

### **Attitudes to newcomers**

- 8.63 It is unlikely that all the skills, investment, and numbers of people required to support economic development, particularly in the long runway scenario, will be found within the Saints community. To achieve the projected benefits the island must take a positive attitude to:
- foreigners recruited to take up employment
  - foreign investors and business partners
  - rapidly increasing tourist numbers
  - foreigners wishing to purchase property, reside on the island.
- 8.64 In the course of group discussions the feeling was expressed that existing regulations regarding work permits and permission to reside and purchase property should be relaxed to encourage inward investment and people with desirable skills. While Saints do not want to be 'ripped off' or flooded with people who could not be assimilated socially, they do think that it would be reasonable to review existing regulations in the best interests of the island. Immigration issues are discussed in the institutional section of this Report, below.
- 8.65 Most participants in the group discussions seemed most willing to welcome tourists. Saints expected to benefit not only from the economic opportunities that the growth of tourism would provide but also from access to the leisure facilities which would develop to serve the tourist market. Some reservations were expressed about very exclusive developments which it was felt might engender unwelcome social divisions.
- 8.66 The general feeling towards investment from overseas was that this would be welcome, provided that a substantial part of the profit stays on the island and ordinary Saints have a fair opportunity to share in the benefits. There is a preference for measures which would stimulate small and medium sized enterprises, both because these would ensure that the majority of benefits are retained locally, and because it is felt that the island is not suitable for mass tourism.

### **Health**

- 8.67 This is a key area of direct benefit from air access through:
- rapid transfer of emergency cases
  - quicker referrals to specialists in Cape Town or UK
  - quicker return of laboratory test results
  - less waiting about in Cape Town for patients and their carers after treatment
  - shorter travel time for visiting specialists
  - more efficient delivery and turnover of drugs
  - quicker emergency maintenance of medical equipment.

- 8.68 There are numerous benefits in terms of alleviation of pain, suffering and anxiety. There is potential for cost savings arising for some of these, but there is also the important consideration that air access may offer more choice of access to treatment, raising expectations and potentially presenting new ethical and medico-legal issues.
- 8.69 Of course, some patients could not travel by air, e.g. patients suffering from deep vein thrombosis, recent strokes, or eclampsia, but the senior medical officer has estimated that the numbers of cases in these categories likely to be referred to Cape Town or the UK would be small.
- 8.70 It is hoped that air access would improve prospects for recruitment and retention of medical staff. At present St Helena is in the position of having spent a lot on training, particularly nurses, only to lose people to jobs abroad. Additionally, a factor influencing the recruitment of medical staff is the very small numbers of cases, which affects accreditation for competency. An increase in the number of residents and tourists, and thus in the number of cases treated on the island may aid this situation.
- 8.71 There is an obligation to maintain the registrations of medical staff. Air access would offer savings of time if staff have to travel off the island to do this, or there may be opportunities for accreditors to visit the island. In common with other professionals, medical staff would benefit from access to short training courses, professional interaction at conferences, etc. but of course, access to training would depend on available funding.
- 8.72 Air access should permit a wider range of specialists to visit the island – but at present the hospital does not have a very wide range of theatre specialties. Patients requiring scans, radiotherapy, angiography, etc. have to be referred elsewhere because equipment is not available. Air access could lead to review of these policies, to determine the most cost-effective approach for the future.
- 8.73 While there is potential for cost saving in some of these areas, such savings may be offset by higher expectations for overseas referrals or access to specialists. In addition, changes in access to treatment can in some cases raise ethical and medico-legal issues which influence treatment choices.
- 8.74 Overall demand for health services will change in line with the size and composition of the population under all three options, and will also be mediated by changing expectations on the part of the public, and by changes in preventative and therapeutic medical treatments which become available in future.
- 8.75 Emergency evacuation by air can be expensive, but these costs need to be considered in the context of the £30-£40,000 that it costs to divert a ship | | | | . Tourists need to have insurance to meet these costs. Charges to visitors for health care and prescription drugs are very moderate by international standards at present. It may be appropriate to review cost recovery in expectation of rising tourist numbers.
- 8.76 One issue that has been raised in the context of air access is whether there are specific requirements for medical facilities to achieve approval of air operations by ASSI. In particular, there have been questions about ITU and burns treatment. Informal advice from ASSI has indicated that the key requirement is the approval of an emergency management plan, which specifies how the casualties and fatalities of any air accident

would be handled. In view of the fact that St Helena would be only a few hours flying time from some of the best medical facilities in the world in Cape Town, a key element of such a plan may be the determination of which casualties would be treated on the island and which would be slated for immediate transfer to Cape Town.

- 8.77 Sea access currently confers a degree of protection on St Helena because the journey time acts as a 'quarantine' period for travellers; if they are going to get sick there is a good possibility the symptoms would show while they are aboard the RMS. The senior medical officer has observed that, in the advent of air access and with larger numbers of people travelling to and from the island, there may be a period during which the immune profile of St Helena residents adjusts to contact with a wider spectrum of people, although it is not anticipated that this would be more than getting used to a different range of 'coughs and colds' and there are no specific concerns about insect-vector diseases.
- 8.78 Genuine concerns have been voiced about the potential for air access to facilitate the introduction of HIV/AIDS and other sexually-transmitted diseases to the island. At the moment it is believed that the island is free of HIV/AIDS and there is a very low incidence of sexually-transmitted diseases. Health education and awareness are the keys to the prevention of such diseases. St Helena already has these measures in place, and will continue to develop them.

#### **Social care and support for vulnerable households**

- 8.79 Current policy is based on a three-tier model for people in need of support: firstly, help to remain independent in their own homes; secondly, sheltered accommodation; and thirdly, full residential care
- 8.80 The success of efforts to help people to remain living independently in their own homes is dependent both on home helps and carers who are employed by the Social Work department and on informal support provided by family members.
- 8.81 There are problems with recruitment and retention of staff. The Department is finding it particularly hard to recruit into the home help and carer positions. Not only have potential recruits moved abroad, but people remaining on the island are less available because they are busy caring for members of their own extended families, as a greater proportion of the younger generation are working abroad and not available to share the burden.
- 8.82 Shortages of home-helps in particular makes for difficulty in sustaining elderly people in their own homes and leads to pressure to move people into the next tier of care. This is not in the best interests of the individuals concerned and creates more pressure on other care workers as well as increasing the per capita costs. A source of concern arising from the departure of many people for overseas work is the risk that many migrants will return when they are ill or too old to work overseas any longer and will then become dependent on St Helena's social care resources.
- 8.83 If the population of the island is small and the economy continues to decline the provision of social care, for elderly people and for people with physical and mental disabilities, is likely to become an increasingly difficult burden.

- 8.84 By contrast if there was more money flowing into government coffers through direct and indirect taxes, there were more people in the labour force age range and recruitment and retention pressures were eased, then the capacity to provide for children, elderly people and people in need of social care in whatever form would improve – a virtuous circle. More resources and a larger number of residents on the island would make it easier to provide full range of professional services, and offer a larger capacity for informal support.

#### **Cost of living, availability of goods and services**

- 8.85 This is an area of potentially mixed benefits and disbenefits. SHG has a policy of supporting an increase in wages. Public sector employees receive pensions based on length of service and salary. Some private sector employers offer pension schemes, but most private sector employees, traders, etc. depend on their savings and then if necessary fall back on social benefits. At the present time social security benefits, utility support, salaries, and pensions are not index-linked to protect people against inflation.
- 8.86 A large infrastructure project and its associated works, followed by a period of rapid economic development, would create an upward pressure on wages for a number of reasons. These include offshore funds being introduced into the economy, the economy interacting more actively with the wider world and competing in international labour markets and attitudes and values of the numerous visitors and newcomers to the island.
- 8.87 In addition, changes in the costs of imported goods may be affected both by changes in access and by the volume of trade. In an expanding economy it may be expected that there will be economies of scale; the opposite is true for a contracting economy.
- 8.88 Upward pressure on wages leads to general inflation. If people are in employment then the effects of inflation may not be severe in terms of real incomes and purchasing power. It is necessary to bear in mind that rising wages in the private sector rates puts pressure on public sector wage structure, but the public sector may be slow to respond, diminishing the real incomes of its employees in the short term. It is widely acknowledged that the people most severely affected by inflation are the unwaged and people dependent on benefits.
- 8.89 One factor that is likely to inhibit the return to St Helena of people who have built up an entitlement to the state pension in the United Kingdom is the fact that, while UK state pensions can be paid in St Helena, they do not attract the annual increments. For practical purposes therefore, someone in receipt of a UK state pension moving from UK to St Helena is freezing his/her pension at the time of moving. Private pensions can be paid anywhere in the world and do not attract this penalty.
- 8.90 Under air access options there would be a marked increase in the volume of trade in response to the much higher numbers of people (both residents and tourists) on the island. It is likely that this would increase the choice of goods available. Increased numbers of tourists are also likely to promote the development of retail activity. Shopping is an activity that may be enjoyed by both visitors and residents. As the draft Land Development Control plan observes, it is not just a utilitarian pursuit, but a leisure activity and an opportunity for social interaction.

- 8.91 The demands of development in the tourist sector would also promote the extension of banking services, telecommunications, and so on. It may be anticipated that these services would also be of considerable benefit to residents. During the group discussions it was noted that it is impossible to get a credit card without an offshore bank account, and without a credit card it is not possible to shop on the internet. At the moment many Saints depend on their relatives and friends in the UK or elsewhere to support them in this area.

### **Education and training**

- 8.92 In recent years the number of children in the population has been declining, both through fewer births and out-migration, making it is hard to plan for dwindling numbers of school children. The loss of trained teachers has also been a major problem. These effects together mean that it has not been possible to maintain the breadth of the secondary curriculum and cuts have had to be made in history, some technology, music, and some home economics. If the size of the population continues to decline, these difficulties are likely to be exacerbated.
- 8.93 An increase in the number of children, in line with the demographic projections for the air access options would permit a wider curriculum within affordable teacher / pupil ratios. However, other issues would also arise. The long runway scenario assumes a substantial level of in-migration to meet the demand for people to take up the jobs created by a fast-expanding tourist sector. Overseas Saints would be encouraged to return, and it is likely that people will come from other countries as well. Some of these people would bring their families with them and the St Helena school system could find itself accommodating an intake of new children from different education systems and backgrounds, without very much advance warning. This has implications both for physical facilities, educational supplies, and the need to find more staff.
- 8.94 At present there are considerable problems with recruitment and retention. It is hoped that air access would help to alleviate these, and that it would facilitate short-term contracts and visiting teachers who would bridge temporary gaps and permit development of the curriculum.
- 8.95 The availability of relatively well-paid but unskilled work in other parts of the world serves not only to encourage the 'brain drain' of teaching professionals, but also influences students' attitudes to education and the world of work. Raising students' awareness of the value of education, skills and qualifications, and consequently raising standards of educational attainment, is an on-going priority. An area of concern at the moment is that boys are under-achieving at school. More male teachers and men in professional positions to act as role models could help to encourage boys to value qualifications and become more career-oriented.
- 8.96 Air access would present the opportunity for school trips and children to take holidays abroad, helping them towards a wider range of experience. The Head of Prince Andrew School suggests that encountering more people from around the world, both abroad and among visiting tourists, is likely to be beneficial by broadening young people's horizons and encouraging them to become more aware of the range of careers and opportunities available to them, and value of qualifications.

- 8.97 The Education Department is proactive in addressing the provision of training leading to internationally recognised qualifications, and help for people who have competence but no formal qualifications to gain appropriate recognition of their skills.
- 8.98 It is a widely-held view that the nature of St Helenian life encourages multi-skilling and adaptability. Unfortunately many people have developed their skills in informal circumstances or without the benefit of qualifications to demonstrate their competence, and this is a barrier to their employment prospects in future. .
- 8.99 The St Helena Education Sector Support Programme has been developed to be responsive to a commitment to air access and associated tourism development, to respond to demand for the skills required by these activities, and to support Saints wishing to return to post-compulsory education. A short term consultancy (October 2004) is looking into public and private sector training needs. The analysis includes tourism and associated trades/activities.
- 8.100 Air access and associated tourism development would increase the demand for
- targeted vocational training;
  - international accreditation of skills;
  - courses/workshops to help people go about setting up a small business
- 8.101 Vocational training is discussed further under the institutional section of this Report

### **Housing and Land**

- 8.102 The draft Land Development Control Plan notes that the over recent years the demand for land and house-building has remained strong despite the number of people leaving the island. In part this may be explained by changes in the number of households as the age structure of the population changes, reflected in the falling average household size, but also by rising expectations and increased desire for home ownership.
- 8.103 Some government housing stock continues to be sold to long-term tenants with the proceeds reinvested in targeted developments, particularly meeting the requirements of people with special needs and sheltered housing.
- 8.104 St Helena has a history of a substantial proportion of houses standing empty while their owners are living or working overseas. The 1987 census identified 1392 private dwellings occupied and 139 unoccupied. By the time of the 1998 census the number of occupied private dwellings had risen to 1577, and the number unoccupied to 297. However, among these some 170 were defined as uninhabitable, implying that they were still under construction. Most recent figures quoted in the draft Plan indicate 159 houses under construction.
- 8.105 It is suggested that at the moment there may be as many as 300 homes vacant. Very few of the vacant properties seem to be offered in the rented sector. In the course of group discussions participants observed that there is little demand for rented property at present, and people are concerned that the level of rents they would receive would not compensate for the 'wear and tear' on their property and possessions. The difficulties which could arise



in relations between landlords and tenants, particularly in a small community, were also cited as a reason why people chose not to rent out their property.

- 8.106 It was observed that a lot more people might be willing to rent out property if they could obtain higher returns through renting to tourists or expatriates coming to work on the island. There is very little vandalism of empty property, and it was reported that it is possible to insure vacant or tenanted properties while owners are abroad.
- 8.107 The air access options are assumed to generate considerable growth in the population, which would add to the demand for accommodation. The draft Plan allows for 400 houses to be built over the period 2005-2015 with provision for more after air access has been introduced.
- 8.108 It seems likely that people who already own or are in the process of building houses on the island may be among those most likely to return, but some houses may be sold, some retained as second homes, and some offered for tourist accommodation.
- 8.109 Land and housing prices have risen sharply in recent years, and offshore workers' wages are cited as the key driver. Around 90% of respondents to the Saints survey currently in the Falkland Islands or Ascension Island own property on St Helena or intend to buy or build in St Helena in the future. In addition a quarter of respondents from the UK already owned properties and a further quarter were intending to buy or build. As with everywhere else in the world location is a key determinant of price with the highest prices associated with plots in Jamestown. Overall plot sizes have tended to get smaller.
- 8.110 If the current decline in the economy and the population continues then it is difficult to see how the housing market can be sustained in the long run. A smaller population requires less housing. Some house-owners currently off-shore may decide to sell their properties and reinvest the assets elsewhere rather than return to St Helena.
- 8.111 It seems very likely that growth in tourism and the consequent demand for accommodation for both more residents and tourists would act to increase land and property values. As the sharp rise in house prices in the UK in recent years has shown, this can have both positive and negative effects. For people who already own houses rising values create a 'feel-good' factor and stimulate private consumption, but for those who have not the barriers to entry to the housing market keep rising. People in government-provided housing tend not to be strongly affected since they are rent-payers, and there are other factors which determine the rents for state-provided accommodation.
- 8.112 A large proportion of the projected demand for tourist accommodation is self-catering properties. It seems likely that this growth in this area would influence both the type of property and the locations in demand. As noted in the draft Plan, conversion of existing buildings to tourist accommodation will be encouraged in most locations and this includes the restoration of derelict, traditional buildings. Growth in demand for self-catering accommodation for tourists and rented accommodation people coming to work on the island in a variety of capacities would likely change substantially the rental market in housing.
- 8.113 As described elsewhere in this Report, one area of potential growth in the economy to support tourism is agricultural production. At present most agricultural land is leased from



the Agricultural & Natural Resources Department. There are a small number of large farmers, but the number of small-holders is reported to be declining and there is less interest in leasing small plots.

- 8.114 It is expected that the majority of the land required for the airport site would be Crown Wastes within the ownership of the St Helena Government. However, construction of other facilities, such as airport access roads and fuel handling facilities may impact upon productive land and/or land in private ownership. The details of land-take, changes in land use and any arrangements for compulsory purchase, together with any conflicts with established informal uses would need to be confirmed as part of the social impact assessment once final designs were completed.

### **Residential Amenity**

- 8.115 Participants in the group discussions expressed confidence that planning regulations and the existing level of interest in the environment and conservation would ensure protection of the natural environment in the event of airport development. While people agreed that protection of the environment was important, some compromise was inevitable and appropriate. It was observed that “the most important species on St Helena is St Helenians”.
- 8.116 In general, people felt that Prosperous Bay Plain is far enough away from residential areas not to cause much in the way of operational impacts, and that provided construction impacts were handled sensitively they could be tolerated. However, it is noted that there is potential for developments to affect the Ruperts Bay area. This is a location in which there is a residential community in close proximity to industrial facilities. The area is also characterised by historical and cultural connections. Some concerns have been expressed about this area. The social impact assessment would address the consequences to residents (and visitors) during any construction period and subsequent operations.
- 8.117 There is concern about possible increased traffic, both due to construction activity, and as a result of economic development under the air access options. More people (residents and tourists) would generate more traffic. Island roads are limited in capacity, and quite difficult to manage for the inexperienced. It is likely there would be more accidents. There is concern that increased freight traffic through Jamestown would damage both residential amenity and the attractiveness of the town centre to tourists, and as far as possible it should be routed elsewhere.
- 8.118 Island residents would expect to gain from developments to infrastructure in support of airport development such as access roads, fuel delivery, upgrades to water supplies, power supplies, telecommunications, etc. Rising standards of living, including the possession of more electrical appliances, are generally associated with increased consumption of power and water.
- 8.119 Residents would look forward to access to new leisure and recreational facilities and to the benefits of amenities put in place to meet tourist expectations. While many of the historical buildings in St Helena have great charm they also have the disadvantage of presenting difficulties to people with mobility impairments. Upgrades to public buildings to facilitate tourism would provide the opportunity to improve access for people with mobility difficulties.

8.120 Overall, the development of tourism and the desire to make the most of the island's attractions would provide incentives to conserve and restore historic sites and buildings, encourage awareness of value of flora, fauna and landscape, and promote measures to preserve and enhance the environment, generally making it a more attractive place to live.

### **Security**

8.121 St Helena is regarded as a very secure place. Concerns have been voiced about the possibility that air access would have a detrimental effect on this important aspect of island life. Increases in the numbers of visitors, the frequency of flights, and people's ability to get away from the island's jurisdiction quickly are factors which it is suggested would lead to increases in crime, particularly the use of drugs.

8.122 Maintaining a largely crime-free environment is seen as important in maintaining St Helena's current way of life and the island's attractiveness to tourists. St Helena is committed to a "level playing field" for both tourists and residents; there will be no toleration of crime or public disorder.

8.123 Fear of crime can be out of step with the real risk of becoming a victim of crime. In general participants in the group discussions took the view that increases in drug use or petty crime were part of wider social trends in the world, and developments could not be ascribed solely to changes in access. Crime rates may increase e.g. trafficking in illegal drugs, etc. However public perception may exaggerate the risk of crime and both the real and perceived situations need to be monitored and addressed.

8.124 Serious crime is very rare at the moment but on the few occasions when it does occur it is very expensive to deal with. Professionals such as lawyers, pathologists, scientists, etc. all have to be brought in from the UK and the current duration of the journey means that these costs are high. While air access would reduce the amount of time these highly paid people would have to spend travelling, it may also be that larger numbers of visitors and residents increases the possibility that a serious crime would be committed.

8.125 It was noted that while St Helena is a highly policed society at the moment, the police, fire and rescue services, like other parts of the government service, are suffering from problems of recruitment and the retention of trained and experienced officers.

8.126 One of the major benefits of air access would be the greatly reduced time it would take for help to arrive in the event of a disaster or major incident.

### **Access to flights and affordability**

8.127 To maintain the commitment to 'reasonable access at reasonable cost', and for the direct benefits of air access to be felt in full, it may be necessary to put in place an arrangement for a degree of protected provision for Saints and other island residents that would ensure access to reasonably priced flights at relatively short notice, and avoid Saints being squeezed out by tourist bookings. At present the projected fares <sup>1</sup>/<sub>1</sub> may therefore be regarded as fully meeting the 'reasonable cost' requirement. However, projected fares for the medium runway option are much higher and a degree of subsidy may be called for to meet this requirement.

## Summary of Social Changes

8.128 The majority of social changes associated with each access option cannot be quantified. Others, involving the provision of public services, have qualitative dimensions as well as the quantifiable aspects which are handled within the economic model. For both air and sea options these effects have been summarised under the following headings:

- family and community life
- opportunities for employment and income generation
- attitudes to newcomers
- morale
- professional and business life
- health
- education
- social care and support for vulnerable households
- cost of living, availability of goods and services
- housing and land
- residential amenity
- security.

8.129 The majority of social changes attributable to air access apply to both the medium and long runway options. To avoid unnecessary repetition the changes under both air access options are set out in one table, Table 8.2. The equivalent considerations for Sea Access are summarised in Table 8.3.

8.130 Differences between the medium and long runway scenarios arise from the different scale and pace of tourism development under each option. This is reflected in the scale and timing of changes in the labour force and the extent to which development is dependent on people moving in to the island. Where there are differences between the medium and long runway options, over and above those linked to differences in the size of the population and the number of tourists and other visitors, these are identified in the fourth column of Table 8.2.

**Table 8.2 – Non-quantifiable Benefits and Disbenefits – Air Access Options**

Issue	Nature of changes	Benefit/ disbenefit	Comments
<b>Family and community life</b>	<p>Families can be reunited quickly in times of crisis.</p> <p>Smaller proportion of children left in the care of relatives while their parents are working overseas.</p> <p>Increasing pool of family and friends for islanders to call upon for support and assistance.</p> <p>Larger number of residents:</p> <ul style="list-style-type: none"> <li>increases pool of people willing to organise formal and informal community activities</li> <li>increases pool of candidates for public office</li> <li>stimulate social activities</li> </ul>	Benefits	Assumes that a significant proportion of Saints with children on the island return to take advantage of new opportunities.
<b>Opportunities for employment and income generation</b>	<p>Development of tourism and associated industries reduces unemployment and under-employment, and provides opportunities for people to start their own businesses.</p> <p>Expanding private sector attracts people disillusioned with public sector employment.</p> <p>Private sector attitudes towards performance-related pay, productivity, etc. influence public sector.</p> <p>Entrepreneurs attracted to opportunities for out-sourcing of services currently in public sector leading to increased efficiency of service provision.</p> <p>Diversification of income generating activity offers opportunity to wider range of job skills.</p>	Benefits	Key factor in attracting Saints to return to the island
	island economy increasingly dependent upon tourism, and vulnerable to exogenous world trends	Disbenefit	

Issue	Nature of changes	Benefit/ disbenefit	Comments
<b>Attitudes to newcomers</b>	<p>It is unlikely that all the skills, investment, and numbers of people required to support economic development, particularly in the long runway scenario, will be found within the Saints community. Thus to achieve the projected benefits the island must take a positive attitude to:</p> <ul style="list-style-type: none"> <li>• foreigners recruited to take up employment;</li> <li>• foreign investors and business partners;</li> <li>• rapidly increasing tourist numbers;</li> <li>• foreigners wishing to purchase property.</li> </ul>		
<b>Morale</b>	<p>Commitment to air access and economic development package would lift spirits and promotes confidence in the future.</p> <p>Morale increases in response to increased choice of movement (cost permitting) and feeling of equality with other people in world.</p>		<p>Long runway:     .</p> <p>Medium runway:     .</p>
<b>Professional and business life</b>	<p>Boost to business confidence.</p> <p>Greater opportunity for personal contact with colleagues, customers and suppliers, exchange of ideas, participation in conferences and professional gatherings, etc. benefits individuals and economy</p>	Benefit	

Issue	Nature of changes	Benefit/ disbenefit	Comments
<b>Health</b>	<p>Rapid transfer of emergency cases.</p> <p>Quicker referrals to specialists in Cape Town or UK (some patients could not travel by air, but estimated to be only small numbers in these categories that they would be wanting to refer eg. DVT, recent stroke, eclampsia).</p> <p>Quicker return of laboratory test results.</p> <p>Less waiting about in Cape Town for patients and their carers after treatment.</p> <p>Shorter travel time allows more flexibility in range of visiting specialists and frequency of visits</p> <p>More efficient delivery and turnover of drugs and servicing of equipment</p> <p>Improved prospects for recruitment and retention of medical staff.</p>	Benefits	<p>Demand for health services evolves with changes in size and age structure of the population.</p> <p>Business jet option may constrain the size of packages which could be sent air freight (e.g. some replacement parts for medical equipment may be excluded).</p>
	<p>RMS no longer acts as 'quarantine' period for travellers; possible period during which immune profile of St Helena residents adjusts to contact with a wider spectrum of people.</p>	Disbenefit	<p>Concern has been expressed about sexually-transmitted diseases, which are infrequent on St Helena at present. Health education is most important in avoiding these.</p>
<b>Education</b>	<p>Increasing school rolls allow wider curriculum within affordable teacher: pupil ratios.</p> <p>Problems with recruitment and retention are eased.</p> <p>Facilitates short term contracts and visiting teachers.</p> <p>Possibility of school trips abroad to expand children's horizons</p>	Benefit	<p>Demand increases with numbers of children in population</p> <p>Potential for changes in adult education - vocational training; accreditation of skills; etc.</p>
<b>Social care and support for vulnerable households</b>	<p>Problems with recruitment and retention of staff are eased.</p> <p>Increased resources make it easier to provide full range of professional services.</p> <p>Larger number of residents means increased pool of potential informal carers and relatives for support.</p> <p>Demand for sheltered housing / residential care in proportion to age structure and population numbers</p>	Benefit	

Issue	Nature of changes	Benefit/ disbenefit	Comments
<b>Cost of living, availability of goods and services</b>	Strong potential for land/house price inflation (feel-good factor for existing owners, but increasingly difficult for new entrants to the market). Upward pressure on wages leading to general inflation. Inflation impacts disproportionately on vulnerable households and unwaged. Rising wages in private sector rates put pressure on public sector wage structure. Division between rich and poor may widen	Disbenefit	Recommend index-linking of all social security benefits and pensions.
	Increased volume of trade may increase choice of goods available. Extension of banking services and telecommunications in response to tourism benefits residents.	Benefit	
<b>Housing and land</b>	Empty houses reoccupied by returning Saints. Larger population requires more houses => increased demand for residential land. Increased demand for rented accommodation from people on limited duration work permits.	Mixed	Long and medium runway options are associated with different rates of growth in population with consequent implications for housing demand
<b>Residential amenity</b>	Airport access roads support new areas for residential development and benefit existing residents. Increased numbers of tourists and residents lead to increased traffic and road traffic accidents. Impact of construction activities. Increased freight traffic through Jamestown would damage residential amenity, leading to pressure for new routes. New facilities in response to tourist demand also available to residents. Residents benefit from developments and infrastructure to support airport e.g. upgrades to water, power, etc.	Mixed	On the island it is generally felt that Prosperous Bay Plain is far enough away from residential areas not to cause unacceptable operational impacts.
	Tourism provides incentives to conserve and restore historic sites and buildings, encourages awareness of value of flora, fauna and landscape, and promotes measures to preserve the environment.	Benefit	



Issue	Nature of changes	Benefit/ disbenefit	Comments
Security	Incidence of crime e.g. trafficking in illegal drugs, etc. may increase. Public perception may exaggerate real change. Both real and perceived situations need to be monitored and addressed.	Disbenefit	Maintaining a largely crime-free environment is seen as important in maintaining St Helena's current way of life and the island's attractiveness to tourists.
	Disaster relief: Help is now a few hours away rather than several days.	Benefit	

**Table 8.3 – Non-quantifiable Benefits and Disbenefits – Sea Access Option**

Issue	Nature of changes	Benefit / disbenefit	Comments
<b>Family and community life</b>	Families unable to be reunited quickly in times of crisis. Children left in the care of relatives/foster families while their parents are working overseas. Declining pool of friends and relatives for islanders to call upon for informal social support. Continued deterioration in community life due to small numbers.	Disbenefit	
<b>Opportunities for employment and income generation</b>	Public sector employment declines with population until critical point is reached, and then plateaus. Declining population reduces demand for goods and services. Economy contracts and loses diversity.	Disbenefit	Aging population leads to fewer people in labour force age range; dependency ratio increases
<b>Attitudes to newcomers</b>	No change in current trends		
<b>Morale</b>	No change in current trends		
<b>Professional and business life</b>	No change in current trends		
<b>Health</b>	Current situation re treatment of emergency cases and referrals to Cape Town and UK persists, with consequent anxiety and distress. Problems with recruitment and retention persist. Increasing proportion of services required for elderly care. Declining numbers of cases in other areas increase difficulties of recruiting medical staff and maintaining certification.	Disbenefit	Demand responds to changing size and composition of population.
	Days spent on RMS continue to act as 'quarantine' period for travellers.	Benefit	
<b>Education</b>	Falling school rolls. Problems with recruitment and retention persist. Difficult to maintain curriculum coverage with smaller numbers of teachers.	Disbenefit	Demand in line with numbers of children in population

Issue	Nature of changes	Benefit / disbenefit	Comments
<b>Social care and support for vulnerable households</b>	Problems with recruitment and retention persist, particularly among home helps and care workers. Difficult to maintain full range of professional services. Smaller pool of potential informal carers and relatives for support. Disproportionate increase in demand for sheltered housing / residential care.	Disbenefit	
<b>Cost of living, and availability of goods and services</b>	Inflationary pressures increase due to disproportionate cost of maintaining services and loss of economies of scale. Effects of inflation disproportionately affect unwaged and people receiving benefits. Declining volume of trade may reduce choice of goods available.	Disbenefit	
<b>Residential amenity</b>	No change in current trends.		
<b>Housing and land</b>	Reduction in numbers investing in homes on St Helena. Smaller population requires fewer houses. Surplus of property / declining prices.	Mixed	
<b>Security</b>	No change in current trends Disaster relief: no change		

## ACTIONS TO MAXIMISE SOCIAL BENEFITS

### Reversing the out-migration of Saints

- 8.131 The social benefits linked to increasing the size of the population, reuniting families, and regenerating social networks depend on encouraging a substantial number of Saints to return to the island. Achieving this would depend upon Saints getting a good proportion of those jobs created by an airport and tourism developments and taking up entrepreneurial opportunities.
- 8.132 Regardless of how long they have lived away Saints view the island as “home”. A number of those working away at the moment are doing so in order that they may save enough money to invest in property and imported assets on the island. People will respond to an opportunity to return to the island if they perceive the remuneration / quality-of-life balance as favourable. This balance is a complex function including existing employment and remuneration, stage of family formation, wider family circumstances, existing assets and savings, and many personal factors.
- 8.133 Parents separated from their children may be among those most likely to find the remuneration / quality of life balance in favour of a return to St Helena if new job opportunities present themselves. St Helena is perceived as a good place to bring up children, and this is another factor which may attract Saints to return.
- 8.134 Air access, better wage levels and better job opportunities were the most frequently identified factors which would cause overseas Saints to return to live in St Helena or return soon. Overall 40% of overseas Saints responding to the survey stated that they wished to return to the island either to live permanently or to stay for several years.
- 8.135 Good management of this opportunity to attract the maximum number of Saints and recover their skills and experience is critical. Early consideration must be given to schemes to ensure that the maximum number of opportunities can be taken up by Saints. Measures to achieve this may include:
- centrally-managed resource of information about temporary and permanent job opportunities
  - register of interest/skills/availability for work
  - targeted vocational training and accreditation
  - targeted support to encourage long term unemployed back into work
  - requirements placed upon contractors in respect of advertising, hiring and training policies
  - mechanisms to ensure that if jobs have to be filled by expatriates in the short run, Saints are trained to take over from them in the longer term
  - assistance to overseas Saints (e.g. short term loans) to help them meet the cost of returning to the island to take up an offer of work<sup>2</sup>.

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<sup>2</sup> For example, the Government of Grenada has a policy of tax relief for Grenadians living abroad and wishing to return home.

8.136 Potential entrepreneurs among the participants in group discussions (both current residents and Saints who are working overseas) would welcome government-led initiatives to help them:

- gain early understanding of the likely scale and nature of business opportunities
- learn about how to start and run a private business
- invest in the period before air access to ensure that new tourism facilities are in place before increased numbers started to arrive, and so ensure speedy growth is achievable.

### **Construction workforce**

8.137 Other studies (HPR, GIC) have concluded that it is reasonable that the majority of the workforce required for airport construction could be recruited from among Saints. Although there is very limited information about skills in the population, in view of the number of Saints who are employed in skilled and semi-skilled jobs by contractors supplying services to the military, particularly on the Falkland Island and Ascension Island, and the number of unemployed workers on St Helena, we would concur with this view. However, it seems certain that some specialists will be required who cannot be recruited from the Saints population.

8.138 There is disquiet among some residents of the island (and in the offshore community) about the possibility of a large migrant workforce being required to construct the airport infrastructure. A variety of fears have grown up around the idea of a large migrant labour force, a “construction camp”, social disorder, and the possible introduction of HIV/AIDS if workers are recruited in Southern Africa.

8.139 The recruitment and accommodation of temporary workers is an important issue and one needing to be handled sensitively so that both local residents and visiting workers are comfortable. Both the Chief of Police and the Senior Medical Officer have expressed strong concern about the idea of a separate ‘camp’ for temporary workers.

8.140 Steps should be taken as soon as possible to allay fears based on misinformation, by providing accurate information to local residents about a construction workforce as a whole:

- the overall numbers involved
- the split between professionals, skilled and unskilled workers
- the type of jobs and the likelihood that they would be filled by both men and women
- efforts to recruit Saints for as many jobs as possible

8.141 Action should be taken concerning the nature of a temporary workforce that may be recruited (including, but not limited to):

- the likely numbers of expatriates that would be required
- who they would be working for
- the kind of specialist skills and experience they would bring to the island
- how long they would be on the island
- whether they would be accompanied by their families

- the health status/criminal record checks that would be made before they are granted work permits
- confirmation that they are subject to the same laws and standards as everyone else.

8.142 It would then be appropriate to explore in detail the potential for temporary workers to lodge with local families who have spare rooms, in guest houses, or to rent local properties. This approach would:

- immediately benefit local residents financially
- distribute temporary workers around the island's communities
- ensure that wages spent on goods or services benefit the island economy.

8.143 A construction contract should ensure that the contractors and sub-contractors make themselves and their workers fully aware of local laws, customs and sensitivities, and make positive efforts to establish harmonious relations with local communities.

8.144 If attempts to house temporary workers within local communities fail, only then would it be appropriate to consider alternative, specially-provided accommodation. In this situation careful consideration should be given to the location of such accommodation, and its legacy value so that after a construction phase it could be converted to a socially beneficial function.

#### **Index-linking to protect against inflation**

8.145 At the moment social security benefits, pensions, etc. are not automatically protected against inflation. In view of the high probability of inflation, vulnerable households would be protected if these benefits were index-linked.

#### **Essential role of data to support forward planning**

8.146 Various reports (UNDP, DAPM, etc.) have drawn attention to the current deficiencies of data about the socio-economic situation of St Helena. Maximising the gain from the introduction of air access will depend heavily on a strong planning capability, and the ability to monitor how the effects of changed access are impacting on society and the economy at large. Good data is a key ingredient to good planning and monitoring.

8.147 We would like to suggest that serious consideration is given to the benefits of rescheduling the St Helena census. We understand that the census is currently on an 11-year cycle aiming in due course to meet the international standard (recommended by the United Nations) of every country having its census in the year ending 0 or 1. The UK has its censuses every 10 years ending in the year 1. Provisionally the next St Helena censuses are scheduled for 2009 and 2020. We suggest that the rapid changes likely to take place during the period 2005 to 2020, and the need for up-to-date information during this period, would justify a census in 2006 and another in 2011.

8.148 In view of changes to the population, housing, employment, etc. arising in large part from the high level of out migration in recent years, the data from the 1998 census are rapidly becoming out-of-date. It may be questioned whether they are sufficient to support the requirements of the Social Impact Assessment for the air access project, the implementation of the Land Development Control Plan, and so on. Costs for a substantial

household survey have been included in the estimate of costs for the Social Impact Assessment. However, it may be more cost effective (in terms of coverage of data, consistency, elimination of sampling issues, future uses of data) in the long term to opt for a government-sponsored census.

## INSTITUTIONAL AND GOVERNANCE ISSUES

### Introduction

8.149 The institutional implications of the access options have several important aspects, and it can be useful to view the likely institutional impacts and changes needed to help ensure the success of the option by:

- timescale: pre construction, construction and operations (for the air options or for the RMS)
- type of organisation affected: public sector, mixed public/private or independent body, private sector
- type of impact/action needed: temporary expertise, permanent SHG staff, capital or operational expenditure.

8.150 This institutional analysis reflects these aspects, and considers:

- key issues
- cost implications of the three options

8.151 The air options are broadly similar in institutional impact and will frequently be discussed together, but making any differences clear. The replacement RMS option does not correspond to the “no change / do nothing option” usually used in evaluating capital projects. This is because under the “do nothing” scenario, St Helena and its economy will not remain static: there is every possibility that economic decline and loss of population will continue. Furthermore the replacement RMS option would not be implemented without some institutional interventions, and our analysis is made more realistic if integral to this option are actions intended to help reverse the decline of the economy, including boosting tourism from its present levels.

8.152 Under “key institutional issues” we discuss:

- proactive institutional changes needed to make the option succeed (such as encouraging inward investment)
- the direct institutional consequences of each access option (such as a requirement for additional staffing related to air operations)

8.153 Please note that while this institutional section touches on some legal matters, legal issues are more comprehensively dealt with under “Legal and Constitutional Issues” later in this Section.

8.154 Institutional costs are developed for the three options from the pre-construction period (under air access) to 40 years after air operations starting.



## Key Institutional Issues - Overview

8.155 This section outlines the issues and discusses the importance of SHG's co-ordinating role. Following this, each issue is discussed in detail.

### Growing the economy

8.156 The RMS replacement would ensure continued access and allow tourism to continue, and business people to travel. However tourism would continue to be constrained and travel by business people and Saints would be hampered by long voyages and an infrequent service.

8.157 Success of the air access options depends critically upon significant expansion of the economy, as reflected in several parts of this feasibility study. In institutional terms, this would require:

- easing and facilitating of immigration and landholding
- planning policies to be conducive to economic development, in their drafting and their application
- expansion of the private and public sector roles in stimulating tourism
- encouragement to inward investors and support to local business
- achievement of an enhanced skills base on St Helena from improved local vocational training and by attracting people with relevant skills to the island.

8.158 In the *St Helena Strategic Review 2000-2010* the Inward Investment Policy Statement (page 21) states "It is the policy of St Helena Government to encourage Inward Investment in order to boost local employment and private sector development". However, inward investment is still very low and potential investors face significant barriers, in addition to those of access.

8.159 The principal institutional barriers appear to be a combination of either legislation being inadequate or inappropriate, the SHG process for implementing the legislation being inefficient or excessively bureaucratic, or the attitudes of those tasked with making decisions not being conducive to encouraging inward investment.

8.160 We address the institutional aspects of growing St Helena's economy under the following headings:

- immigration and work permits
- landholding
- approved investor status
- land use planning
- tourism
- SHDA
- vocational training.

## **Contract management**

8.161 Replacement of the RMS would require a design and procurement exercise of the type already undertaken for the existing RMS. However construction of an airport would require extensive contract management capability and monitoring, including environmental aspects, on the part of SHG. Air service operations would require:

- ongoing management of the airport and air service contracts
- different skills and/or staffing levels from customs, immigration and police.

8.162 The scope of these services and how they may be procured is set out in Section 12 below. The procurement role of SHG and DFID is also discussed in Sections 12 and 14 (Implementation) in relation to the recommended method of procurement of the preferred access option.

## **Implementation arrangements - driving and managing**

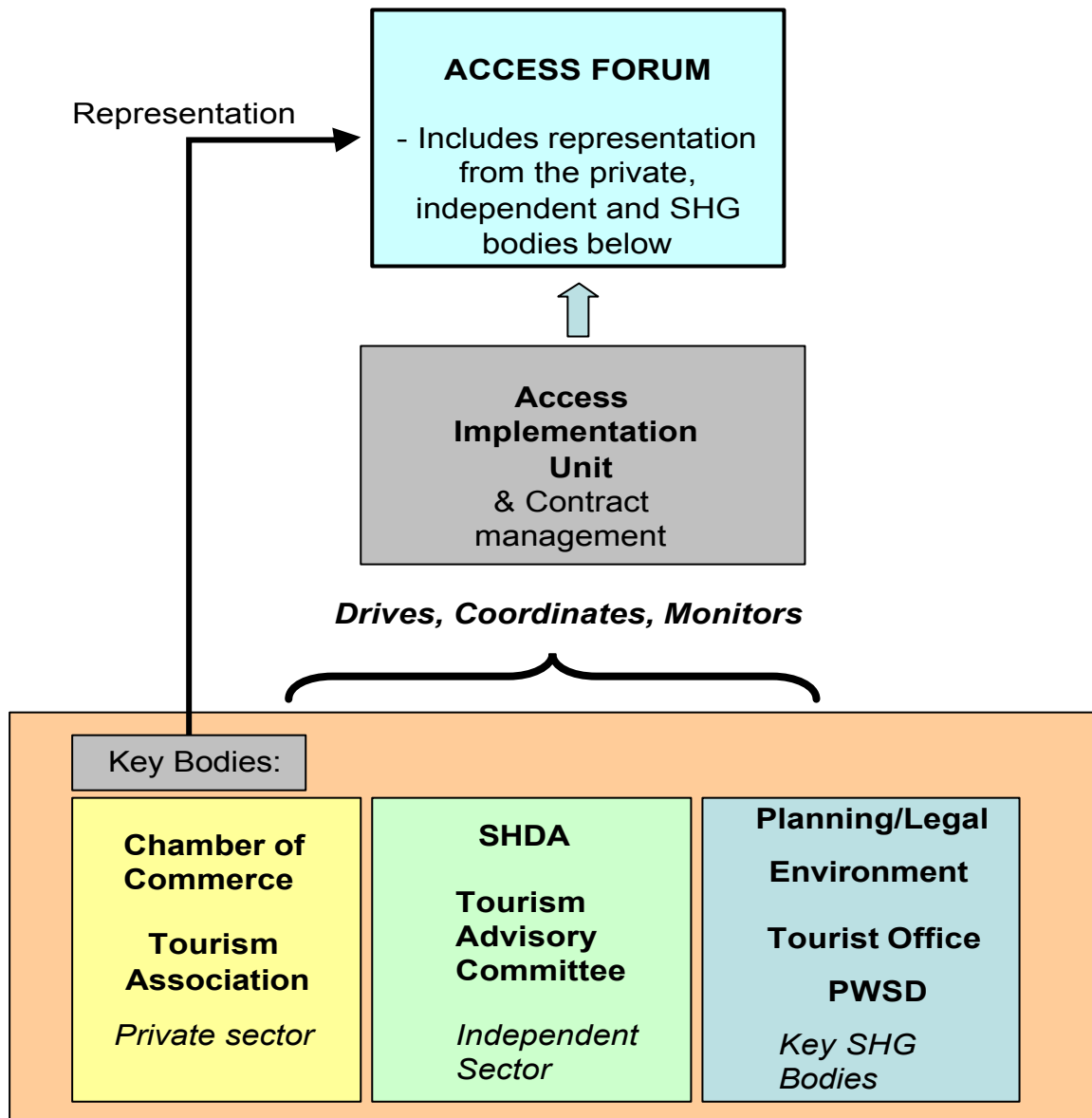
8.163 If air access is chosen, then from the signal for its go-ahead, through the tendering process, construction and start of operations, a significant amount of interrelated activity would occur in the public, independent and private sectors. Co-ordination of this activity would be essential. Accordingly we suggest a small, full time executive SHG body, (referred to here as the Access Implementation Unit) to plan, co-ordinate, monitor, evaluate and generally drive the project. This would report to an Access Forum, which would make major decisions (leaving lesser ones to the Access Implementation Unit) and monitor progress at a high level, as shown in Figure 8.1. (In programme management terms we could equate these roles of Access Implementation Unit and Access Forum to the programme management team and programme board respectively).

8.164 This arrangement should be set in place if and when the decision to go ahead with air access is made, and continue until air services are fully established. This is summarised in Figure 8.1 which suggests the position of the Access Implementation Unit and the mix between the main public, private and mixed / independent organisations that it will need to co-ordinate. The reporting lines upwards from the Access Forum would depend on the exact composition of the Forum and if and when the new constitution is adopted.

8.165 Clearly the Access Implementation Unit does not control the bodies depicted below it in Figure 8.1, i.e. they do not report to it. However its relationship to them would be a special co-ordinating, monitoring and driving role to help ensure the programme succeeds.

8.166 The Access Forum itself could have representation from each of the main private, independent and SHG bodies (as well as high level SHG representation). This representation should be the most senior members / leaders of the aforementioned bodies. The advantages of this approach are that representation at this level encourages belief and commitment from these bodies, and that their senior members / leaders can be challenged on whether their organisation is playing its part in the programme, for example, whether the tourism initiatives are progressing satisfactorily. However it is important that the Forum should not become large and therefore have difficulty in maintaining authoritative momentum, or bureaucratic.

**Figure 8.1: Suggested formal arrangements for co-ordinating public, private, independent and public sector interests**



#### **Institutional inputs in SHG departments**

8.167 A number of SHG departments would play critical roles in implementing air access and in realising its benefits. As discussed later, each of these should receive support, usually in the form of technical assistance, and in some cases increased staffing. Figure 8.2 summarises the roles each department will play in the process up till air service operations. These are explained as this section develops.

Figure 8.2: Key SHG roles in implementing improved access

Institutional Roles in SHG	Tendering Phase	Construction	Air services commence
<b>Implementation Unit Including Contract management</b>	Evaluates Coordinates  Assist evaluation	Monitors Coordinates  Monitor Construction contract	Assists Contract Management setup  Monitor Air services contract
<b>Environment</b>	Assess EIA Tor	Monitor EIA and mitigations	Ongoing monitor SH environment
<b>Planning</b>	Assist evaluation	Monitor	Revise SH Plan (Enhanced capability)
<b>Legal</b>	Drafting aviation and other law		Disputes
<b>Tourism</b>	Strategy, marketing, enhancements		Growth
<b>Police/Customs Immigration</b>		Prepare	Airport operations

## IMMIGRATION AND WORK PERMITS

8.168 St Helena's immigration laws are defined in the Immigration Control Ordinance and Subsidiary Legislation, Revised Edition 1 January 2001. Decisions are made by the Immigration Board, which is independent of government and is made up of civilians selected by the Governing Council. It meets monthly, with the Chief Immigration Officer in attendance as advisor.

### Entry to St Helena

8.169 The Immigration Control Ordinance defines the right of entry to St Helena in Part 4, Entry and Right to Work:

“ General provisions for control of immigrants

16. (1) Subject to subsection (2) no person, other than a person who has St. Helenian status, shall enter or remain in St. Helena unless he is the holder of either—

- (a) an entry permit; or
- (b) a work permit; or

- (c) *a dependant's pass; or*
- (d) *a visitor's pass, issued under this Ordinance "*

8.170 St Helenian status is obtained either by virtue of being an 'islander', essentially someone whose parents or grandparents were born, registered or naturalised in St. Helena or by application, which requires the applicant to have lived on St Helena for at least 5 years, along with other conditions. Part 4 of the Ordinance describes the application for work permits by persons without St. Helenian status:

*"17. (1) An application for an entry permit shall be made to the Board which shall, in deciding whether to grant or refuse the application, have regard to—*

- (a) the financial means and health of the applicant;*
- (b) his character and antecedents;*
- (c) hardship which he or any member of his family will suffer by reason of the application being refused;*
- (d) the public interest.*

*(2) If the Board, having regard to the matters set out in subsection (1), is satisfied that the applicant is a fit person it may grant an entry permit to the applicant for such period, not exceeding five years, or, exceptionally, for such longer period as the Governor in Council may determine. "*

8.171 Entry permits may be granted for up to 5 years, or exceptionally longer. The discretion given to the Board and Governor appears to be very broad, for example, the 'character and antecedents' and 'public interest' are not defined, nor are the circumstances under which the five-years rule may be relaxed.

## **Employment**

8.172 For employment the Board needs to be satisfied that the job cannot be filled by a Saint Helenian - a job needs to be advertised before the application is accepted as proof that no local person can do the work. Furthermore the applicant needs to satisfy the Board "that he is of good character" and "that he has a good knowledge of the English language" (Schedule 2, Section 18(3)). There are additional medical and police record requirements. Dependent's passes may be granted to dependents of those given work permits, but do not allow the dependent to work. Visitor passes are only granted for up to three months.

8.173 While the law permits immigration for work purposes in theory, it is drafted in a way that suggests that this is not generally welcomed. The immigration process is not transparent and confers considerable discretion on behalf of the Immigration Board; this was stated several times in our interview programme. (For example an application by an innovative artist / craftsman who could potentially produce works for the tourist market may be declined as it can be argued that a resident already has crafts skills.) Consequently the decision making process may be over-influenced by the attitudes of the lay persons who form the Immigration Board. Interviewees suggested that the Board can be overly risk-averse.

## Proxy comparisons

8.174 However, St Helena is by no means alone in its approach to foreign workers. Our Proxy Island study (Appendix E) cites examples of the approach to immigration among the proxy islands and notes (under Labour Policies, Section 6) that “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.”

8.175 It goes on to say “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”.

8.176 It is often the case that locals are given first refusal on job opportunities before a foreign worker is allowed to take the post. This is true in the Falklands Islands, where the foreign worker is likely to be a Saint.

8.177 Notable examples regarding entry and work permits include:

- St Kitts and Nevis, while making employment permits quite hard to obtain, readily take money for granting nationality under its “Citizenship by Investment” programme, costing of the order of US\$200,000. Dominica has a similar programme and can guarantee citizenship in 4-6 weeks.
- In the Seychelles entry can be achieved via demonstrating sufficient financial resources or by purchasing a “Gainful Occupational Permit” on an annual basis.
- In the Cook Islands applications for work and residence permits can be made on-line. However, work permits are not issued for certain reserved (primarily agricultural) occupations.
- Vanuatu grants employment and residence permits to skilled applicants or investors. The permits are issued concurrently, suggesting an efficient process.

8.178 The “chronic shortages” referred to above may become a reality for St Helena in the future, especially if Saints are slow to return to the island. Additionally, St Helena’s situation appears exceptional in its outflow of workers, and must embrace change in this area.

8.179 The format of the information given to prospective immigrants/investors is also important, and clear statements will encourage potential applicants. As an example, in an extract from its Investment Information Checklist (page 13), Dominica gives clear advice on residence and work permits (dealing with them jointly here):

*“ All non Dominicans require a work permit to work in Dominica. Work permits will normally be granted to foreign directors, managers, supervisors, and instructors/ trainers in respect of any development enterprise. The National Development Corporation will assist in this process ”*

8.180 It goes on to confirm that it can “...confer economic citizenship on any bone fide person who applies, and meets the established criteria”

## Conclusions

- 8.181 Overall the immigration process in practice appears to cause frustration among those seeking to work or just reside on the island, and hence represents a barrier to investment and to a potential inward flow of funds. Indeed from several sources (interviews, focus groups) it was claimed that potential immigrants including inward investors are heavily constrained by the overall process. The requirements to provide documentation were considered bureaucratic and can make the process slow.
- 8.182 To encourage those of potential benefit to the island, St Helena should consider the immigration criteria for the following types of person:
- skilled persons
  - inward investors
  - unskilled persons, (e.g. as required by airport construction and the growing economy should insufficient Saints return to the island)
  - dependents of people granted work permits
  - the issuing of temporary work permits as required, including to fill shortages
  - persons wishing to stay for extended periods but not to work
  - the criteria for naturalisation for those people seeking it, and their voting rights.
- 8.183 We suggest that review and amendment of the basic legal criteria for entry is required, and also the devising of a clear set of rules/guidelines on applying policy, thereby reducing the discretion of the Immigration Board and making criteria clearer to potential applicants. Additionally we suggest reviewing the appointment and composition of the Immigration Board.
- 8.184 Continuation of the current situation risks discouraging the inflow of skills, entrepreneurship and capital required for the economy to reverse its decline and expand.

## INSTITUTIONAL ISSUES - LANDHOLDING

- 8.185 The objective of landholding legislation and policy should be to facilitate the ability of those persons the island has deemed it will allow to stay on St Helena, to acquire land for business or residential purposes, while protecting the interests of its people. This is readily said but harder to achieve. However the laws and procedures governing landholding on St Helena appear unduly restrictive, as illustrated below.
- 8.186 St Helena does not appear to welcome landholding by immigrants, whether by freehold or Leasehold. The Immigrants Landholding (Restriction) Ordinance and Subsidiary Legislation, (Revised Edition, January 2001) says at paragraph 3:
- “Save as provided in this Ordinance, no land in St. Helena or no mortgage of land in St. Helena shall be held by an immigrant except under the authority of a subsisting licence .....*”
- 8.187 The Ordinance goes on to give some exceptions, but essentially landholding is heavily controlled. This applies to both freehold and leasehold land ownership, and includes



rentals. In every case an application has to be made and submitted to the Registrar of Lands whose role is to:

- “(a) check that the particulars given in the application, concerning the land to be acquired, accord with the records in the Land Register;*
- (b) consult the Immigration Officer in order to verify the particulars of the applicant;*
- (c) except in any case wherein (or in any case of a type regarding which) the Governor in Council otherwise directs, cause notice of the application to be published in the Gazette;*
- (d) make a report of the circumstances to the Chief Secretary, who shall then cause the application to be placed before the Governor in Council. “*

(Immigrants' Landholding Regulations – Section 11)

8.188 The need to consult the Immigration Officer and to make a report of the circumstances to the Chief Secretary, who then puts the application to the Governor in Council, appears over-bureaucratic, given that it is additional to the immigration procedures already undergone by the applicant. Further discretionary influence is allowed for as paragraph 5 goes on to say that “Every application for a licence shall be in such form as the Governor may require”.

8.189 Overall, acquiring land appears to be a difficult and often protracted process, likely to discourage an entrant. Indeed we understand that no foreign corporate body has applied to SHG to own commercial property to date.

8.190 Those without St Helenian status wishing to acquire land for residential purposes have experienced significant administrative difficulties in obtaining a license. This has implication for someone wanting to migrate to the island and stay for extended periods without working, or even to retire. This includes residential tourism, a potential source of income for the island. In conjunction with the restrictions on entry permits, land restrictions effectively bar a non resident of means from retiring on St Helena, except in special circumstances, again a discretionary criterion.

### **Island comparisons**

8.191 The growth of residential tourism is well known, including the British Virgin Islands policy of encouraging “snowbirds” (North American tourists spending the winter in warmer climates). In Montserrat, before the hurricane and volcano, 22% of tourist income, the largest element of GDP, came from residential tourism which represented only 2% of its tourist numbers (source “The Economic Impact of Retirement Tourism in Montserrat” (Social and Economic Studies 41:2 (1992, pp.127-152.))

8.192 The timeshare industry, a major element of residential tourism, grew by between 10% and 15% annually between 1985 and 1998, with over 5,000 schemes estimated worldwide in mid 1999, including 200 in the Caribbean. (Source: Travel and Tourism Intelligence, Worldwide Timeshare Industry Review).

## Conclusions

8.193 Clearly current arrangements do not encourage the inward flow of capital from investors or potential settlers. Furthermore, the processes for owning land and the right to be in St Helena do not appear to be joined up. As for immigration, review of the current legislation and procedure for landholding (both residential and for business purposes), appears necessary in order to:

- streamline the process
- make clearer to applicants the basis upon which the application will be granted
- investigate the encouragement of residence for the purposes of retirement or extended stay (residential tourism), and the financial criteria for this.

8.194 In particular the process may be joined up with the immigration procedure, such that the granting of entry, (either by work permit, as a dependent, or an entry permit allowing entry but not work) confers the ability to obtain land, at least on a rental /leasehold basis, subject to the same procedures that a Saint would be bound by.

8.195 Clearly the downside to encouraging immigrants and investors is the danger of alienating the local population, notably by increased demand causing house price inflation. There is no simple formula for this, but continual monitoring of the situation is required, to balance the demand and supply of land, while preserving St Helena's environment.

8.196 The government can strongly influence supply of land for residential/business development as it owns and controls the majority of the island directly through departments, as crown waste and through other statutory instruments such as national parks and similar legislation. Also, as it can indirectly influence a further significant tranche of land (via the Solomons company) it is in a good position to sell land to inward investors/settlers, again a potential revenue source.

8.197 It may be appropriate for a Land Board to be created whose remit would be to consider the use and sale of government land and to ensure that an efficient and transparent mechanism is in place for doing this. The Land Board should be small and focused, meet regularly and/or as required, and have representation principally from the Legal Lands and Planning Department, also from the Development and Economic Planning Department. The Board would make clear recommendations to SHG. The planning professional on short term technical assistance (discussed later) could advise on this concept, who could also serve on such a Board, initially.

## Approved Investor Framework and Status

8.198 An "Approved Investor Framework " has existed since 1999, with the stated intention of making "One initial determination of the suitability of investment for the island", based on defined and published guidelines, and to confer "Approved Investor" status where it sees clear benefit to the island of a proposed investment. However, the policy is still under discussion and has not been finalised. SHDA is currently preparing a position paper for the Government on the issue. (The Framework does not appear prominently on the SHDA website, but an outdated version is readily found via the UNDP website <http://www.sdnf.undp.org/sthelenabusiness.html>)

8.199 While it claims to act as a one-stop shop, the framework does not address the important issue of concessions and says (Section 5.2): “Income tax and custom duties concessions and/or holidays must be negotiated separately with the St Helena Government, as they do not fall within the ‘Approved Investor’ application itself.”

8.200 The framework is not very clear in terms of the detail a potential investor has to provide nor the criteria it needs to meet, beyond the initial broad screening criteria. It needs re-vamping to make it more user-friendly, to give clear criteria for its acceptance of approved investor status and to be explicit on concessions.

## **INSTITUTIONAL ISSUES - LAND USE PLANNING**

### **Introduction**

8.201 Planning on St Helena is carried out under the Legal, Lands and Planning Department (LLPD). Currently two staff fulfil the planning role, with some external support in drafting policy. The great majority of its work is associated with residential development.

### **The planning process**

8.202 St Helena’s planning committee (the “Agency”) is appointed by the Governor, and has a cross-section of representation including government employees and trades people. Under an expanding economy it will need to make more decisions on business applications. The process would benefit from being rather more transparent than at present – for example by requiring that notices of planning applications be posted at the site, as is widespread practice elsewhere.

8.203 Planning was originally under The Development and Economic Planning Department, and transferred to Legal and Lands in 2000. As planning activity moves from largely residential issues it may be more appropriate for it to revert to the Development and Economic Planning Department, so the service can be more integrated with economic development. This could be kept under review as the economy develops.

### **RMS Replacement**

8.204 Replacement of the RMS does not have significant planning issues associated with it, notably because replacement would not be accompanied by a new wharf or breakwater. Were a replacement RMS to increase tourism, this would not be of a scale to impact upon existing planning arrangements. Consequently the discussion below on planning is mostly associated with air access. However, the recent draft St Helena Land Development Control Plan applies whether air access is taken forward or not, and we consider that a planning consultancy input is needed for updating the St Helena Land Development Control Plan in 2010.

### **Air Access options**

8.205 The construction of an airport and associated access routes would have important planning implications, and be a development of such magnitude for the island that SHG’s planning capability and capacity would need support. The only difference between the

options is that the faster growth pattern of the economy associated with the long runway would produce more demand for housing and business expansion.

### **The planning application for the airport**

8.206 We assume the application would proceed as for any planning application, in that the lead contractor would submit a plan to the LLPD and they would make a recommendation to the Agency. Given the scale of the development we have allowed for specialist support in dealing with the application and its environmental impacts, and including public consultation. However, no special procedure (such as a requirement for a Public Inquiry) is apparent for large scale developments on St Helena. (Indeed a large Inquiry would be expensive and may cause considerable delay).

### **Land Development Control Plan**

8.207 The new (draft) St Helena Land Development Control Plan, more comprehensive than previous documents, covers the period July 2005 to July 2015. We have reviewed a draft (undated, received in October 2004) and have the following broad comments in relation to air access:

- One of the key National Strategic Objectives is to improve access to the island, and the plan identifies a site for airport development and includes policies which will allow for its construction.
- The plan recognises that the island is in economic decline and the airport development will assist economic growth.
- The Specific Objectives aim to accommodate the provision of an airport and encourage tourist and employment related facilities.
- There is a presumption in favour of development in the Intermediate Zone.
- While there is a presumption against development in two of the three zones, attractive and sensitive essential tourism-related development may be appropriate in the Green Heartlands and Coastal Zone, subject to an environmental appraisal.
- It is recognised that economic growth would be achieved largely through tourism and that this is dependent on securing improved access.
- Many of the policies are written with successful achievement of air access in mind.

8.208 Clearly St Helena needs to have policies in place that encourage development and investment while preserving the character and environment of the island. Accordingly the overall tone of the plan is broadly positive. However, this high-level presumption in favour of encouraging investment is a necessary but not sufficient condition for creating the necessary climate. It is vital that the detail of the policy does not impose unnecessary obstructions (which may make potential investors wary or suspicious) and also that the planning process is efficient, consistent and non-discretionary and seen to be so. Additionally the plan should integrate with the economic development plan (currently being drafted).

8.209 Regarding the detail of the plan, we note some areas where it appears unnecessarily prohibitive and may discourage a potential investor. Specific examples are as follows.

- 8.210 Under “Planning implications relating to transport” (16.3) the Plan stipulates that: “It is proposed, therefore, that any development scheme involving more than 10 bedrooms or 500 square metres of commercial floor space or tourist development involving 100 visitors per day should make a financial contribution to SHG for the running of public transport on the island”. (16.3.3).
- 8.211 It would be unclear to an applicant what the amount of the contribution would be, and the need for “...an agreement between the developer, the landowner and the Government” over the issue raises the possibility of protracted discussion between the three parties, a further hurdle in the planning process likely to cause delay.
- 8.212 Paragraphs 4.3 and 4.4 on the Green Heartland in particular seem to be central to the principle of protecting the existing (and of course, limited) area of the island of greatest most visual attraction. They recognise the need for development for tourism yet say no or only very limited new dwellings will be allowed there. This is reinforced in paragraph 12.3.7 where accommodation of a golf course in the Green Heartland or Coastal Zone is likely, and “An appropriate club house would also be acceptable in either zone but the siting of self catering or hotel accommodation would not be acceptable in the Green Heartland”. This would appear to rule out absolutely all such development, however sensitively designed.
- 8.213 The Land Plan and Development Control Ordinance, quoted in Appendix I of the Plan, for example, says that the Plan may make provision for the regulation or control of “.... The purposes and the manner in which buildings may be used or occupied, including the manner in which dwelling houses may be let.” (Paragraph 16(1)(c)(iii)). To a prospective investor looking to let out properties this is far from transparent and may be viewed as a serious business risk, even if SHG is very unlikely to utilise the clause.
- 8.214 We consider that examples such as these, in the detail of the Plan and the Ordinance, detract from its main thrust which is positive towards encouraging development, and consideration should be made for their amendment or deletion.
- 8.215 We also have some detailed comments on the draft Plan from an environmental perspective, and have included this as Appendix V.

### **Updating the plan**

- 8.216 While most of the development would not take place until after 2010, the proposed review of the plan after five years should be formally undertaken with the possibility of significant updating allowed for, given the likelihood of change under air access.

### **Support to the planning function**

- 8.217 Assessment of the planning application and monitoring of the construction phase would require additional capacity and expertise. We recommend that a professional planner be employed by SHG to:
- assess the planning application including the access routes and report to the Agency
  - assist in the public consultation associated with the application

- assess the environmental impact statement, ensuring mitigating proposals are included
- training of staff in the LLAPD on handling larger, commercial (especially tourism related) applications, and appropriate interpretation of the Land Development Control Plan in providing controlled development for the island
- provide assistance to the Planning Committee (the “Agency”) in interpretation of the Plan.

8.218 We have allowed for a seconded planning officer for one and-a-half years, and a separate short term consultancy element to review the plan after five years (which may be undertaken by the same person). Additionally, as the economy grows and house building and tourist related building increases, an additional full time member of the planning team would likely be needed, to be based in the LLPD.

8.219 Cost allowances have been made for the above inputs in the air access options, which are specified later in this institutional section.

8.220 Note also that when construction commences there would also be a need to ensure adherence to the conditions of granting of planning permission, and that mitigation is being applied as intended. This does not require a planning professional, and can be covered by the engineering specialists monitoring the contract. This is discussed later in this section.

## **INSTITUTIONAL ISSUES - TOURISM FUNCTION**

8.221 The main organisations and persons involved in tourism on St Helena are the:

- Tourist Office
- Tourism Advisory Committee
- Tourism Association
- SHG representatives overseas
- Andrew Weir/the RMS in promoting St Helena.

8.222 The Tourist Office currently has three full time staff and its activities include:

- promoting private tourism related businesses on St Helena via leaflets etc
- arranging accommodation/ booking tours and taxis
- providing information / marketing material, e.g. maps.

8.223 The Tourism Advisory Committee brings together SHG and non governmental tourism interests and gives assistance to the Tourist Office. It comprises three SHG representatives (including the Tourist Office, Development and Economic Planning Department) and three non governmental representatives (St Helena National Trust, SHDA, Tourism Association).

8.224 The Tourism Association represents local tourism related businesses, though the Association is relatively low key and many businesses are not represented.



8.225 The WTO St Helena Tourism Master Plan was accepted by SHG in 1996 and St Helena is working towards its implementation. The Master Plan proposals included the following Institutional proposals:

- “Establish a Tourism Association with membership open to all
- The Association and Government would jointly elect and select a board of directors which would act as a Tourist Board and be responsible for the implementation of the Government’s tourism policy. “

And:

- “The Board would enjoy a considerable degree of freedom in the planning and implementation of projects, subject to Government being satisfied that proper rules and procedures were being followed.”  
(WTO St Helena Tourism Master Plan 1997, para11.3.1)

8.226 The current Tourism Association plays a lower key role than WTO suggest, though this should grow as the potential for tourism is realised (under all options, but especially under air access options). The Tourism Advisory Committee is the closest body to a “Tourist Board”, but as its name suggests is more advisory than executive.

8.227 As tourism grows it would be appropriate for the Tourism Advisory Committee/Tourist Board to be strengthened to fulfil the role outlined by the WTO report and ensure co-ordination of the relevant tourism-related organisations on St Helena. It would become a key stakeholder in tourism with a major role in encouraging private and public sector tourism initiatives (individually and in partnership, as appropriate), and also have a defined role in the joined up process for attracting and assisting inward investors (as outlined in the SHDA section).

8.228 Other stakeholders include the St Helena National Trust (which is represented on the Tourism Advisory Committee) and NGOs such as the diving club, sports fishing club, conservation group and other groups with an interest in promoting activities and/or conserving St Helena’s culture, environment and heritage.

8.229 The principal relationships proposed are summarised in Figure 8.3, which also illustrates the range of public, private and mixed/independent organisations involved.

8.230 In terms of reporting within SHG, it may be more appropriate for the Tourist Office to come under the Development and Economic Planning Department, rather than the Office of the Chief Secretary, as tourism strategy would increasingly become integral to St Helena’s economic strategy and planning.

### **Air access options**

8.231 St Helena would benefit from better coordination of its tourism activities, and the enhancements recommended by the WTO report would greatly assist with this.

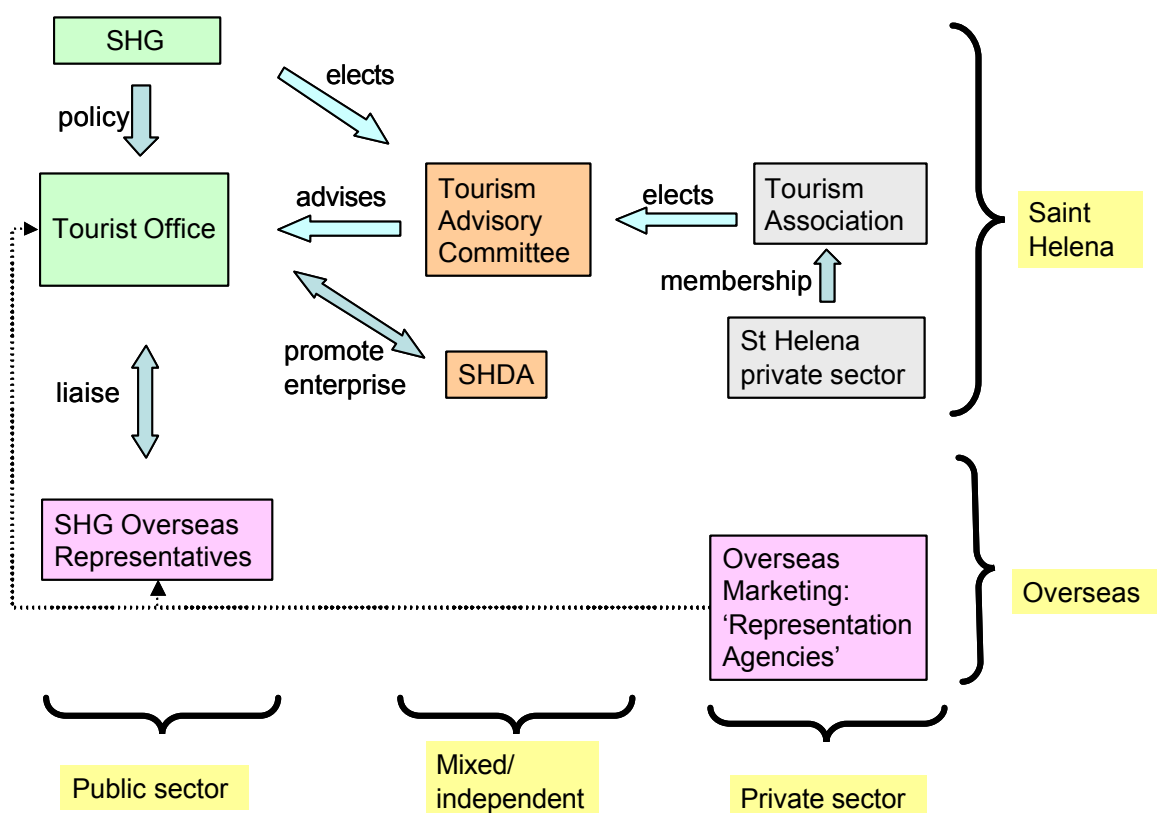
8.232 While under the RMS Replacement option some spend on tourism is appropriate as discussed below, under the medium and long runway options the significant increases in tourism projected would require a step change, notably in St Helena’s marketing efforts.



We recommend and have costed the following activities; all but the last are costs that would be on-going throughout the 40-year period:

- employing the services of an overseas marketing agency or “Representation Agency”
- technical assistance from a tourism specialist
- additional staffing and training for the Tourist Office
- developing branding and producing marketing materials
- enhancement and maintenance of the Tourist Office website and the collection of tourism statistics
- a 5-year programme for upgrading facilities, signposting etc

**Figure 8.3: Simplified diagram of proposed tourism roles**



8.233 These Representation Agencies act as the local offices of the Tourist Office and as such are directly responsible for promoting the island as a tourist destination to the respective source markets. We believe that the marketing of St Helena is best undertaken by specialist agencies based in London, Cape Town and in mainland Europe. Others are known to think that North America represents a good market so in due course this market would also need consideration of representation.

8.234 Such agencies would provide a professional service including liaison with tourist operators, attendance at trade shows and consumer shows, buying advertising space, dissemination of marketing materials, organising trips by operators to St Helena and so on. The agency agreement could include an incentivisation component, for example based upon the number or sizes of operators they succeed in adopting St Helena as a destination, or the numbers of tourists, where this can be measured.

8.235 This is a less risky and more cost effective approach than developing “home grown” offices for St Helena Tourism, and likely to be more effective. The existing SHG representatives would provide some on the ground liaison with the marketing agency’s activities, but their main report would be through to the Tourist Office/ Tourist Board in St Helena. (Note: SHG representatives would be able to spend more time on promoting inward investment to St Helena, than if they had responsibility for tourism as well.)

8.236 Many countries spend significant sums on representation marketing and advertising. Figures for the former are hard to obtain though we received information from a European agency representing a South Pacific Island, with an annual contract of between £1.1 and £1.3 to cover most of the above activities. (This contract has an incentive payment related to tourist numbers). Advertising spend is easier to obtain, and some relevant figures are shown in Table 8.4 below.

**Table 8.4: Advertising expenditure by tourist offices 1999**

Country	Amount £'000
Barbados	732
Jamaica	523
Bahamas	314
Bermuda	169
Cuba	124

*Source: Mintel, 2000: Holidays – Destination Marketing*

8.237 We have costed for St Helena to establish contracts with up to three representation agencies (London, Cape Town and another European office) to be in place by the time air services commenced, with costs rising to £1.1 per year.

8.238 If tourism is to become a major source of revenue for the island, as SHG policy requires, then the development of its tourism strategy and plans and their implementation become increasingly urgent to ensure St Helena is ready for the greater numbers air access will deliver. Further support for this is included in the form of a tourist specialist to work closely with the director of the Tourist Office, and give training to its staff. The specialist would help the director develop a detailed tourism plan, based on the WTO recommendations, and have a major contribution to planning and implementing the items above, including advising on the nature, procurement and monitoring of the overseas marketing effort.

8.239 Allowance is made for increasing Tourist Office staffing. This would include undertaking front line activities in the Tourist Office as demand grew, but also the monitoring/rating of hotels and other tourist accommodation, and collection of tourism statistics. Overall however, SHG should resist the temptation to swell staff numbers in the Tourist Office in proportion to anticipated tourism growth, and encourage the private sector to increasingly promote the island.

8.240 Staff development would increase the Tourist Office's capability, and training should be ongoing. (One member of staff has been studying marketing and will also obtain UK Tourist Office experience; another has just started a UK tourism degree.)

8.241 St Helena needs to brand itself more strongly and give itself a clearer identity as a tourist destination. Additionally it needs to develop a stock of base marketing materials for future

use, including developing a library of photographic images. The tourism specialist would assist in these activities, and further specialist support, for example in branding and logo design, would also likely be needed.

8.242 The Tourist Office's presence on the world-wide web needs enhancement, including links to attraction on the island, facilitation of booking of accommodation and activities.

8.243 A rolling programme is needed for upgrading St Helena facilities and footpaths, providing information plaques, signposting etc, and an allowance is made for this. It is expected that the private sector will increasingly play a role in this area.

8.244 Section 9 of this report gives more details on the next steps for growing St Helena's tourism industry.

### **RMS replacement**

8.245 Under the RMS replacement option we have included actions for enhancement of the marketing of tourism and improvement of St Helena's tourism product. However the inputs are much lower in magnitude than under the air access options because under RMS Replacement the capacity for tourism expansion is constrained by the physical capacity of the replacement ship itself. Consequently while the enhancements cover the same broad areas as for the air access options, they would occur at a much lower intensity.

8.246 Under this option joint marketing with the ship operator would form a cost-effective basis for marketing, supplemented by other channels as appropriate. A direct link between the Tourist Office and the RMS operator would be needed to ensure that the marketing is effective. These are not cosmetic improvements and the RMS replacement could accommodate more tourists, also they could be attracted with enhanced marketing. For example this may attract more non-English speaking tourists and the RMS would benefit from being better able to cater for such tourists.

### **INSTITUTIONAL ISSUES - ST HELENA DEVELOPMENT AUTHORITY (SHDA)**

8.247 The SHDA was established by SHG and DFID in 1995. SHDA's role was defined as follows:

*"It is the function of the Agency to promote and facilitate commercial development in St Helena". (SHDA Ordinance)*

8.248 SHDA provides support services and concessional finance to small and medium-sized businesses. Its main activities are:

- making grants and loans to local business
- advisory services for local business
- aftercare services
- responding to initiatives from inward investors
- training and development.

8.249 Its structure can be summarised as:

- a Business Advisory group of 5 advisors
- an Accounts Advisory group of 4 staff
- these report to a Counterpart to the Managing Director
- the Managing Director reports to the SHDA Board, which is appointed by the Governor.

8.250 This structure, together with administrative support this amounts to 13 posts, with 3 vacancies recently filled, and 2 outstanding. So at mid October 2004 11 of the 13 posts were filled.

8.251 Following a visit in December 2003 to DFID's OTD Private Sector Development Advisor, the report (Expansion of SHDA Activities, report by SHDA for SHG and DFID, June 2004) noted "...it was agreed that it would be necessary for SHDA to refocus in order to become the key player and prime mover with regards to private sector development on St Helena" (parag 2.24).

8.252 This will result in SHDA focussing its activities upon:

- "expansion of business advisory services
- provision of business and market information
- development and implementation of a responsive investor framework
- expansion of aftercare services
- introduction of business incubation units
- training and development activities."

8.253 In 2004 DFID approved funds for the expansion of the Agency's activities for the financial years 2004/5 – 2006/7, as outlined above. Consequently SHDA's medium term prospects appear to have improved, and the period covering the above project should see enhanced SHDA capability.

8.254 However SHDA is experiencing some short term challenges, notably

- Skills and experience – while SHDA is coming up to strength in numbers, having many new staff at senior grades means full competence will inevitably not be achieved in the short term as these staff need training.
- The transfer of current SHDA loans to the new Bank of St Helena is experiencing difficulties.

8.255 A training needs analysis is being conducted by the Agency and will be complete at the end of 2004. At the broad level key areas for SHDA training are identified as:

- providing business advisory services
- skill to support inward investment
- senior management training, which may involve overseas training.

8.256 SHDA's lending capacity should increase once its loans are successfully transferred to the bank. This will release capital to SHDA, which plans to establish credit guarantees and venture capital funds.

### **SHDA under the RMS replacement**

8.257 Under the RMS replacement option, SHDA would continue to operate in supporting local business and promoting inward investment. However:

- The size of the private sector is unlikely to increase, and is more likely to decline due to loss of population and business confidence.
- Inward investment will continue to be at a very low level.

8.258 Consequently no further institutional development is assumed or costed for under this option, than that already discussed.

### **SHDA under the Air Access options**

8.259 SHDA should play a key role in supporting a growing economy under air access. This would principally mean actively facilitating the growth of tourist related industry on St Helena by supporting local and inward investors. The increase in tourism would provide impetus for small businesses associated with tourism, as well as larger ones, for example looking to develop tourist accommodation.

### **SHDA role under air access**

8.260 There are a number of areas where SHDA would need to develop to facilitate economic growth under air access:

- Co-ordination of a clearer process for dealing with inward investors, including all relevant stakeholders (discussed below).
- Concerted expansion/refocus of SHDA's 'traditional' role outlined above, including swift adoption of the broader repertoire of services provided to new and growing businesses.
- Proactive role in helping applicants through the planning, landholding and immigration processes.
- Close liaison with the Vocational Training Advisory Council, over future skills requirements and how to meet them. (SHDA awaits a preliminary needs assessment here, and is already part of the Vocational Training Advisory Committee, and on a NVQ committee). Developing and delivering training services for new businesses/potential entrepreneurs is seen as particularly important.
- Provision of a professional information and support service to inward investors.

### **Inward investment unit**

8.261 SHDA should play the pivotal co-ordinating role in marketing St Helena overseas and in managing opportunities for inward investment that arise. SHDA is well placed to co-ordinate the inward investor process. As well as liaison with the investor and its bank, advisors etc, SHDA will need to ensure the Saint Helenian stakeholders work in a joined up process. Such stakeholders include:

- SHG representatives overseas - whose roles should be enhanced to provide a contacts for potential investors and for marketing St Helena's business opportunities

- The Inward Investment Committee
- The tourism sector, (including the Tourist Office and Tourism Advisory Committee)
- The SHG Press Office
- The Bank of St Helena
- The Government Economist
- The Immigration Service
- Legal, Lands and Planning Department
- The Development and Economic Planning Department
- St Helena Economic Forum
- The Chamber of Commerce
- Potential local business partners.

8.262 The current SHDA structure has no dedicated inward investment unit and this should be created. The unit's remit should include:

- Managing the response to investor inquiries (from initial inquiry and furnishing of information through to assisting viable opportunities to come to fruition)
- Liaison with overseas representatives about marketing SHG for inward investment, and over specific leads
- Developing a database of information about St Helena to encourage investors
- Developing guidance to facilitate their applications
- Liaison with the above bodies on St Helena to ensure the parties are coordinated in their approach (less discretionary criteria for approving inward investment will reduce the amount of debate/judgement needed between these bodies in deciding individual applications).
- Assistance in identifying local partners for potential investors
- Contribution to SHG's Inward Investment Strategy

8.263 This may initially be a part time role for a Senior Business Advisor but should expand to a full time one as the momentum for inward investment grows.

### **Staffing and other cost implications**

8.264 SHDA is still operating from its original budget, and in receipt of the project grant from DFID noted above. SHG has given an undertaking to provide SHDA an annual subsidy. For the RMS replacement option we do not allow for further assistance.

8.265 Under the air access options we have allowed for three additional staff and training, and increased budget for information production and dissemination, website updating<sup>3</sup> and enhancing the provision of business statistics/information via online database. The staffing would be deployed on inward investment activities, and growing the on-island business advisory capacity to meet increased demand. (So one post would be located in the Inward Investment Unit, the other two in the Business advisory Group).

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<sup>3</sup> For example the Business Support section of the website has not been updated since November 2002

8.266 Costs for the additional staffing and other operational costs under air access are included later in this institutional section. The same costs are assumed for both runway options.

### INSTITUTIONAL ISSUES - VOCATIONAL TRAINING

8.267 Vocational training on St Helena was introduced above under social issues. This section overlaps slightly but is more geared towards the changes needed under each option.

8.268 One of the island's strategic objectives is to promote and develop a sustainable workforce. Part of this aim is to provide the environment in which people gain the skills the island's economy needs and secure recognition of their own competence in these areas with appropriate remuneration. Vocational training and accreditation has a key role to play in developing the human resource skills base.

8.269 Under the Education Department at Prince Andrew's School, students are able to study vocational training courses in mechanics, carpentry, masonry, natural resources (including farming, fishing and forestry) and catering, all at post-compulsory school level as part of SHG's 16-18 Youth Training Programme. Other departments also run individual training programmes, for example The Health Service is currently offering NVQ care awards and the Audit Department has run a CATs Accounting course.

8.270 Vocational training strategy/ policy is developed by the Vocational Training Advisory Council. The Council is assisting in developing vocational training strategy, identifying training needs, consideration of an accreditation framework and the practicalities of vocational training implementation.

8.271 Overall vocational education and training on St Helena has been described as "patchy and uncoordinated" (St Helena Education Sector Support Programme, DFID, amended 2003).

8.272 The numbers of students embarking on vocational training at St Andrews School (which has the status of City and Guilds certification centre) is given in Table 8.5 below. The course offered each year is determined by student choice and availability of tutors, for example, for the July 2004 courses no tutors were available for electrical engineering and plumbing. A significant number of students did not complete their courses.

**Table 8.5: Students embarking on vocational training on St Helena\* at Prince Andrews School**

Year	2002	2003	2004	Did not complete the course
Electrical engineering	0	7	0	2
Masonry	3	3	3	5
Carpentry	5	5	4	5
Automotive engineering	0	0	7	4
Plumbing	1	0	0	1
Catering	5	5	12	17
Natural resources	0	3	3	2
<b>Total</b>	<b>14</b>	<b>23</b>	<b>29</b>	<b>36</b>

Source: Education Department



8.273 A consultancy project, started in October 2004 identifies public and private sector training needs, including for tourism and related employment, and will produce a vocational training strategy and plan. A second phase of the consultancy is not yet confirmed but would be helpful, especially if it could deliver more precise cost estimates for vocational training.

### **RMS replacement**

8.274 St Helena will have a continuing need to be able to provide skills training in a number of critical areas. The above Education Sector Support Programme identifies a need for:

- increased local provision of certificate – bearing vocational courses meeting international accreditation criteria
- development of further courses and an accreditation framework
- identification of accreditation specialists; training of verifiers
- a ‘train the trainers’ programme
- enhanced links between the Vocational Training Advisory Council (VTAC), SHDA and local employers.

8.275 The drawdown contract with DFID is in place to provide the above enhancement to the vocational training provision on St Helena (as well as other educational initiatives), and this is assumed to be maintained under the RMS replacement option. However, while under this option the quality of vocational training should improve, demand for it is unlikely to change significantly, indeed it would have downward pressure due to falling school rolls. Consequently no additional finding beyond this and normal government expenditure is included under this option.

### **Air access**

8.276 Under air access the volume and range of vocational training would need to be boosted. As well as the technical vocational skills already offered (electrical engineering, masonry, carpentry, automotive engineering, plumbing, natural resources) training would increasingly be needed in the following key areas:

- hotel / catering / restaurant employment related skills
- a broad range of business skills (book keeping, business planning, marketing etc as well as soft skills and management skills)
- enterprise development

8.277 Relevant vocational training needs to be available to:

- schoolchildren
- young people
- returning students
- people currently in employment as well as those not working.

8.278 This last point implies increased flexibility in course provisions, such as evening and weekend courses. Indeed as well as traditional training it is important that training utilises a variety of means (‘blended learning’) which may include:

- computer based training
- distance learning programmes
- training from visiting specialists (facilitated by improved access) including volunteers such as VSOs
- overseas training (facilitated by improved access)
- overseas work placements.

8.279 Courses may be paid for by individuals, employers or government.

8.280 In the past the RMS has served as a means of training for work in the food and hotel industry. Not being able to rely on RMS would mean this training would have to be supplied elsewhere, and at an increased volume to meet an expanding tourist industry. Under air access, current RMS staff (or some of them) could be entering the St Helena job market and be available and qualified for work on the island.

8.281 St Helena does not have a very entrepreneurial mindset, and SHDA would like to see business skills training in schools, for example by Prince Andrew School gaining accreditation as a Young Enterprise Centre (Young Enterprise is a UK registered charity on a mission to "inspire and equip young people to learn and succeed through enterprise".)

8.282 To capitalise on the enhanced opportunities air access offers, St Helena's vocational training capability needs to be strengthened, in addition to that under the Education Support Programme mentioned above. We have allowed for additional resources to enhance potential over the next few years (for example an industrial kitchen for catering students, hotel training facilities and improving the Technology area and Department at Prince Andrew's School). This initial estimate, for some £220,000 for vocational education was made by the Education Department in 2003. It should be supported by an ongoing enhancement in the budget for trainers and courses, and this has been allowed for throughout the 40 year period.

8.283 Additionally we have allowed for the costs of the development and maintenance of a skills register for all Saints, alongside a database of current and upcoming vacancies on St Helena. This database would enable Saints all over the world to get early warning of likely employment opportunities and register their skills for particular types of employment, and will assist in attracting Saint to return to the island.

## **INSTITUTIONAL ISSUES - ENVIRONMENTAL MANAGEMENT**

### **The Existing Situation**

8.284 The handling of environmental issues within SHG is split between three main groups as follows:

- The Environmental Co-ordination Unit, which is situated (somewhat inappropriately) in the Development and Economic Planning Department (DEPD). The Environmental Co-ordinator (ECo) operates with an assistant but little other technical support.
- The Marine Scientific Officer who comes under the Fisheries Directorate and thence ANRD.

- The Environment Conservation Section which also comes under the Agriculture and Natural Resources Department (ANRD)

8.285 Although two of these groups come under ANRD they have no links within the Department and no formal links with the Environmental Unit.

8.286 The SHG Environment Unit has, in the course of 2004, received institutional technical assistance through the auspices of UNDP. The objective of this support was “....to provide guidance and support at strategic planning level ..... in pursuit of developing a framework for sustainable environmental development on St Helena.”

8.287 While a broad framework is in place for dealing with the environmental aspects of development on the island this has largely evolved through the need to comment on the impacts of relatively small developments. A procedure for undertaking environmental screening has been established but to date no EIAs or ESIs have been carried out.

### **Proposals for Change**

8.288 A more detailed review of institutional arrangements for handling the environment should be undertaken with a view to establishing an environment agency or equivalent with responsibility for all environmental matters. Such an organisation would also develop procedures and policies for environmental protection.

### **Air access**

8.289 Initially an environment agency would be charged with handling all environmental aspects relating to the airport development. To this end technical assistance would be provided which might initially be part-time but would become full-time during the 2-3 years of airport construction. The post would be expatriate and filled by a broad based environmentalist.

8.290 The role would be to:

- assist with evaluation of contract tenders from an environmental perspective
- assist with environmental regulation and lead on the implementation of the environmental management plan
- provide training of local staff
- support the development of the agency.

8.291 In the later stages the post would be counter-parted by a local ecologist who would continue on a permanent full-time basis to provide technical support to the agency.

### **RMS replacement**

8.292 Under this option the specialist would not be needed as the environmental impact of the airport would obviously not occur. However, the long term requirement for the additional environmental technician post would still exist on the island, and has been included in the costings.

## **INSTITUTIONAL ISSUES - CONTRACT MANAGEMENT**

8.293 All three options include major capital procurements, which would require some form of contract management on SHG's part. Additionally, the operational phases would require contract management for as long as the ship or air services continue. While technical assistance would be needed for the construction contracts, it is highly desirable that SHG develops the competence for the operational contract management. This fits with its outsourcing strategy, which clearly requires contract management capability.

### **RMS Replacement – design and construction**

8.294 Institutional costs for technical assistance would be limited to support in the specification and design of the new ship (and its subsequent replacement) and for support during the procurement process. This cost is allowed for and discussed in the technical text on the RMS replacement. On-going contract management would not incur additional cost.

### **Air Access Contract Management – construction contract**

8.295 Expertise, with effective authority, would be needed to monitor financial aspects and engineering progress (civil, buildings, plant and equipment). Over the tendering and construction phases we have allowed for:

- a financial accountant
- a resident engineer
- specialist engineering input to monitor quality and contract compliance.

8.296 These are costed as three roles over the period, though the latter would likely be on a visiting basis by different specialists. (For example, St Helena has no qualified building control officer at present, and the contractor will need to satisfy SHG that airport structure is satisfactory, which requires structural engineer/building surveyor).

8.297 While the (contracted in) engineers would clearly be involved with the Public Works and Service Department as well as with the contractor(s), we consider that it would be advisable that they report direct to the Implementation Unit, and may even be based there. This is because the Implementation Unit 'drives' the contract, and construction contract monitoring should come under it.

8.298 The Implementation Unit would co-ordinate the activities above with those of environmental monitoring and adherence to the contract/planning application regarding mitigating activities (institutional aspects of planning and environmental monitoring are discussed elsewhere within this section).

### **Air Access Contract Management – airport and air services**

8.299 SHG staff would need to manage the airport and airline contractors during operations, from both a technical perspective and commercially. The Implementation Unit would be able to develop the approach and scope of this contract management, and it would partly be a function of the type of procurement and contracts written. Additionally it would train two staff to perform these roles. Accordingly we have allowed for two part-time roles for this purpose – while at times the roles will be time-consuming, full time posts will not be justified.

8.300 The commercial monitoring of contracts is a skill that SHG will need to develop anyway as it progressively outsources activities, and the above roles could be combined with managing other outsourced services, as part of an SHG contract management unit.

#### **Note on the Public Works and Services Department**

8.301 Overall, an airport would present both a threat and an opportunity to the Department. There is an opportunity to play a major role in access route construction, especially if the Rupert's Bay access route is chosen. This would provide an opportunity to build up the technical capability of the Department. However, as discussed, there is a significant threat to the Department of losing staff if airport contractors offered significantly higher wages (as employers on Ascension and the Falkland Islands routinely do at present).

#### **REGULATION**

8.302 The provision of aviation regulation and safety oversight is the responsibility of the Governor as laid down in the Air Navigation (Overseas Territories) Order 2001 as amended. In the case of St Helena, as the Governor has made no designation otherwise, ASSI is responsible for the provision of aviation regulation and safety oversight. It is not necessary for St Helena to have a dedicated Director of Civil Aviation permanently based on the island as ASSI can fulfil all the regulatory requirements on a visiting basis. The Governor might wish to appoint an "On Island" representative to monitor aviation locally on his behalf as has happened in the Falkland Islands. In this case the airport manager would be the most appropriate person to report on operations. He could report routinely to the Governor through the SHG contract management representative.

#### **LEGAL DRAFTING CAPABILITY**

8.303 In addition to any legislative changes arising from the above, e.g. to immigration law, landholding law, in the case of air access new laws would need to be drafted covering aviation activities on St Helena, though it appears that significant adaptation can be made from aviation laws from UK or elsewhere.

8.304 Short-term support in legal drafting will be required in the form of technical assistance input to the Attorney General's staff. It is understood that some discussions on this have taken place with between the Attorney General's office and the FCO. A 6-month input has been allowed for.

#### **OPERATIONAL STAFF**

8.305 This section discusses the issue of SHG front line operational staffing requirements under the options.

#### **Replacement RMS**

8.306 As the replacement ship would be of comparable size and adopt a visit frequency akin to that of the current RMS, no further staffing requirement in respect of immigrations staff, customs staff or police are assumed under this option.

### **Air Access – airport staff**

8.307 Under the air access proposal, SHG would be responsible for customs, immigration and policing at the airport. The airport management contractor would be responsible for security staff, firemen, air traffic control staff and other airport personnel.

### **Immigration**

8.308 The Head of Immigration is also the Chief of Police on St Helena. He has one full time immigration officer and an assistant.

8.309 No significant new competencies / skills would be needed for immigration officers; however it was asserted by the Head of Immigration that more staff would be needed. The number, if any, would clearly depend upon on the number and frequency of flights.

### **Customs**

8.310 SHG Currently has six full-time staff, and eight part-time staff, who are seconded from the Finance Department to assist in clearing freight when the RMS arrives.

8.311 Passengers and their baggage are relatively swiftly dealt with by customs. Airfreight is more time consuming, though neither the long or medium runways is associated with vast freight movement. However for the long runway, all the aircraft envisaged would have some air cargo capability. Depending on the aircraft type and passenger loads of the day, this could vary between 1,000 kg up to as much as 5,000 kg.

8.312 Equipment would be required to scan baggage and air cargo for security reasons, rather than for customs reasons. Standard Customs search procedures should suffice. A scanner with associated training and maintenance has been costed for.

### **Staffing requirements**

8.313 Staffing capacity exists to clear the passenger numbers coming through customs and immigration from any one flight, as these would be comparable to the RMS, or far fewer under the medium runway. When flight frequency is low current staffing appears to be adequate, given reduced arrivals by sea. As demand grew, more would be needed.

8.314 For larger aircraft Customs would require three staff at any one time, to allow for searches by male and female, and supervision. Immigration requires two staff at any one time. For business jets, fewer staff would be required, possibly just one customs officer and one immigration officer. The size of the customs and immigration force would, to an extent, be determined by the desired force of the regime on the island: the more rigorous, the greater the manpower needed.

8.315 In reality the number of additional staff required will also need to reflect:

- seasonal variations
- flight distribution during the week (weekend work is a distinct possibility despite the low frequency of flights: this is because tourists tend to travel around the weekends)
- spacing of multiple flights in one day

- amount of freight
- the degree of multi-tasking possible (see below).

8.316 These factors are perhaps as important in determining staff numbers as the number of passengers per flight, as a team of three customs and two immigration staff is sufficient to clear the largest planeload arriving in St Helena. As flights increase in number, it would become more efficient for customs and immigration staff to be based at the airport. The timing of this depends on the distribution of flights.

8.317 Existing numbers of customs and immigration officers would likely be sufficient for airport operations until flight numbers build up to an average of 5 per week. Augmented figures are shown in Table 8.6, which also shows the estimated dates at which an additional member of staff would need to be recruited. Costing for these staff is included in the financial model.

**Table 8.6 - Additional staffing requirements**

Runway	Dates indicate the year of an additional staff member needed							Total extra staff
Long	Customs			2023				1
	Immigration	2009			2031			2
	Flights per week	1.5		5.5	10.3			
Medium	Customs			2023			2044	2
	Immigration		2014			2033		2
	Flights per week		5.1	10.5		19.7	30.2	

8.318 Flexibility between customs and immigration skills could yield efficiencies, particularly with the medium runway and its low numbers of passengers. In principle if two or more customs officers were to train as immigration officers, clearing of passengers from smaller planes could be done with less manpower. However, the achievability of this is uncertain: it would have training and remuneration implications.

## THE POLICE FORCE

8.319 St Helena is well provided for with police, (as the population has fallen, the number of police per head has risen). An international comparison of police officer density per 100,000 population conducted by the Home Office for the period 2000 (source Hansard 28 Mar 2003) is shown in Table 8.7 below. It reveals a high police incidence for St Helena. Of course, St Helena is much smaller than these countries; however, it is more similar in profile to the rural areas of these countries, where policing is lower than in their large urban conurbations.



**Table 8.7: International comparison of policing ratios**

Country	Police Officers per 100,000 population 2000 <sup>(1),(2)</sup>
St Helena*	725
Portugal	481
Greece	426
France	397
Austria	330
Spain	312
Ireland	302
Luxembourg	300
Netherlands	269
Germany	262
USA	238
England and Wales	235
Australia	228
Japan	208
Korea	204
Switzerland	201
Denmark	195
Norway	192
Turkey	190
New Zealand	185
Canada	184
Belgium	183
Sweden	181
Italy	169
Finland	154
India	134

\*Calculated as ( 29 police / 4000 St Helena population ) = 0.00725 police per head  
0.00725 police per head x 100,000 = 725 per 100,000

(1) Police officers only, not civilians.

(2) Or nearest available year.

## RMS replacement

8.320 No more police have been allowed for under this access option.

## Air access

8.321 Under air access police would not necessarily need to maintain a presence at the airport. Given that the airport contractor will have security measures in place, St Helena's police role will be liaison duties and call outs to incidents. Note that customs officers already have powers of arrest.

8.322 Incidence of crime on the island could increase under air access or otherwise, but as discussed in the social section of this report, public perception may exaggerate the risk of crime. Given the nature and age profile of the tourists that would visit, and St Helena's current endowment of policemen, there seems no definite need to increase police numbers for the reason of keeping order in Jamestown. SHG will need to keep the situation under review.

8.323 During the construction period we have made the assumption that temporary workers would be housed within local communities, thereby obviating the need for a construction camp, which has been mentioned as a cause for concern. Should one be necessary, it is likely that the contractor would have its own small, internal, security capability to 'police' the site.

8.324 Given the above, airport-related work is likely to be light for St Helena's police, though as tourist numbers grow the requirement for traffic and other duties will rise. Accordingly an extra policeman is allowed for after 10 and 20 years in the long runway option, and after 20 years in the medium runway option.

### **INSTITUTIONAL COSTS UNDER AIR ACCESS**

8.325 Tables 8.8 to 8.13 below show estimated costs for the institutional inputs described in the preceding text, and input directly into the financial model. Costs for the medium and long runway options are similar, but where differences occur these are shown. Costs for the RMS replacement are given afterwards.

#### **Short term expertise**

8.326 Costs were estimated by a variety of means. Short term expert inputs can have a broad price range depending upon how the expertise can be sourced. SHG has recently taken over recruitment for such staffing from DFID, and have provided indicative figures for recruitment, for example a tourism expert (£1 ½ plus benefits), engineer and accountant (£1 ½ plus benefits) and SHG salaries for permanent posts.

8.327 Actual costs would depend upon how successful is the recruitment drive. If a Saint can be attracted back to fill the post, this would be more desirable and cost-effective than technical cooperation officers sourced via DFID. However much higher rates may be required, notably for the legal posting. We have tried to make a realistic assessment in each case. In trying to include the total cost to SHG of the input, costs include an element for travel, relocation expenses, accommodation, utilities, medical insurance, mid-tour leave as appropriate, and pension contributions.

8.328 In the tables below 2005 is the assumed start date, and air operations are assumed to commence in 2009. Table 8.8 gives costs for the short-term technical inputs for the medium and long runway options. These inputs are assumed complete by the end of 2010.

**Table 8.8 - Technical cooperation costs for the medium and long runway options**

Year	Start Date	End Date	Duration Years	2005 £	2006 £	2007 £	2008 £	2009 £	2010 £
<b>Technical cooperation</b>									
Planning specialist	Jan-06	Jun-07	1.5						
Planning consultancy	Jan-10	Jun-10	0.5						
Legal expert	Jul-06	Dec-06	0.5						
Environment specialist	Jul-06	Jun-09	3						
Engineers: 2	Jul-05	Jun-09	4						
Financial accountant	Jul-05	Jun-09	4						
Tourism expert	Jul-05	Jun-09	4						
<b>Total Technical cooperation</b>									

### Strengthening tourism - institutional costs

8.329 Tourism related costs are shown in Table 8.9, and assume effort will ramp up from mid 2005. They allow for three additional staff and their development, appointment of 3 marketing or “representation” agencies starting on 2006, development of branding and continued expenditure on marketing materials, and website upgrading and maintenance. All of these costs are ongoing after 2010. There is also an upgrading of St Helena’s tourist infrastructure as a 5 year programme.

**Table 8.9 – Tourism: institutional costs for the medium and long runway options**

	2005 £	2006 £	2007 £	2008 £	2009 £	2010 £	2011 onwards £ p.a.
Additional tourism staff							
Training and development							
Marketing agencies (3)							
Branding, marketing materials							
Website upgrade and maintenance							
Upgrading facilities, signposting etc*							
<b>Total Tourism institutional costs</b>							

\* 5 year programme

### Strengthening SHDA, Vocational training

8.330 These would also ramp up from mid-2005. SHDA needs enhanced staffing capability under the air access options. Accordingly we have allowed for three additional staff and their training, to be deployed on inward investment activities, and on growing SHDA's on-island business advisory capacity. There is also increased budget for information production and dissemination, website updating and enhancing the provision of business statistics/information via online database. For vocational training we have allowed for additional equipment and facilities to enhance potential over the next few years, supported by an ongoing increased budget for instructors and courses throughout the 40 year period. Also costed is the development and maintenance of a skills register for all Saints, alongside a database of a database of current and upcoming vacancies on St Helena. SHDA, vocational training: institutional costs for the medium and long runway options are displayed in Table 8.10 below.

**Table 8.10 - SHDA, vocational training: institutional costs for the medium and long runway options**

	2005 £	2006 £	2007 £	2008 £	2009 £	2010 onwards £ p.a.
<b>SHDA</b>						
Strengthen SHDA staff & training (3)						
Information: Website/database						
<b>Vocational training</b>						
Setup						
Additional instructors/courses						
Skills database, vacancies register						
Setup						
annual running & update						
<b>Total SHDA, Vocational training</b>						

### Immigration, customs, police

8.331 Costs for these additional permanent posts arise as demand builds up, and once created would run until the end of the evaluation period. The additional staffing requirements for the long runway is summarised in Table 8.11 below. Equipment to scan baggage and air cargo is also included.

**Table 8.11 - Additional immigration, customs, police costs – long runway**

Long runway	Years	Annual Unit cost £	Additional staff
<b>Customs</b>			
Additional officer in years:	2023	11	1
Scanner (training and annual cost)	2009 onwards	11	
<b>Immigration</b>			
Additional officer in years:	2009, 2031	11	2
<b>Police</b>			
Additional officer in years:	2019, 2029	11	2

8.332 The figures differ slightly for the medium runway (shown below in Table 8.12) in the years in which staff are required, and by an extra customs officer, but by one less police officer. Note that the much higher number of flights under the medium runway scenario is an important driver of staffing requirements.

**Table 8.12 - Additional immigration, customs, police costs – medium runway**

Medium runway	Years	Annual Unit cost £	Additional staff
<b>Customs</b>			
Additional officer in years:	2033, 2044	11	2
Scanner (training and annual cost)	2009 onwards	11	
<b>Immigration</b>			
Additional officer in years:	2014, 2033	11	2
<b>Police</b>			
Additional officer in years:	2019	11	1

### Other permanent posts

8.333 The costs in Table 8.13 refer to the steady state contract management needed, as SHG staff would need to manage the airport and airline contractors during operations, from both a technical perspective and commercially. We have allowed for two part-time roles for this purpose.

8.334 As discussed earlier, we have also provided for two permanent posts to boost planning and environmental capabilities. Hence a planning officer and an environmental technician are included, both from 2009 onwards, at annual costs of £11 and £11 respectively.

**Table 8.13 - Costs of other permanent posts**

	2005	2006	2007	2008	2009 £	2010 onwards £
Contract management						
Planning officer						
Environm't technician						
<b>Total other posts</b>						

## RMS REPLACEMENT – INSTITUTIONAL COSTS

8.335 Under the RMS replacement option we have allowed for improvement of St Helena's tourism product, but with much smaller inputs than under the air access options. Additionally, planning consultancy input is needed for updating the St Helena Land Development Control Plan in 2010. We also consider it appropriate to include the environmental technician, as the island's environmental capability needs strengthening.

**Table 8.14 - RMS replacement: institutional costs**

Year	Start Date	End Date	2005 £	2006 £	2007 £	2008 £	2009 £	2010 £	2011 onward £ p.a.
<b>Tourism</b>									
Tourism expert	Jun-05	Jun-08							
Additional tourism staff	Jun-05	onwards							
Marketing	Jun 06	onwards							
Branding, materials	Jun-05	onwards							
Upgrading facilities, signposting etc	Jun-05	Jun -10							
Website upgrade and maintenance	Jun-05	Onwards							
<b>Other</b>									
Planning consultancy	Jan-10	Jun-10							
Environm't technician	Jan-09	onwards							
<b>Total RMS Replacement</b>									

*After 2011, costs remain identical to the 2011 figures.*

## SUMMARY OF INSTITUTIONAL COSTS

8.336 The total RMS replacement figure is shown directly above in Table 8.14.

8.337 Costs for the long runway are summarised in Table 8.15 as follows:

**Table 8.15 - Long runway: summary of institutional costs**

Year	2005 £	2006 £	2007 £	2008 £	2009 £	2010 £	2011 onwards £ p.a.
Total Technical cooperation	11	11	11	11	11	11	11
Total Tourism institutional costs	11	11	11	11	11	11	11
Total SHDA, Vocational training	11	11	11	11	11	11	11
Total customs, immigration	11	11	11	11	11	11	11
Total other posts	11	11	11	11	11	11	11
<b>Total Long runway</b>	11	11	11	11	11	11	11

8.338 After 2011, costs remain almost identical to the year 2011 figure, the only difference being due to the small number of additional customs/immigration/police officers. However costs for these are minor in comparison with the total figures.

8.339 Costs for the medium runway are also almost identical over the period.

8.340 Total institutional costs over the full timescale of 2005 to 2048 are shown below in Table 8.16 and reveal the long and medium runway costs as similar, and both are far greater than the RMS replacement figure. Note that these figures are not discounted, as they are when used in the financial model.

**Table 8.16 - Total institutional costs over the period 2005 to 2048**

	Totals £	As a % of long runway
Long runway	11	100%
Medium runway	11	99%
RMS replacement	11	18%



## LEGAL AND CONSTITUTIONAL ISSUES

8.341 The existing legal regime in St Helena and the application of English law to St Helena provides a favourable framework for the implementation of any of the access options. Some laws and regulation will probably have to be passed if access by air is chosen. Providing there is political and public support in St Helena, and in DFID, then those laws should be capable of being brought into force relatively quickly (minimum time for primary legislation is about three months, subsidiary legislation such as regulations can be brought in faster).

### A replacement RMS

8.342 In the case of replacing the RMS there would be no new specific legal measures to be taken in St Helena to enable its procurement. However, should the vessel be built outside England then a thorough review of the law of the place of construction would have to be undertaken to ensure that SHG's interests in the vessel as it was being built were properly protected.

### Air Access (Medium and long runway options)

8.343 If air access is the chosen option then the issues discussed below would apply.

### Authority of SHG

8.344 To make any long-term commitment to procuring an aerodrome and air service SHG would need to ensure:

- it has the necessary authority to develop such a facility and service
- it has access and control over all the required land to ensure successful completion
- all necessary legal and infrastructure facilities can be made available to ensure proper management
- if private investment is to be used that SHG has the right to grant the investor the required interests in and over land and to secure any continuing obligations to that investor
- it has obtained approval of the Secretary of State (FCO) and Parliament to any contingent liabilities into which it is required to enter.

8.345 SHG must have the necessary powers to enter into all the arrangements necessary for the implementation of the project and to enter into all the commitments which these entail.

8.346 We are advised that SHG has the capacity to enter into contracts<sup>4</sup> as evidenced by the 1987 ship contract for the existing RMS (although this authority is not expressly stated in the existing constitution or the draft constitution).

8.347 In the case of air access, contractors and their lenders would probably require all contracts to be governed by English law and be subject to the jurisdiction of the courts of England

and Wales. There is no legal impediment to SHG agreeing this and it is understood that this is acceptable to the administration of SHG<sup>4</sup>.

8.348 **SHG is not empowered to borrow or provide guarantees or indemnities (without consent of the Secretary of State Financial Management Ordinance).** In a PPP contract, lenders to a contractor would require assurance that SHG could grant security over contractual benefits and rights to a lender. SHG can grant security as a matter of contract providing this is not in respect of unauthorised contingent liabilities, indemnities, guarantees or borrowing.

8.349 The Governor has the authority (under the existing and the proposed constitution) to grant interests in land.

8.350 SHG cannot (Financial Management Ordinance) grant indemnities, guarantees or other contingent liabilities without the Secretary of State (FCO) authority and under HMG Government Accounting Instructions such indemnities and liabilities would have to be laid before Parliament (21 day process).

### Operations into Ascension Island from St Helena

8.351 A detailed assessment of the position is set out at Appendix I to this report. The establishment of a civil air service to provide a link between Ascension Island and St Helena that is dependant on the use of Wideawake Airfield depends on the cooperation of the US Government and the US Air Force. ¶ ¶ ¶ ¶ Currently there is a limit on the number of civil aircraft movements per week to two. If this limit were entirely assigned to a St Helena-based operation it might not affect the service for some years. However if it were shared with other operators there could be a capacity problem.

8.352 Questions arise concerning the viability of the long-term sustainability and dependability of the air service, the availability of support at Wideawake Airfield, the possibility of increasing the permitted number of flights, the permitted destinations, long term fuel supply and liability; ¶ ¶ ¶ ¶ It would seem imprudent for any contract to be let for the provision of an air service to fly between Ascension Island and St Helena until greater clarity concerning the use of Wideawake Airfield has been achieved.

8.353 It is very strongly recommended that DFID/SHG take action to understand further the precise limitations of the existing agreements relating to Wideawake Airfield, including time-limiting effects on any plans to operate an air service from St Helena to Ascension Island.

8.354 ¶ ¶ ¶ ¶ .

¶ ¶

8.355 ¶ ¶ .

### Air Service Agreements

8.356 For a flight to be a scheduled flight it must:

<sup>4</sup> ¶ ¶ ¶ ¶

- be operated to a regular schedule
- offer seats for purchase by the general public.

8.357 If it does not meet both these criteria, it can be classified as a charter flight. The agreements between nations in respect of international flights are different depending on whether the flight is a scheduled flight or a charter flight. International charter flights can be authorized by an agreement between the responsible government departments on an exchange of Notes and by the issuing of permits to undertake each charter flight.

8.358 For international scheduled flights, the arrangements are more formal. These take the form of usually, bilateral agreements between the two nations concerned. These air service agreements (frequently referred to as 'bilateral agreements') define, inter alia, the agreed position between the two nations with regard to frequency of flights, allocation of the number of flights to each country, airport of entry and can nominate the airlines to service these routes.

8.359 Latterly, the EU has assumed responsibility for the negotiation of new air service agreements on behalf of the member states. Currently, this interest is mainly concerned with the air service agreements between the USA and the EU member states. However, any new agreements need to follow the EU competition regulations: thus any new inter-European routes must be open, where practical, to all EU carriers. In practice, EU National carriers have not yet attempted to apply to fly routes negotiated by individual member states.

8.360 In the case of South Africa, traffic has grown considerably during the last two years and as a consequence the air service agreement between the UK and South Africa has been modified three times within the last two years: a new round of negotiations is due in November 2004. | | | .

8.361 It is necessary to examine the nature of a scheduled air service between South Africa and St Helena. This is highly unlikely to be provided by a UK and EU airline flying into Cape Town or Johannesburg as these airlines would be operating large, long haul, aircraft unable to land at St Helena. Passengers would therefore need to transfer to another airline for the last leg of the journey. The DfT states that under these circumstances, as they are not subject to EU regulation, the South African authorities are likely to insist that the St Helena route was flown by a South African based carrier.

8.362 The establishment of the route between St Helena and South Africa is an important first step in any tendering or negotiating process to provide an air service to St Helena. Without this, any negotiation or tender would be unlikely to be treated seriously.

### Other Gateway Airports

8.363 Operations into St Helena via other African gateway airports would likely be subject to similar restrictions as those outlined above for South Africa. However other factors need to be considered. There are a number of African countries whose airlines do not have aircraft that meet the safety standards required by the DfT for operating into and out of the UK. These same standards can be expected for operations into and out of St Helena. **Thus it may prove difficult to source other suitable African carriers to operate to St Helena.**

### Operations direct from the UK

- 8.364 A last possibility for operation of schedule international flights to St Helena would be for a UK or European-based air service provider to operate a route requiring a re-fuelling stop. Providing the aircraft did take on or off-load passengers at the re-fuelling stop, there should be minimal difficulties in negotiating an agreement to facilitate such an air service. It should be noted that it is likely under these circumstances that the passengers would not be allowed to disembark at the re-fuelling stop airport.

### Interests in Land

- 8.365 SHG must be able to grant the necessary rights in the land required for the project. Section 51 of the St Helena Constitution authorises SHG to execute grants and dispositions of land, which we are advised includes freehold ownership or any lesser right or interest in land. (This we understand includes the shoreline<sup>4</sup>.) Land-holding was discussed earlier in this Section and under the Immigrants Land-holding Restriction Ordinance the general rule is that no land in St Helena can be held by an immigrant except under the authority of a licence granted by the Governor in Council. **SHG may not only have to grant an interest in land to a contractor who is a foreigner, but guarantee not to interfere with that interest.**
- 8.366 Depending upon tax considerations the interest granted in land may involve the granting of a lease or a license.

### Land Planning and Development Control

- 8.367 Before any contractual commitment can be made effective and funding made available, appropriate planning approvals must be assured covering design standards, level and frequency as well as the operation of an aerodrome. Under the Land Planning and Development Control Ordinance the Land Planning Development and Control Agency (LPDCA) is established, together with a Planning and Development Appeals Board. The current planning arrangements under the Legal Lands and Planning Department, its role under the air access options and the assistance it will need, were discussed earlier in this Section.

### Building Regulations

- 8.368 The Land Planning and Development Control Ordinance contains building regulations: these should be reviewed to ensure that they are appropriate to the project and that new ones are implemented if necessary.

### Compulsory Purchase

- 8.369 Completion of an aerodrome would require not only the procurement of the site but may also require access through privately held sites for access or other infrastructure. Before the contract came into effect the contractor would require certainty that SHG had exercised its powers to acquire all the land, and that way-leaves etc. necessary to complete the aerodrome and connecting services and access routes had been acquired and were available. SHG has powers under the Land Acquisition Ordinance to purchase compulsory land for 'public purposes', but the acquisition of land for the purposes of

constructing an airport is not expressly included within the definition of 'public purpose'. **Accordingly if any land required for an aerodrome is privately owned, the Governor would have to seek the approval of the Secretary of State to acquire it further to Section 2 of the Land Acquisition Ordinance.**

8.370 All land in St Helena is registered under the Registered Land Ordinance. There is provision for leases to be registered. Registered land is subject to various overriding interests such as rights of way. Any rights of way through the aerodrome site would need to be removed. These can be overcome by compulsory acquisition (s.28 Registered Land Ordinance).

### **Borrowings, Guarantees and Indemnities**

8.371 As mentioned above, SHG cannot borrow money except in accordance with the provisions of an Ordinance authorising such borrowing and with the approval of the Secretary of State (Financial Management Ordinance).

8.372 Where SHG is to enter into long term commitments it must be able to stand behind any indemnities it provides, **and in the long run, be able to guarantee the payment of compensation if any long-term contract is prematurely terminated.**

8.373 SHG cannot provide any guarantee involving a financial liability unless the guarantee is authorised by the Secretary of State and by a resolution of the Legislative Council. It is understood that SHG liabilities are ultimately the responsibility of HMG<sup>4</sup>, **so to the extent that SHG provides guarantees or other contingent liabilities, these will not only have to be approved by the Secretary of State but be laid before Parliament in accordance with Government Accounting instructions.** (Laying before Parliament is a 21-day process).

### **DFID Support**

8.374 Contractors and lenders may need evidence that SHG was able to support its obligations over the long term. The contractors and lenders (if any) may therefore require a direct commitment from DFID covering the obligations and contingent liabilities of SHG. This would require Parliamentary approval.

8.375 In a concession type of arrangement SHG liabilities (and rights) would include the following:

- SHG would have obligations to make monthly payments for a long period – say 10-30 years. These must be covered in a MOU between DFID and SHG.
- SHG would have rights to terminate the contract if the contractor failed to meet certain targets or service levels. In these circumstances SHG would have an obligation to pay compensation in line with the remaining value of the contract, less any rectification costs.
- If SHG defaulted on any of its commitments then the contractor would have the right to terminate and demand compensation in line with the equity value of the project and termination costs of sub-contracts.

- If the contractor was in breach, SHG may have the right to step in and take over and operate the facility. SHG would need to have sufficient rights if the contracts allowed it to do this. We understand that SHG has the requisite authority to do so.
- SHG may be required to provide guarantees for long-term contractual commitments such as airline charters. This may require appropriate Parliamentary approval.

8.376 These issues apply to a greater or lesser degree to any long-term contract to build, operate and manage the facilities whether or not the contractor provides finance.

8.377 Support would be required to ensure that Solomons could procure significantly greater stocks of fuel in the international market. An MOU may be required to ensure Solomons is funded to guarantee bulk fuel stocks.

### **Labour Considerations**

#### **Work permits**

8.378 The construction of an aerodrome would require a significant labour force for a significant period. The immigration of foreign workers is controlled by SHG through the Immigration Control Ordinance under which the Immigration Control Board is established. SHG would have to guarantee that sufficient Work permits are provided for non-Saints as well as passes for their dependants. **Failure to provide such permits, either at all or timeously, would place SHG in breach, with time and cost implications.**

#### **Minimum Wage Ordinance**

8.379 Minimum wage arrangements must be carefully considered to avoid impacting the wage levels on the island. The Governor-in-Council can fix a minimum wage for any occupation where he is satisfied that the wages for that occupation are unreasonably low (Minimum Wage Ordinance 11/1932 cap120). SHG would have to guarantee not to increase the minimum wage level beyond a prescribed rate.

### **Taxation**

#### **Imports**

8.380 Import of certain materials, fixtures, equipment and fittings may be subject to import duties. Contractors and / or concessionaires would probably wish to be guaranteed exemption or waiver from such duties and similar impositions. It would otherwise increase the development costs provided by DFID and provide a significant windfall gain to SHG.

8.381 The Customs Ordinance, s.10, provides for a special procedure to facilitate imports. ¶ ¶

#### **Income Tax**

8.382 There is an income tax applicable to companies in relation to income earned, accrued, derived or received in St Helena. Under s. 40 and schedule 4 of the Income Tax Ordinance there are provisions designed to ensure that no taxpayer is taxed twice on their income. ¶ ¶

8.383 ¶ ¶ .

8.384 | | .

8.385 A concessionaire will wish to reduce its costs by claiming the maximum taxation relief for the asset expenditure and financial costs. Shareholders in the SPC will invest their capital by means of subordinated interest bearing debt with a fixed coupon and minimal share capital, to ensure that the maximum tax benefit is obtained. Under UK taxation law, interest on shareholder debt is taxed as it accrues in the shareholders hands. It is not treated as franked investment income (i.e. income which has already been taxed). Dividends are treated as franked income and not taxed again in the shareholder's hands. Symmetry would not therefore be obtained if the shareholder returns flowed through the SHG taxation system, which has a withholding tax on expatriated earnings. There would therefore need to be either exemption from this taxation or the ability to set up the SPC overseas.

8.386 Advice is needed as to whether a concessionaire registered in UK will be capable of claiming capital allowances on expenditure in St Helena. In particular:

- is capital expenditure in Overseas Territories deemed to be offshore?
- can an offshore company have eligible interests in land which would allow it to claim capital allowances in UK?
- can an offshore company have rights to claim capital allowances against St Helena income tax?

8.387 | |

8.388 | |

8.389 Where a private company is contracted to run an aerodrome it would be customary for it to collect and retain as part of its income the departures taxes and landing fees. A schedule of such charges would be required, to be agreed and published, and the necessary powers enacted to enable the hypothecation of government revenues to a third party.

### **Petroleum**

8.390 The importation of petroleum is covered by the Petroleum Ordinance. Landing of petroleum is covered by the supervision of a Customs Officer and the Harbour Master and petroleum is stored in accordance with prescribed regulations issued by the Public Works and Service Committee. Under s.16 of the Ordinance the Governor in Council can make regulations relating to the landing, storage and distribution of petroleum. New regulations (and facilities) would be necessary to provide for aviation fuel.

### **Foreign investor considerations**

8.391 The importance of encouraging foreign investors has been discussed in Sections 4 and 6 above. A review should be undertaken as to financial and other incentives to be given to private sector participants in an air access project, including relief from customs, dues, income tax, double taxation, special procedures for customs clearance, guarantees as to work permits and dependants' passes, monopoly rights (if any), etc. Each procurement route can be accommodated within the legislation and processes available.



## **Company Law**

8.392 It is possible that a contractor or concessionaire may wish to establish a local company. The Companies Ordinance came into effect on 10th March 2004 and provides for the establishment and registration of companies in St Helena and the registration of foreign companies. The Act is based on English law and contains provisions relating to insolvency and winding-up.

## **SHG Project Management arrangements**

8.393 SHG would need to establish a monitoring procedure for the aerodrome and the air services and be accountable under the various international arrangements. As seen above, there is no specific legal requirement however to have a formal body, such as an Airport Authority, to perform this function. The Governor may designate a party to perform this function. The function could be split between the airport manager, overseen by ASSI and the Public Works Department.

## **Health**

8.394 There is a Port Health Ordinance, but this does not extend to an aerodrome. New legislation would be necessary to cover all terminal operations including health, immigration, customs and catering. The same goes for the operation of an aerodrome, in particular fire and safety management, car park maintenance and management, baggage handling systems and operation, cargo handling and storage, and fuel importation, storage and handling.

8.395 Public Behaviour bye laws governing public behaviour would need to be extended to an aerodrome.

## **General immigration**

8.396 As discussed earlier in this Section, the rules and regulations need to be reviewed to ensure that long-stay visitors and inward investment, e.g. for holiday homes, are permitted.

## **Data Protection Act and Human Rights Act**

8.397 These instruments apply in St Helena and operators must comply. Particular issues arise over Passenger Number Registration systems, which international partners may require to be implemented. Arrangements would be required to meet the requirements, particularly of the US Government, to introduce 'Passenger Number Registration'. In particular, SHG would need to satisfy itself that this information did not amount to any infringement of Human Rights.

## **Ground Condition and other warranties**

8.398 It is difficult to conceive of a wide bidding market if all bidders were to take a risk on ground conditions. The cost in terms of time alone would disincentivise most bidders. Some reliance is therefore to be placed upon the work already undertaken. SHG would be obliged to give warranties over:

- adequacy and availability of land for the airport and its construction

- adequacy and access to all land required to implement the infrastructure works
- adequacy of all utilities required for the airport
- access across shoreline for any new landing and haulage
- indemnity with respect to Environmental survey: it would remain the contractor's obligation to safeguard all known species identified in any report.

8.399 SHG would need to consider which warranties it is prepared to give and in granting them SHG may be obliged to seek DFID and parliamentary approval.

### **Indemnities**

8.400 SHG would have to provide the necessary indemnities to the air service provider if an aerodrome was shut down or commandeered for military purposes. The Emergency Powers Ordinance gives the Governor a discretionary power to compensate for action taken under the ordinance. New constitutional powers would make this mandatory. DFID support would be required and this may need parliamentary approval.

### **Liability under international law**

8.401 Formal commitments of UK under international law for its liabilities to the international community when running or facilitating an air service would need to be clearly extended to SHG if this is not already the case.

### **Insurance**

8.402 An aerodrome would have to be insured with insurers acceptable to any funders and managers. SHG would be a co-insured. SHG would be required to hold adequate public liability to cover its obligations to the travelling public. ¶¶ DFID agreement and parliamentary approval would be required.

8.403 SHG is currently self-insured for all legal liabilities – claims arising from the negligent driving of a Government vehicle, for example, are not covered by insurance (as they must be for private vehicles) but are settled out of the Consolidated Fund.

### **Contractor's Limit of Liability**

8.404 While SHG/DFID's interests would be protected by way of termination rights and liquidated damages provisions, ¶¶¶¶.

### **Financial Hedging**

8.405 ¶¶

## Accounting

8.406 One of the enduring problems of PPP is the balance sheet status of the project borrowings. In certain circumstances where the project is deemed to be on the balance sheet of a department that borrowing may be counted against the capital Departmental Expenditure Limits. PPP borrowings cannot be deemed to be on the balance sheet of SHG as it cannot borrow and does not have a balance sheet. In so far as the borrowings are a concern of DFID then they would be most likely on-balance sheet as there is inadequate risk transfer in the access options as considered by this Study to justify any other interpretation.

## Audit

8.407 Under the Audit Ordinance the Chief auditor may audit, examine or enquire into the records and accounts of any person or body corporate if authorised to do so by the Governor in the public interest. SHG would wish to affirm its rights to examine the records of the concessionaire.

## Procurement Regulations

8.408 In section 12 below, following the Financial / Economic and Risk analyses, and the other comparisons that we make between the access options, having arrived at a recommended option, we then derive that procurement approach which would maximise value for money, in terms of the management of the risks associated with it. Here, we consider some key aspects of compliance with procurement regulations.

8.409 If DFID were to be the contracting party then the applicable Public Sector Procurement Regulations would have to be complied with. This is not perceived as being a problem as competition is desirable and the time periods prescribed by the Regulations are unlikely to have an impact on the time taken to implement an air access project.

8.410 | | | .

8.411 | | | .

## TUPE

8.412 If an air service replaces the RMS, staff may transfer to the aerodrome. This is unlikely to be regarded as the transfer of an undertaking: there are no TUPE issues to be considered.

## St Helena Law

8.413 Commercial arrangements for long-term provision, investment and operation will require a suitable commercial law environment. English law is in force in St Helena insofar as it is applicable, suitable and not inconsistent with St Helena legislation, and is subject to modification as local circumstances render necessary by the Governor in Council (s.2 and s.3, English law (Application) Ordinance). This can be undertaken relatively speedily and should not be seen as an inhibition to novel contractual structures. The state of the law is generally sufficient to facilitate any project. Where primary legislation is required this can take three months, if uncontroversial, or about 12 months if public consultation is required.

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## Framework Legislation

8.414 No specific legislative framework needs to be set up for the establishment of an air access project; however, an ordinance providing for such a project would provide a convenient way of addressing various issues that would have to be addressed in one place. This would enable other one-off pieces of primary and secondary legislation that are necessary for particular aspects identified in the Framework Report.

8.415 Areas that could be addressed in a framework legislation could include:

- appointment or establishment of a body to monitor the aerodrome project, and coordination with other public authorities
- acquisition of land
- rights to be granted in land
- foreign contractors
- authority to assume contingent liabilities and step in
- authority to appoint advisers: health / public order
- work permits
- minimum wage
- customs
- petroleum
- incentives to contractors

## OPPORTUNITIES FOR PRIVATE SECTOR INVOLVEMENT / SUPPORT

8.416 The opportunities for the private sector have been discussed already, for example under "Potential for Tourism" in Section 6. The following text outlines some high level thinking as to how the private sector could be expected to be engaged or to respond of its own accord, once the news about the new access was announced.

### Under the RMS Replacement Option

8.417 The principal opportunity would be the contract for management and operation of the ship and further, the integration of that role with the island's own marketing role.

8.418 Should tourism be successfully attracted through a greatly enhanced, world-level marketing effort (enhanced over that which currently prevails) then there would be opportunities for inward investment in activities related to tourism, particularly the provision of higher standard accommodation on the island.

### Under the Medium Length Runway Option

8.419 Here, the private sector would be required to operate and maintain the 19-seater jet aircraft fleet, as well as operate the aerodrome and all its facilities, including its maintenance.

8.420 There would be opportunity for involving the private sector in the active marketing of the island, preferably on an integrated basis. This integrationist approach would extend from the Tourist Board on the island (acting as the centre of a web) to its appointed representatives in key cities, and on through their relationships with the most relevant tour operators and all the organisations that they deal with, to the end customer. It is possible to visualise extending these relationships so that mini-partnerships spring up from time to time, such as joint promotion campaigns, in which the promoter achieves its objectives (advertising, for example) and the tour operator obtains enhanced bookings.

8.421 The private sector would be encouraged to provide support such as finance, telecommunications<sup>5</sup>, retailing, transport and so on, where these responsibilities were not the prime responsibility of SHG.

8.422 Use of the airport would, under an open skies policy, permit further engagement of the private sector by allowing it (controlled) access to the island using aircraft other than those included by this Study. Thus air access should attract the private sector and encourage inward investment in facilities that would attract tourism and lend confidence to tour operators and others in directing tourism to the island. There could be opportunity for partnering with SHG's own marketing function.

### Under the Long Runway Option

8.423 The opportunities for the private sector would be greatest under this option, due not only to the larger scale of operations but also to the need to integrate with a world-class airline in

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<sup>5</sup> During the Study we carried out a short investigation of the basis of St Helena's telecoms infrastructure and established that it is entirely dependent on satellite links but does in fact form a platform that could be expanded, given appropriate level of demand. This is reported in a separate Appendix to this Report.

all its promotional functions, principally ticketing. Under the medium runway solution the marketing and selling initiative would have to remain with SHG at least say, for the first 10 – 15 years until sufficient momentum built up for the private sector to take it on. Under the long runway solution SHG would have access to the world-wide airline ticketing system and via that to the tour operators. The marketing operation could be ratcheted up by partnering with the airline, and by this means with the private sector.

8.424 The aerodrome would be managed by the private sector, as under the medium runway option, and all its facilities.

8.425 As under the medium runway solution, the open skies policy would permit access by the private sector, and so on to inward investment according to the vision set out by investors by which to make money.

8.426 Should the tourism effect be achieved in effective numbers, create jobs, bring about net inward migration, and the population grow, there could eventually be opportunities on the island for out-sourcing SHG functions. Solomons might be sold off eventually if it succeeded in achieving the necessary 'critical mass', for example it could be made wholly responsible for provision of sea cargo and for its distribution. The private sector could be tapped for institutional support, as discussed in detail above.

**This study assumes Private Sector investment in St Helena**

8.427 In the Financial / Economic modelling that now follows as the next part of this Study we include private sector investment under the heading of hotel and villa accommodation.

8.428 Section 12 below details opportunities for private sector involvement.

## 9 ECONOMIC AND FINANCIAL ANALYSIS

### INTRODUCTION

- 9.1 This Section discusses the approach adopted to the collection and use of the data generated from the workstreams described in the foregoing sections of this Report by the financial / economic model. This model developed into quite a sophisticated representation of the economy of St Helena, drawing on all available data describing and quantifying its economy. It was the subject of a peer review and of considerable discussion between the consultants, SHG and DFID. It was used extensively to test various ideas and economic development hypotheses in the overall search for a robust set of outputs for each access option and for robust comparisons. The model produced the baseline outputs (presented in Section 10), which were then taken forward into the risk model (Section 11).

### DEVELOPMENT OF THE MODEL

- 9.2 A model was developed to assist in determining the impact of improved access on the economy of the island. It was developed as a hybrid demand-supply model of the St Helena economy. This type of model was considered the most appropriate, given the relative size of the economy with a current GDP of only some £12 million, coupled with the impact of a major one-off investment followed by the development of a single dominant sector, namely tourism. The validity of this approach was confirmed following a peer review by a leading academic in the field.
- 9.3 The principal driver of demand in the model is the forecast number of visitors to the island, principally comprising tourists. The two key outputs are the projected required level of total budgetary support to SHG by the UK Government and GNP. All of the values in the model are expressed in constant price terms at mid-2004 prices. The model encompasses 40 operating years for the airport, which is also equivalent to two RMS-equivalent ship lives.

- 9.4 Essentially the economic logic centres around the National Accounting Identity:

$$\text{Gross Domestic Product} = \text{Private Consumption} + \text{Private Investment} + \text{Government Consumption} + \text{Government Investment} + \text{Exports} - \text{Imports}$$

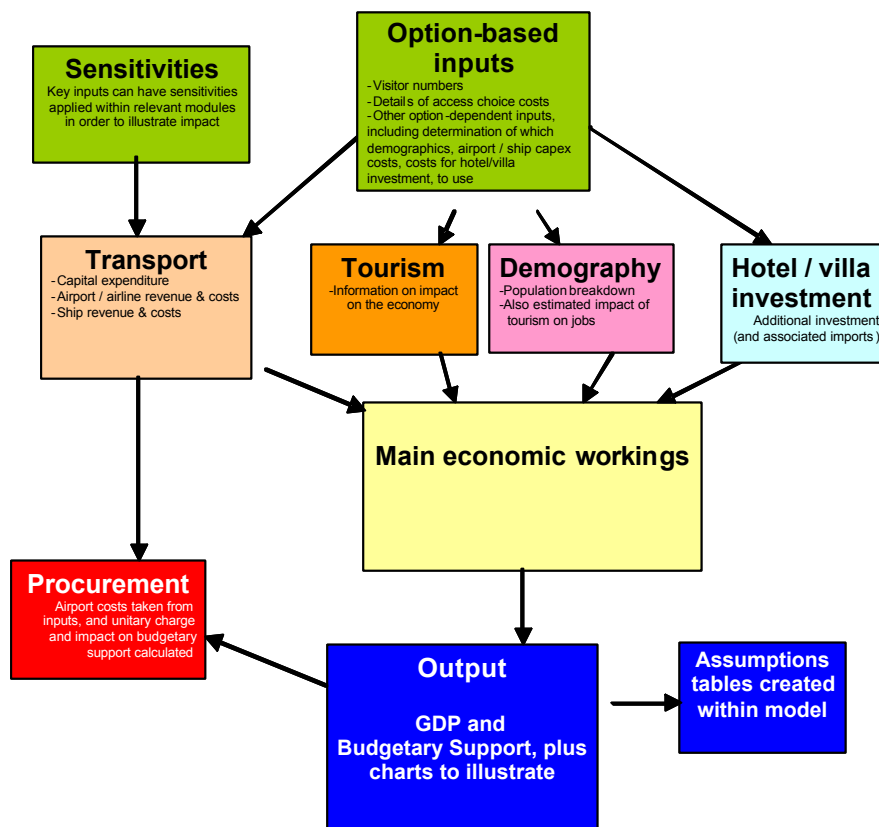
- 9.5 The core economic equations in the model are described in detail in Appendix W. Figure 9.1 shows a simplified overview of the model structure. The model has a range of inputs, derived from the various workstreams of the Study, which are themselves subject to further calculation before being used as source data for the core economic model. Additional inputs not explicitly indicated in Figure 9.1 include:

- access option pre-construction implementation costs
- institutional costs: covering the necessary access option pre-construction implementation costs, and institutional support required prior to, during, and post investment in the new access option
- environmental mitigation costs.



- 9.6 The main economic workings include the historic data used to calibrate the economic relationships and the derived constants, and the assumptions concerning the factors used to project the components of SHG revenue and expenditure.

**Figure 9.1: Structure of the Financial / Economic model**



- 9.7 The Economic Module spreadsheet is the heart of the model and, among other outputs, calculates the projected values of:

- SHG revenue and expenditure
- public and private sector consumption and investment
- import and exports
- Gross Domestic Product (GDP) and Gross National Product (GNP), on a total and per capita basis.

- 9.8 The full Assumptions Book, included as Appendix C to this report, is relevant to this discussion.

## FISCAL ASSUMPTIONS

- 9.9 A number of assumptions need to be made in order to model projected SHG revenues from taxation. We understand that a Fiscal Review is currently being implemented on St Helena, and issues such as a partial shift from direct to indirect taxation may be considered. In the absence of any firm information on the proposed changes, for the purpose of the modelling we have therefore assumed the present fiscal structure except for the addition of some passenger and airline-related fees and charges in the case of air

access. We consider that our approach probably understates the level of SHG revenues under the aerodrome options for the following reasons:

- our analysis is based on the existing direct and indirect tax structures
- SHG is currently undertaking a Fiscal Review, one objective of which is to restructure taxation in such a way as to maximise net revenues
- with the growth of tourism there would be opportunities to target tax increases and duties on, for example, tourist-related consumption
- with the increasing viability of tourist accommodation there would be opportunities to adjust upwards specific direct taxes, such as the Hotel Tax.

9.10 We have assumed that the SHG budget is balanced every year, and have used this assumption to derive the budgetary support required from HMG. We deduct the total revenue forecast explicitly within the model from the total forecast expenditure, and set the budgetary support as equal to the shortfall. This, together with the other sources of revenue deriving from HMG (i.e. Development Aid and the main Technical Cooperation budget), comprise the total financial support from HMG. Note that in the later years it is possible for this to be a 'negative' figure, particularly in the long runway option, as SHG becomes self-financing.

### Direct Taxes

9.11 In the SHG *Estimates of Recurrent Revenue and Expenditure* direct taxes are listed as comprising:

- personal income tax
- corporate income tax
- hotel accommodation tax

9.12 The structure and rates for all three taxes are assumed to be unchanged. In the case of corporate taxation the Income Tax Ordinance states that a tax holiday is available for new businesses, if approved by the Governor. The tax holiday is three years in the case of new businesses or five years if the new business employs at least 10 islanders on a full time basis. We proposed in Section 4 above that the tax holiday should be made non-discretionary and be five years for any new hotel investments.

9.13 The Hotel Accommodation Tax Ordinance makes provision for a 10% tax to be levied on all accommodation charges. We understand that this has rarely, if ever, been applied due the present poor financial position of the tourist accommodation sector. The tax is applied within the model for each option when tourism demand exceeds the current nominal capacity in terms of room availability. We have assumed that this tax relates to 'bare' accommodation charges that is, on room charges only.

9.14 In estimating direct tax revenues, we calibrated separate relationships between tax revenues from the public and private sectors and public and private consumption based on regression analyses of historic St Helena data. Private sector consumption was taken as a proxy for private sector wages and corporate income, and Government consumption was taken as a proxy for public sector wages. A conservative allowance was made for adjustment of the private sector consumption as being constant through time, to provide

for growth in the private sector tax take; an initial rate of 2% per annum growth was assumed.

### Indirect Taxes

9.15 Government revenues from indirect taxation comprise a wide range of miscellaneous duties, fines, fees and charges. In the case of air access these would be extended to include:

- aircraft landing fees
- aircraft navigation fees
- aircraft station handling fees
- passenger landing fees

9.16 The miscellaneous items are set within the model to vary with what are considered the most appropriate indicators such as: population growth, gross domestic product, or specified conservative growth rates. These are set out in Appendix C. The revenues from the air access related items move in line with the projected numbers of aircraft and passenger movements. A landing fee is presently levied on non-Saints RMS passengers. For both passenger landing fees and RMS landing fees we have set a rate of £1 per entry after 2009. For yacht and cruise passenger we have retained a rate of £1 per entry.

9.17 One of the principal components of indirect tax is customs duties. They can be expected to comprise a steadily increasing element of indirect tax revenues as imports rise with the development of the tourism sector. They are set in the model to vary as a fixed proportion of proportion of visible imports. The equation is defined in Appendix W. We have assumed that imports directly related to the access choice investments will be exempt from import duties during the construction period and, in line with worldwide practice, that aircraft fuel is exempt throughout the evaluation period. We have made the recommendation in Section 4 above that new tourism accommodation investments should be exempt from import duties on materials, plant and equipment during construction, which as seen in Section 8 above, is within the compass of SHG.

9.18 The assumption is made that each year the SHG budget is balanced. The budgetary support from HMG each year is then calculated as the difference between the gross forecast expenditure and the gross forecast revenue from other sources (including specific funding from HMG, i.e. development aid and technical cooperation).

### SUPPLY SIDE ISSUES

9.19 Because the model is predominantly a demand side model, there are a number of supply side assumptions that need to be made for it to properly represent forecast developments. These are discussed throughout this Report but may be summarised as follows.

#### Supply of land

9.20 If a decision is made in favour of an air access option there is likely to be a surge of interest in acquiring land and properties on the island. The assumption is made that there will not be a significant constraint on the supply of land. One of our preconditions for the success of investment in air access, as stated in Section 4 above, is the early release of

land for housing and tourist developments. We further state that such constraints may be avoided through the judicious release of public sector and quasi-public sector land holdings during the inception and construction phases as well as post construction, that is beginning immediately following the point in time when a decision is made on air access. We have made provision for the phased sale of SHG land within the economic model.

### Supply of labour

9.21 Any significant constraints on the supply of labour would provide a brake on development under the air access options. As discussed in Sections 3 and 4 above, we envisage the main sources of labour as:

- Unemployed or underemployed workers already on St Helena (for the first few years immediately post construction, there would be a window of opportunity during which a part of the initial increase in tourism demand may be met by utilising the current over capacity of the sector)
- Returning Saints attracted from overseas, such as those currently under contract on Ascension Island and the Falkland Islands, or those resident worldwide, such as in the United Kingdom, South Africa, etc.
- Immigrants of other nationalities.

9.22 Prior to the opening of an airport, during the inception and construction phase, we envisage that both temporary and permanent **employment opportunities** would be created. These would be airport construction and operation related, and tourism related. While unemployed or underemployed Saints resident on the island might fill some of the unskilled positions, it is likely that many of the new permanent jobs created would require experienced semi-skilled and skilled applicants, plus management and professionals. Only a small number of such experienced staff would likely be sourced on the island and they would need to be attracted away from their present posts. Most of the necessary skills are to be found in Saints resident overseas and non-Saints. In Section 4 above we state the facilitation of immigration/settlement of by workers and inward investors as a necessary precondition for the success of the project. In Section 6 above we set out our assumptions concerning the number of jobs created and net migrants required to facilitate the projected levels of development under the air access options. These feed through to the population projections in the economic model.

### Supply of capital

9.23 A requirement to realise the expected level of development is that the necessary supply of funds to finance the required level of investment will be forthcoming. There are three primary sources of capital for investment on the island:

- domestic capital from the Bank of St Helena and SHDA
- inward investment from international sources
- internally generated equity funds.

9.24 In Section 4 and throughout this Report, we emphasise, as preconditions for success, the need to actively promote investment opportunities and to ensure that adequate funds are available for potential domestic investors. We state the necessary measures for

strengthening SHDA in Section 8 and include the costs in the model. As the economy grows, the model allows for increasing levels of private sector investment. We assume that substantial new investments, such as international standard hotels, would be largely financed offshore but there would be a range of smaller domestic and inward investors in accommodation and tourism support enterprises who would likely seek funding from SHDA and the Bank of St Helena. There is also provision within the model for one-off major hotel and villa investments. We assume that there would be no constraint on the availability of international funding, on normal commercial terms, for inward investors in potentially commercially viable enterprises. In practice, as indicated in Sections 6 and 8, much of the necessary investment expenditure should begin while the aerodrome was under construction, or even earlier. It is important that this early investment response is forthcoming if full advantage was to be taken of the hoped-for surge in visitor numbers, and especially to ensure that there was no negative publicity.

## TICKET PRICES

- 9.25 For air access, ticket prices were calculated on normal commercial lines and linked to the cost of each access option: as access option costs and other variables changed, so did ticket prices. In our analysis we assumed no ticket subsidies - investigating only a subsidy on Saints' tickets in the medium runway option (19-seater business jet).
- 9.26 The ticket prices (extracted from Annex A to Appendix C) for return Cape Town – St Helena – Ascension Island (weighted average), as built into our analysis, were: £1 1 (long runway), £1 1 (medium runway, 19-seater), £1 1 (subsidised Saints on medium runway, 19-seater aircraft), and £1 1 - £1 1 (sub-options, B737 on medium runway). Only the long runway ticket prices are in line with apparent market expectations.
- 9.27 For sea access, we applied the current RMS prices.
- 9.28 The air ticket prices above are as close to commercial reality as could be achieved. Ticket prices can be an emotive issue. The values used by this Study have no basis of agreement with any air service provider and it is important that these numbers do not become quoted and known as reference numbers until commercial discussions take place.

## USE OF THE MODEL

- 9.29 The principal expenditure items incorporated in the model, the primary demand inputs, and the key outcomes that the model produces, for the air and sea access options are listed in Tables 9.1 and 9.2.

**Table 9.1 - Quantified Cost Inputs and Key Outcomes, Air Access Options**

Costs	Primary Demand Inputs	Key Outcomes
<p>Runway and air terminal and associated facilities plant and equipment.</p> <p>Construction of sea access and haul road for plant and materials.</p> <p>Airport access road costs.</p> <p>Airport utilities (water, electricity, and communications).</p> <p>Airport and associated facilities operating costs.</p> <p>Contract with airline operator.</p> <p>Institutional facilitation.</p> <p>Environmental mitigation.</p> <p>Tourism marketing contract.</p> <p>SHG Expenditure Budget items including Health, Education and PWS departments.</p> <p>TCO costs.</p> <p>Development expenditure costs.</p> <p>RMS net subsidy prior to airport opening.</p>	<p>Tourist forecast and associated spend rate.</p> <p>Saints forecast and associated spend rate.</p> <p>Business travellers forecast and associated spend rate.</p> <p>Cruise and yacht visitors forecast and associated spend rate.</p> <p>Population forecasts.</p>	<p><b>Monetary items:</b></p> <p>Projected SHG Revenue and Expenditure.</p> <p>Trends in GDP and GNP, and in per capita GDP and GNP.</p> <p><b>Non-Monetary Quantified:</b></p> <p>Population projections.</p> <p>Growth in employment.</p>

**Table 9.2 - Quantified Cost Inputs and Key Outcomes, Sea Access Option**

Costs	Primary Demand Inputs	Key Outcomes
RMS replacement. RMS net operating subsidy. Institutional costs. SHG Expenditure Budget items including Health, Education and PWS departments. TCO costs. Development expenditure costs. RMS net subsidy.	Tourist forecast and associated spend rate. Saints forecast and associated spend rate. Business travellers forecast and associated spend rate. Cruise and Yacht visitors forecast and associated spend rate. Population forecasts.	<b>Monetary items:</b>  Projected SHG Revenue and Expenditure.  Trends in GDP and GNP, and in per capita GDP and GNP.  <b>Non-Monetary Quantified:</b>  Population projections.  Growth in employment.

9.30 The model is accessed and used through a series of spreadsheets. The principal components of the model may be summarised as:

- **Scenarios.** This worksheet provides the facility to select the model scenario (RMS, long and medium runway options) and summarises the scenario-specific changes.
- **Demographic Inputs Data and Workings.** This covers a series of worksheets. The demographic projections are imported from a separate Demographic Model. The tables show the Island population broken down by age group in 5-year bands. The spreadsheets also project the dependency ratios for children and people over 60 years of age, and the level of overseas Saints remittances.
- **Employment Inputs.** The employment related worksheets calculate the required number of beds/rooms by market segment and the direct and indirect jobs created by tourism.
- **Transport Inputs.** These worksheets include all capital and operating costs of the access option selected, including for the airport options plant and machinery, materials and labour. Ticket prices (RMS and airline) are used to determine revenues and the annual levels of subsidy required.
- **Tourism Inputs.** These sheets cover:
  - ? tourist numbers
  - ? separate forecasts for cruise and yacht visitors
  - ? tourist breakdown by accommodation type
  - ? levels of tourist spend



- ? tourist retention by segment, i.e. amount not spent on imported goods
  - o proportion of spend on accommodation, to calculate hotel tax revenue.
- **Hotel and Villa Investments.** This worksheet makes provision for any substantial one-off investments in major new hotels and high value residential villas.
- **Additional SHG Revenue Costs.** This sheet makes provision for the incorporation of facilitation costs, such as institutional strengthening and environmental mitigation, to be included in the evaluation.
- **Economic Inputs.** This worksheet contains a range of inputs and assumptions under the following headings:
  - ? SHG revenue and expenditure forecasts, including direct and indirect tax revenues, and capital and recurrent expenditure
  - ? public and private consumption
  - ? public and private investment
  - o imports and exports.
- **Historic and Calibrations.** This worksheet contains two distinct sources of information. It contains historic information on the main economic aggregates, such as GDP, private consumption and remittances. It also contains the calculations for the calibration of specific economic relationships.
- **Economic Module Workings.** This is the main economic worksheet within the model. It takes in the results of the various worksheets and calculates the two key outputs of the model: GDP/GNP and required total UK Government support.
- **Output Sheets and Charts.** This series of worksheets summarises the main outputs from the model including:
  - ? costs of transport options
  - ? NPV of total required UK Government financial support
  - ? economic aggregates (SHG consumption, private consumption, SHG investment, private investment, exports, imports, GDP/GNP)
  - ? profiles of visitors and population numbers
  - o sensitivities of the NPV decision criterion to variations in the main parameters.

## SENSITIVITY ANALYSES

9.31 Sensitivity analyses are carried out to examine the response of the present value of total HMG support to variations in the principal model inputs and assumptions. These analyses are first carried out on a single variable basis, all other input variables being held constant. They are then applied on a scenario basis to examine the effect of changes in more than one variable acting together, as described below. These analyses are supplementary to the separate Monte Carlo risk analyses which are described later in this section of the Report.

9.32 We present the results of the sensitivity analyses in two ways: firstly in a graphical format and secondly by calculating the values of the elasticities over the range examined. Sensitivity is here defined as the change in NPV for a 1% change in the inputs, based on the calculation points used in the analysis. For the purposes of this analysis the changes in the variables, apart from population, are applied in each year, for example a 10% increase or decrease in the values for each year over the full evaluation period. For population, the stated sensitivity factor is applied to the final year and the years until then have the additional percentage population applied on a basis proportionate to the amount of time elapsed since the initial demographic figures in 2003. The resulting scaling factor is applied across all age groups.

9.33 Sensitivity analyses are applied to the following variables:

- airport capex
- airport opex
- tourist numbers
- tourist spend
- population.

## SCENARIO MODELLING

9.34 Scenario modelling in the non-risk model enables the sensitivity analyses to examine the effect of changes in more than one variable. Following our sensitivity / risk workshops, we selected a number of variables which, acting in concert, provided us with reasonable upper and lower estimates of the range of possible outcomes. Each scenario is self-contained in the sense that the logic of the particular combination of factors in that scenario describes a feasible future. It has to be:

- internally consistent
- within the range of practically possible outcomes.

9.35 We have examined three scenarios:

- **Central Estimate:** our best estimates in the economic model.
- **Worst Case:**
  - ? construction time overrun: Airport completion date delayed by 2 years
  - ? capital cost overrun: Increase of 30%
  - ? opex overrun: Increase of 20%
  - shortfall in tourist numbers: Projections 30% below central case.
- **Best Case:**
  - ? early airport completion: Completion date advanced by 6 months.
  - ? capital cost saving: Reduction of 20%
  - ? opex saving: Reduction of 10%
  - ? outperformance in tourist numbers: Projections 25% above central case.

## PUBLIC FINANCE OPTIONS AND IMPACTS

- 9.36 Public funding options in UK include central government borrowings through the short-, medium- and long-term gilt markets. In addition public sector agencies may have the ability to borrow in their own right. Where overseas markets are concerned, significant contracts may be bank-financed and underwritten by ECGD. ECGD make available a £5 million credit guarantee limit to secure medium-term bank finance for the purchase of goods and services for projects. Such a limit would be inadequate to secure the borrowing requirements to fund the majority of costs of an aerodrome. Additionally, informal discussions indicate that special arrangements would need to be put in place to provide a suitable counter indemnity to their guarantee. Similar discussions indicate that a South African credit agency may not require any form of counter indemnity from SHG or DFID but that is on the assumption that the project was economically viable and self-sustaining.
- 9.37 Other funding arrangements could be procured through the contractor market using leasing (where equipment purchase is involved), or contractor-financed works (where payment is deferred over a period of typically 2-3 years post completion). This has been developed in the UK in the rail industry as 'Design, Build, Finance and Transfer', transferring the risk and funding of developing a workable infrastructure to the private sector but leaving the public sector to refinance and operate the infrastructure on completion. Similarly projects have been established as 'Build, Own Operate and Transfer' (BOOT). (In certain circumstances BOOT projects have been let with the finance procured through a long term bond supported by a guarantee of HMG in relation to the project performance itself). In the last decade a significant amount of UK infrastructure has been procured and financed through 'Design Build, Finance and Operate' (DBFO) long term concessions, as long-term PFI or PPP projects.
- 9.38 However,
- SHG is funded entirely through the grant-in-aid arrangements with DFID. It is not permitted to borrow or to grant any form of guarantee by way of financial commitment without Secretary of State and Parliamentary consent.
  - SHG has no funds, assets or revenues which it could assign as a medium for funding or securing borrowings to fund the project.
- 9.39 In considering the appropriate procurement methodology in Section 12 below, we have reviewed options that require different cash payment profiles and include contractor finance, managed service arrangements and PFI/PPP terms.
- 9.40 All of these arrangements would require SHG to be underwritten by DFID.

## GENERAL METHODOLOGY STATEMENT ON PROCUREMENT APPROACHES AND VALUE FOR MONEY

- 9.41 Fundamental to the assessment of value for money is the concept of Affordability. We assume that DFID Delegated Expenditure Limits are adequate to meet the cash requirements of any of the selected access options. It may however have a preference for the expenditure commitments to be deferred to match more closely the annual commitments of Budgetary Aid to SHG. This would tend towards evaluation of privately funded options.
- 9.42 The Value for Money (VfM) assessment of the three project options follows the HMG Treasury Guidance, taking into account the context of social time preference and the net benefit to the economy. No VfM assessment can be made in the instance of St Helena Access on the basis of the commercial outturn of any of the modes of operation. Absence of commercial feasibility of any of the three access options also limits the procurement options.

### Discounting

- 9.43 The economic values are calculated using a discount factor of 3.5% real. This is in line with the 3.5% real rate recommended as the Social Time Preference Rate (STPR)<sup>1</sup> in the Treasury Green Book<sup>2</sup>. This is an acceptable basis for measuring the comparative value of economic outcomes from the different access options.
- 9.44 As envisaged by the Green Book, there are a number of factors that can be considered, in the choice of discount factor, as follows:
- For projects with very long impacts, there are arguments that a declining schedule of discount rates should be used. The Treasury suggest a rate of 3.0% for years 31-75, which would cover the latter years of our evaluation period.
  - For international development assistance projects, consideration should be paid to the social time preference rate for the local economy. It is likely that as St Helena has a significantly lower GDP per capita than the UK, the STPR will be higher.
  - A further factor which can be considered is the addition of a risk premium. In financial analysis a risk premium is often added to reflect the fact that when faced with two alternatives with the same discounted value people tend to prefer the one with a smaller range of outcomes. In this context, the variance of the outturn financial support is estimated using the risk analysis, and it would be possible to use this variance to inform the selection of a risk premium. It is arguable on this basis that the runway options should be evaluated using higher discount factors than the RMS replacement, on the grounds that they are riskier because of the sensitivity to (primarily) tourism projections. In order to apply this to all the costs and benefits it would be necessary to have a metric which allows comparison of the economic

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<sup>1</sup> Social Time Preference Rate =  $\rho + \mu \cdot g$ ; where  
 $\rho$  = rate at which individuals discount future consumption over present consumption  
 $\mu$  = elasticity utility of consumption  
 $g$  = annual growth in per capital consumption

<sup>2</sup> The Green book [www.hm-treasury.gov.uk/greenbook](http://www.hm-treasury.gov.uk/greenbook): Appraisal and Evaluation in Central Government

results with the costs of financial support. As discussed above we have decided against this.

- 9.45 It could be argued that a higher discount rate is appropriate in the circumstances particular to St Helena. The marginal utility of the new access options, particularly the air access over existing arrangements, should however be reflected in a significantly higher social preference. Whilst the marginal preference to consume, and potential growth in consumption, may have different patterns in St Helena than current average UK population, the particular marginal utility of air access over sea access and over no access is very high and is not reflected in this STPR.
- 9.46 If a higher discount rate is applied to the options studied, the value of the long runway option compared with the medium runway would be reduced, as any incremental economic growth would be more heavily discounted.
- 9.47 In reality, both air access options meet the urgent access requirement with insignificant differences in the timescale for the delivery of this essential access or in risk profile over time. The higher level of preference would not significantly discriminate between the two air options.
- 9.48 The VfM analysis addresses the UK taxpayer perspective measuring the potential for reduction in the ongoing grant-in-aid to the St Helena Government. The UK STPR is therefore more appropriate than a local marginal utility.
- 9.49 The analysis is therefore illustrated by the standard discount factor in the Green Book (3.5% real). We have also provided analysis using two higher rates, 5% and 10%.

### **Procurement VfM**

- 9.50 Each of the contract structures has a different level of risk management. The value of each contractual approach is assessed through the Risk modelling. By this means the VfM of each procurement approach can be measured against
- cashflow implications
  - value of risk transferred to the contractor.
- 9.51 We recommend the optimum risk / cost approach to procurement of this facility. The cashflow cost can be measured using an appropriate discount rate. This should reflect the Weighted Average Capital Cost (WACC) of the purchaser. Where the seller or contractor has funded the project, its WACC will be factored into the price. The actual costs of a funded option will reflect the net cost to the private sector of marginal capital or long term investment. Cost of capital in the private service sector is approximately 7.3%<sup>3</sup> real, post tax. Any approach funded through a corporate balance sheet should therefore demonstrate intrinsically worse VfM than public sector procurement and funding, unless it can be demonstrated that significant risk transfer is adopted in the contract structure. PFI/PPP projects on the other hand tend to be highly leveraged with the project interest available for tax relief. The after-tax cost of capital will be reflected in the periodic payment ('Unitary Charge') made under a PFI/PPP contract. In this case, the net real cost of capital

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<sup>3</sup> WACC in the service sector is (Q3 2004) between 9 and 10% nominal (7.3% real).

may be marginally lower than the discount rate if the project is contracted through a suitably tax-efficient highly leveraged project company<sup>4</sup>. In either case the VfM assessment should demonstrate the value of limiting risk of increased construction costs or delay (optimism bias) and improvements from managing the whole life cost risk.

- 9.52 Managed Service contracts tend to include the cost of finance, which is relatively high. However such contracts may include a high degree of residual value risk on periodic renewals and upgrading of specialist equipment.

## OVERALL APPROACH TO OPTION APPRAISAL

- 9.53 This section sets out the logic of our approach to selection of the preferred option. Following the comparison of the options in Section 10, the recommended approach to procurement of the preferred option is discussed in Section 12.

- 9.54 We have based our approach to the selection on the terms of reference agreed with DFID and also in accordance with HMG Treasury's Green Book approach.

- 9.55 The Green Book states (para. 2.3) that:

*"Appraisals should provide an assessment of whether a proposal is worthwhile, and clearly communicate conclusions and recommendations. The essential technique is option appraisal, whereby government intervention is validated, objectives are set, and options are created and reviewed, by analysing their costs and benefits. Within this framework, cost-benefit analysis is recommended, as contrasted with cost-effectiveness analysis ..., with supplementary techniques to be used for weighing up those costs and benefits that remain unvalued."*

- 9.56 Paragraph 5.1 states:

*"The purpose of option appraisal is to help develop a value for money solution that meets the objectives of government action."*

- 9.57 Our approach can be represented in summary form, as displayed in Figure 9.2.

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<sup>4</sup> If

project gearing	(g)	= 90%	
Senior debt interest	(i)	= 7% pa. nominal	
Equity	(e)	= 9% subordinated debt (s) + 1% share capital (d)	
Subordinated debt coupon	(c)	= 12%	
Dividend yield on shares	(y)	= 40%	(Overall nominal equity yield = 15%)

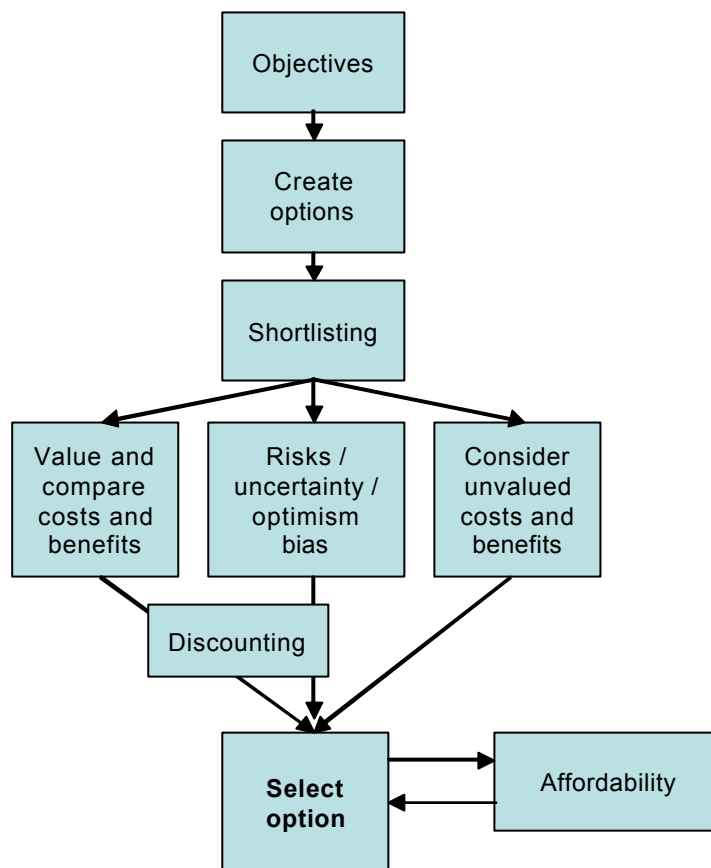
Project tax relief on interest charges (t) = 30%.

Inflation (r) = 2.5%, then:

$$\text{Weighted Average Cost of Capital (WACC)} = [1 + \{((g \cdot i) + ((1 - g) \cdot c)) \cdot (1 - t) + d \cdot y\}] = 5.56\%$$

$$\text{Real Weighted Average Cost of Capital} = \frac{[1 + \text{WACC}]}{1 + r} - 1 = \frac{[1 + 5.56\%]}{1.025} - 1 = 3\%$$

**Figure 9.2 – Approach to Option Appraisal**



9.58 The objectives have been defined by DFID, and are:

- Objective 1: maintain access to St Helena
- Objective 2: promote social and economic development
- Objective 3: reduce aid dependency.

### Options and shortlisting

9.59 In addition to the three access options we have subjected two more 'sub-options' to a less detailed analysis, being variants on the medium runway option.

9.60 Options have only been taken forward from the shortlist if they represent a realistic option for providing access to the island, thus achieving objective 1.

### Costs and benefits

9.61 Our primary tool for comparing the costs and benefits of alternative options is the Financial / Economic model. This forecasts the economy of St Helena over the evaluation period and also the requirement for financial support from HMG. This allows us directly to address the extent to which the possible options address the economic elements of objectives 2 and 3.



9.62 In a comprehensive analysis of this kind it is not appropriate to derive a single quantitative decision variable for each option. The GDP and GDP per capita (or GNP and GNP per capita) cannot easily be compared to the costs of financial support by HMG, and the weighting of these is a political as much as an economic decision. We concluded that we would not perform this comparison using a single metric. Instead we consider these factors separately in our evaluation. This practical approach is supported by the results of our analysis of these two areas: highest economic benefit and lowest overall net present cost of financial support.

9.63 In principle, cost-benefit analysis requires assigning numerical values to all of the consequences of the available policy alternatives. The Green Book acknowledges that it is not always in practice possible to do this. Para 5.12 states:

*“Wider social and environmental costs and benefits for which there is no market price also need to be brought into any assessment. They will often be more difficult to assess but are often important and should not be ignored simply because they cannot easily be costed.”*

9.64 As a reflection of this, and in order fully to cover the requirements of objective 2, we have considered other factors such as the social and environmental impacts on the island, discussed in Section 8 above.

9.65 We consider questions of affordability at a high level. Affordability at a detailed level is a matter that DFID will have to consider further in the context of the overall position of the Department and its resources. The overall capital expenditure in the early years (of air access procurement) is discussed and represented in Section 7, and is brought into the comparison of the options in Section 10.

### **Risks and uncertainties**

9.66 Risks and uncertainties, including optimism bias, have been assessed through the use of risk modelling. We have performed a Monte Carlo analysis of the outputs of the economic model, simulating the effects of risks and uncertainties involving the key inputs to the model, discussed in Section 11 below.

9.67 In addition to formal risk modelling, we present the results of simple sensitivity and scenario analyses in Section 10 below.

### **Selection of recommended option**

9.68 As discussed above, we have not brought all the aspects of this complex project into a single metric. We make our recommendation on the basis of analysis of the following factors (Table 9.3). The analysis of each (broken down into a greater level of detail) is set out in Section 10.

9.69 We compare each option in terms of technical feasibility, economic potential, social benefit, environmental cost, total financial cost to HMG and its riskiness measured in performance terms (numbers of tourists attracted and GDP outturns).

**Table 9.3 – Factors for appraisal of Access Options**

Consequences of access decision	Relates to which objective	Method of appraisal	Sensitivity of access option
Economic consequences	2	Quantitative. A forecast is calculated using the economic model. The key indicator is the movement in the GDP and GDP per capita under each option.	L-R needs more than M-R as capex is higher
Social benefit to Saints	2	Qualitative. Key indicator is whether employment is generated, thus attracting migrant workers and families, so tackling underlying causes of social breakdown. Quantitative. Demographic projections.	Greater economic activity due to more visitors, via L-R, expected to create more jobs
Environmental consequences	2	Qualitative. Irreversible loss to unique species of flora and fauna.	L-R expected same as M-R
Financial costs for UK government	3	Quantitative. The value of this cost is calculated using the economic model. The key indicator is the net present cost of each option.	Greater economic activity of L-R would alleviate subsidy quicker
Expectations not met	3	Quantitative. Ranges of tourist numbers and GDP growth are forecast using probabilistic risk modelling and 'reality checked' against experience.	L-R should not cost more than RMS, discounted over period

9.70 Following the shortlisting process described in Section 5 above, we were left with two runway models and the replacement of the RMS as options. The air access options, as described in Appendix D had several sub-option choices, which had to be addressed before we could embark upon the final part of the options appraisal process using the Financial / Economic model.

9.71 Each of the two air access runways is potentially suitable for a range of aircraft, and we refined the list of sub-options on the basis of detailed consideration of the benefits and disadvantages of each potential option. Appendix N addresses the range of potential long runway options. The conclusions of this process are set out below in Table 9.4.

9.72 The outcome of this process is that two runway options have been included within the appraisal and also two sub-options, which would be subject to a less detailed economic analysis, being:

**Full appraisal:**

- B737 / airline link on long runway
- 19-seater business jet on medium runway

**Sub-options:**

- 19-seater business jet on medium runway with subsidy for Saints travellers to compensate for high ticket prices
- B737 / airline link on modified medium runway with runway extension.

**Table 9.4 – Reduction of Medium and Long Runway sub-options**

<b>Procurement option</b>	<b>Long runway</b>	<b>Medium runway</b>
19-seater only, operated by private sector	Rejected – see Appendix N. This option would be significantly more expensive to passengers with no benefits in terms of security of service or economic outcomes.	<b>Included</b> (as well as subsidy sub-option also)
BBJ, operated by private sector	Rejected – see Appendix N. Although flights would not be as expensive as with the smaller business jet, they would be more expensive than the B737 or Airbus equivalent, and our modelling indicates that the service would be less financially secure.	Rejected, because 737 can fit on modified* medium runway and is a more attractive solution economically than the BBJ for the same reasons to those relevant to the long runway.
B737 only, operated by SHG	Lease or purchase by SHG rejected – see Appendix N. More expensive than airline link or charter.	Rejected for same reason as on long runway.
B737 only, operated under airline link by private sector	<b>Included as option</b>	<b>Included as sub-option with runway extension later in period (extension required in order to secure service over the period of evaluation)</b>
B737 only, operated under charter by private sector	Rejected – see Appendix N. More expensive than airline link.	Rejected for same reason as charter on long runway.
Above operations together with independent third party private operator	Not included within analysis, because the current approach of not modelling explicitly for additional passengers from direct US/Europe flights is on balance conservative and allows runway recommendation to be made without taking a view on how the market might develop.	As for long runway

\* Modified medium length runway was described in Section 7 above.

## 10 COMPARISON OF OPTIONS

### INTRODUCTION

10.1 This Section presents the outputs of the financial / economic modelling and also the more qualitative merits and demerits of each access option. It continues the logic of Figure 9.2 above, outlined as follows:

- Table 9.3 shows which method of appraisal, qualitative or quantitative, is applied to which key objective (which are: maintain access, promote social and economic development, reduce aid dependency).
- Table 9.4 summarises the options and sub-options remaining after the original short-listing process at the start of the Study, and indicates which ones are taken forward into the analysis.
- Sections 9 and 11 discuss the quantitative approaches being adopted, i.e. Financial / Economic and Risk modelling, respectively; in this Section we apply the 'non-risked' Financial / Economic techniques to determine which option offers the greatest value for money and, in Section 11, the risk-based modelling technique.
- Section 10 first examines the quantitative arguments, followed by consideration of the non-quantitative factors reported above in Sections 6 through 9.
- The combined consideration of both the quantitative and qualitative factors leads to the recommendation for the access option that offers the best solution for St Helena.

10.2 The key types of output from both types of modelling are summarised in Table 10.1.

10.3 This Section includes results of sensitivity analysis and scenario testing, and in addition, two sub-options are presented. Finally, non-quantitative differences between the options are discussed and an overall conclusion is drawn, following on from the conclusions after each part of the analysis.

10.4 It is emphasised that the modelling has been performed on the basis of a range of assumptions. Whilst many of the most significant quantitative assumptions are tested within the sensitivity analysis / scenario analysis / risk modelling, the results of all of these must be interpreted in the context of:

- the challenges discussed in Section 4, especially the preconditions listed there
- the contextual issues discussed in Section 8
- the supply side assumptions set out in Section 9
- the quantitative assumptions set out in Appendix C.

**Table 10.1 – Comparison of model decision tools**

Model output	Benefits for use as guide to decision	Disadvantages as decision tool
Net present value (NPV) of total financial support from Financial / Economic model	This is the most simple model output. The non-risk financial model is relatively easy to understand, and this model output is the net present value of the financial support from HMG to SHG.	No representation of risks.
NPV of total financial support from Financial / Economic model – excluding surpluses	As explained below, in the later years, particularly of the long runway option, the model calculates budget surpluses for SHG resulting from buoyant tax revenues. The implication that this money would be returned to HMG is probably not realistic, so for this indicator we ignore surplus figures.	No representation of risks.
NPV of total financial support from Risk model.	The risk model has been carefully designed to capture and quantify the key risks for the project. A decision based on the risk model outputs is therefore based on a more complete picture. Because a range of NPVs is calculated, it is possible to consider: The mean of the distribution for each option The 95% confidence point within the distribution for each option. This will be a higher cost than the mean, and is that NPV which we are 95% confident will not be exceeded. The gap between this and the mean provides a way of gaining an insight into the riskiness of an option.	The risk model is inherently more difficult to understand, and unlike the non-risk model any output is the result of a series of calculations and therefore cannot easily be examined within the model. However, this is more relevant during the construction of the model than during the assessment of its results.
NPV of total financial support from Risk model – excluding surpluses	As for the non-risk model, it is arguably appropriate to exclude surplus years from the calculation.	

## RESULTS OF FINANCIAL / ECONOMIC MODELLING

10.5 As described in Section 9 above the Financial / Economic model produces forecasts of the GDP and requirement for budgetary support in each option. This section presents the results of that analysis, using the following information to compare each option:

- Profile and NPV of HMG financial support, total and per capita, including capex
- Time elapsed until aid / total support fall to zero
- GDP and GNP
- GDP and GNP per capita
- Government expenditure, total and per capita – this is included in the analysis but is not a decision criterion
- Profile of key economic variables – consumption (domestic and visitor-driven), investment, imports, exports

- Total investment / private share of investment
- Derived population and visitor numbers as displayed in the annexes to Appendix C.

10.6 We then summarise these findings from the economic modelling before going on to consider the results of sensitivity analysis, scenario testing and risk modelling. These findings inform a view on the confidence which can be placed in the conclusions of the financial / economic modelling.

#### Profile and NPV of HMG financial support, total and per capita, including capex

10.7 Table 10.2 compares the outputs of the Financial / Economic modelling as the NPV of total projected UK Government support, for each of the three principal access options. Total support is defined as comprising the sum of all financial support to St Helena, being budgetary support to SHG, access-related capital and operating expenditure, any access option-related subsidies required, TC expenditure, and development aid expenditure.

10.8 As described in Section 9 above, the model calculates the budgetary support in any year as the difference between forecast revenue and expenditure. In the later years of the air access options this becomes a 'negative cost' to HMG - even when taking account of the other elements of financial support - as SHG's finances gradually become self-sustainable. In practical terms, it is unlikely that DFID would seek to recover the cost of the investment in the airport from SHG except via reduced financial support. It is therefore appropriate to make two sets of comparisons: the total NPV calculations, and the NPV calculations on the assumption that all negative numbers are treated as zero.

**Table 10.2 – Results of Financial / Economic modelling: Total net present costs of HMG financial support at three discount rates, £m**

Option	Net present cost – real terms no discount	Net present cost @ 3.5% real discount p.a.	Net present cost @ 5% real discount p.a.	Net present cost @ 10% real discount p.a.
<b>Financial support and budget surpluses both counted</b>				
Long runway	(11) <sup>1</sup>	11	11	11
Medium runway	11	11	11	11
RMS replacement	11	11	11	11
<b>Budget surpluses (in later years where they occur) ignored – i.e. assumed not to flow back to HMG</b>				
Long runway	11	11	11	11
Medium runway	11	11	11	11
RMS replacement	11	11	11	11

<sup>1</sup> The significance of a negative number here is that the total undiscounted real-terms financial support is a negative number in this option, if 'negative subsidies' are counted. This has limited real significance but is included to illustrate the impact of discounting.

10.9 These results indicate that in the long runway case, the net cost over the period 2005 - 2048 in present value terms discounted at 3.5% real, of all the financial support to SHG, is £1.1m if budget surpluses are included in the calculation. This rises to £1.2m if the surpluses are excluded. The equivalent figures for the medium runway are £1.1m and £1.2m, and for the RMS replacement £1.1m in each case. The figures are identical for the RMS replacement case because the total financial support never falls below zero so the inclusion or not of surplus figures has no impact on the total. These results are adopted as 'baselines' for comparison with risk modelling outputs, discussed below. The negative cashflows represent real benefits to the long runway option investment. They may not be recoverable by HMG but if not they will accrue to SHG.

10.10 It can be seen that the order of the options is the same under each discount rate. Indeed, the long runway has a lower net cost at 3.5% than either of the other two cases under a rate of 5%. We consider that the 3.5% real discount is the most appropriate rate, as discussed in Section 9. On this basis **the long runway is significantly cheaper than the medium runway**, which is significantly cheaper than the option of replacing the RMS.

10.11 The 'total HMG financial support' figures include all forms of financial support from HMG to SHG, being the following:

- The cost of the access choice investment (capex, design fees, moving people and equipment associated with construction, etc.: see Annex A to Appendix C).
- The revenue costs of access provision, including the costs of the RMS prior to the introduction of an air service where applicable (aerodrome / ship operational costs).
- Institutional support (Planning, environment, tourism, immigration, customs, etc. see Table 8.15 above for summary).
- Other budgetary support (public services etc. as current).
- Development aid (other projects on St Helena).
- General technical co-operation budget – based on historic figures and forecasting assumptions (not related to costs associated with access improvement: e.g. seconding assistance in respect of other projects).

10.12 Table 10.3 shows the breakdown of the 'budget surpluses ignored', zero and 3.5% discounted figures for the three options from Table 10.2, to give an indication of the split of the total costs between these categories. It can be seen that the development of the economy and SHG's finances is forecast to have a significant effect on many elements of the support required from HMG. In Table 10.3, the figure of £1.1m relates only to the period for which SHG requires financial support.



**Table 10.3 – Split of total financial support between expenditure types (excluding budget surpluses, which are assumed to be retained within SHG) £m**

**Long runway**

Type of financial support	No discounting	3.5% real discount rate
Investment for access choice	11	11
Revenue costs of access choice	11	11
Institutional support	11	11
Other budgetary support	11	11
Development Aid	11	11
General Technical Co-operation budget	11	11
<b>Total</b>	11	11

**Medium runway**

Type of financial support	No discounting	3.5% real discount rate
Investment for access choice	11	11
Revenue costs of access choice	11	11
Institutional support	11	11
Other budgetary support	11	11
Development Aid	11	11
General Technical Co-operation budget	11	11
<b>Total</b>	11	11

**RMS replacement**

Type of financial support	No discounting	3.5% real discount rate
Investment for access choice	11	11
Revenue costs of access choice	11	11
Institutional support	11	11
Other budgetary support	11	11
Development Aid	11	11
General Technical Co-operation budget	11	11
<b>Total</b>	11	11

10.13 Table 10.4 shows the total capital and operating costs of the three access options.

**Table 10.4 - Total aerodrome capital and operating costs £'000**

Scenario	Medium runway	Long runway	RMS replacement (sum of 2009 and 2029 ships)
Initial infrastructure	11	11	11
Equipment, utilities & IT	11	11	11
Terminal and transit	11	11	11
Construction overheads incl. shipping and fees	11	11	11
Total capital costs over initial construction period (2005 – 2009)	11	11	11
Later capital costs - fuel storage / second RMS replacement	11	11	11
Total capital costs over whole period (£'000)	11	11	11
Capital costs discounted @ 3.5% real	11	11	11
Average operating costs p.a. (£'000)	11	11	11

10.14 Table 10.5 shows the five-year averages for total financial support for each of the options, together with an annual breakdown for the first five years, on a total and per capita basis. It can be seen that in the RMS replacement option total financial support per capita does not move significantly. For this option, total HMG/DFID financial support per capita remains approximately stable in constant price terms, that is, £1.1 in 2009, £1.1 in 2010, and £1.1 in 2045. Total financial support, excluding investment-related expenditure, is defined to comprise the three components: Technical Cooperation, Development Aid, and Budgetary Support. The pure Budgetary Support component *per se* declines rapidly in the RMS option, in absolute and per capita terms. The explanation is that the decline in Budgetary Support per capita is compensated for by increases in per capita Technical Cooperation and Development Aid. That is, HMG support shifts from straight Budgetary Support to more TC and DA as the population declines in this option. This is partly driven by the assumption that public sector employees, professionals and specialist advisors will increasingly need to be drawn from overseas non-Saint resources as the available local skills pool declines and ages. We consider that these represent conservative assumptions, since it is arguable that if a runway were not to be built, then continuing net emigration would result in the loss of economies of scale in the provision of SHG services, and the costs of support on a per capita basis would increase.

10.15 A key distinction for government budgeting and accounting purposes is that between revenue support and capital investment. Table 10.6 shows the cost of the capital investment for each access option and Figure 10.1 illustrates the profile of the expenditure.

Table 10.5: Annual and five-yearly averages of financial support

	Annual financial support in the first five years							Five-year period averages starting in stated year							(four year period)
	2005	2006	2007	2008	2009	Total	Average 2005-09	2010	2015	2020	2025	2030	2035	2040	2045
<b>Long runway</b>															
Total financial support from HMG (£'000)															
Financial support excl Devt Aid and TC (£'000)															
Total financial support from HMG per capita (£)															
Financial support excl Devt Aid and TC, per capita (£)															
<b>Medium runway</b>															
Total financial support from HMG (£'000)															
Financial support excl Devt Aid and TC (£'000)															
Total financial support from HMG per capita (£)															
Financial support excl Devt Aid and TC, per capita (£)															
<b>RMS replacement</b>															
Total financial support from HMG (£'000)															
Financial support excl Devt Aid and TC (£'000)															
Total financial support from HMG per capita (£)															
Financial support excl Devt Aid and TC, per capita (£)															

**Table 10.6: Annual and five-yearly capital investment in access choice (£'000)**

	Annual financial support in the first five years							Subsequent expenditure			
	2005	2006	2007	2008	2009	Total	Average 2005-09	2010 - 2028	2029	2030 - 2048	Total whole period
Long runway											
Medium runway											
RMS replacement											

\*: These represent an expense of £1.1 in 2029 for upgrades to aviation fuel provision (see Section 7)

\*\*: This represents a second replacement RMS at the end of the useful life of the first

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**Figure 10.1 – Profile of the capital spend for each aerodrome option**

**Long runway**

Figure 10.1 contains commercially sensitive information and has been redacted

**Medium runway**

Figure 10.1 contains commercially sensitive information and has been redacted

**RMS replacement**

Figure 10.1 contains commercially sensitive information and has been redacted

10.16 Figure 10.2 shows the above elements of support – total support and capital investment – for each option, and also the breakdown of all transport-related costs and revenues. Additional detail on the breakdown of SHG revenue appears in the discussion below. The ‘Access option capital expenditure’ portions have the same figures as in Figure 10.1.

**Figure 10.2 - Breakdown of financial support from HMG in each option, and further breakdown of transport-related costs**

**Long runway**

Figure 10.2 contains commercially sensitive information and has been redacted

**Medium runway**

Figure 10.2 contains commercially sensitive information and has been redacted

**RMS replacement**

Figure 10.2 contains commercially sensitive information and has been redacted

10.17 The key observations we make on the results of the analysis of the HMG financial support are as follows:

- The long runway has a significantly lower present value of costs, and the cost of the medium runway is lower than the RMS replacement option.
- The up-front costs of the runway options are reflected in the higher costs in the early period, i.e. the first five years from 2005/06 to 2009/10.
- The transport-related costs other than the costs of the airport itself are significantly lower in the airport options than in the RMS replacement option. On the basis of our projections, the likely guarantee to an airline operator in the long runway option would result in a cash inflow to SHG and would not need to be continued for very long. However, this is not guaranteed and is explored further in our discussion of risks and uncertainties. The possibility of offering subsidies for Saints using the service in the medium runway option, where ticket prices are higher than for the RMS option, is discussed below in our discussion of sub-options.

**Time elapsed until aid/total support falls to zero**

10.18 The aerodrome investment is intended, amongst other things, to increase the self-sufficiency of the island. **An important indicator is whether there would come a time when financial support from HMG is no longer required. The economic model predicts this happening in the runway options.**

10.19 The time until financial support falls to zero can be seen on the above graphs, and is summarised in Table 10.7.

**Table 10.7 – Time for HMG support to tend to zero**

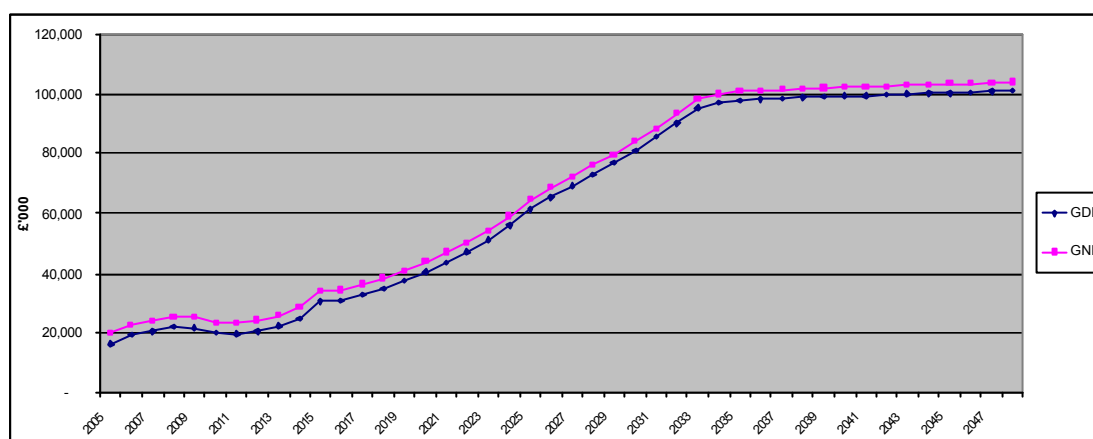
Option	Year in which financial support falls to zero
Long runway	2020
Medium runway	2045
RMS replacement	Remains 'positive', i.e. never tends to zero

## GDP and GNP

10.20 Figure 10.3 illustrates the trends in GDP for each option.

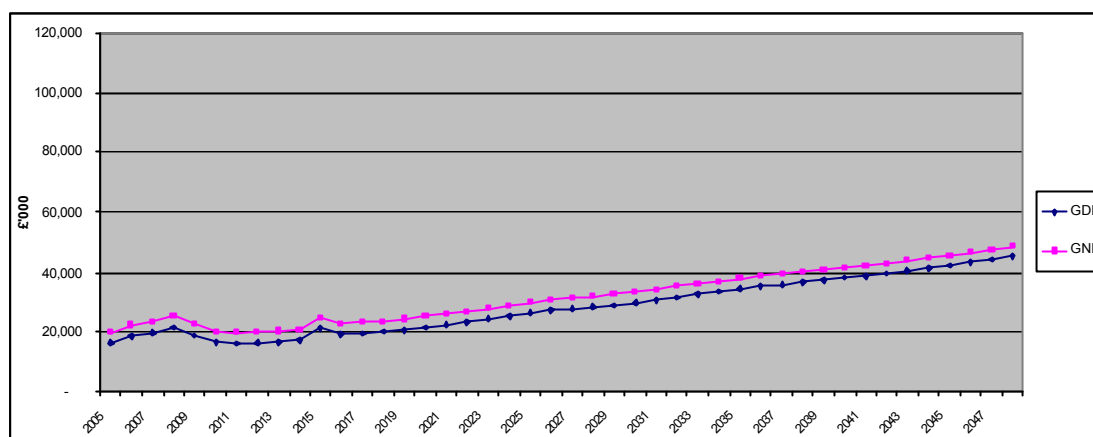
**Figure 10.3 - GDP and GNP trends**

### Long runway

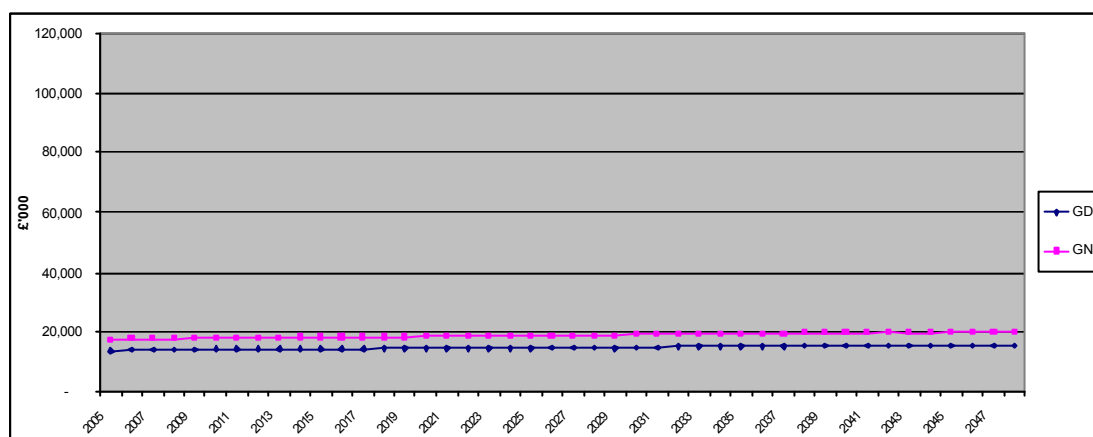




### Medium runway



### RMS replacement



10.21 Table 10.8 compares the outturn GDP and GNP results of the three options, showing average values over five year periods.

**Table 10.8 - GDP and GNP trends, five year averages**

**Long runway**

	Average over five year period starting in:								(four year period)
	2005	2010	2015	2020	2025	2030	2035	2040	2045
GDP (£'000)	20,066	21,540	33,466	47,640	69,150	89,786	98,415	99,651	100,686
GNP (£'000)	23,708	25,141	36,946	50,933	72,252	92,747	101,325	102,542	103,564

**Medium runway**

	Average over five year period starting in:								(four year period)
	2005	2010	2015	2020	2025	2030	2035	2040	2045
GDP (£'000)	19,037	16,610	20,218	23,432	27,815	31,738	35,971	39,698	43,734
GNP (£'000)	22,681	20,245	23,841	26,991	31,325	35,205	39,414	43,108	47,103

**RMS replacement**

	Average over five year period starting in:								(four year period)
	2005	2010	2015	2020	2025	2030	2035	2040	2045
GDP (£'000)	13,998	14,373	14,434	14,667	14,839	15,100	15,293	15,401	15,417
GNP (£'000)	17,723	18,191	18,346	18,677	18,960	19,346	19,675	19,908	20,031

10.22 Table 10.9 sets out the equivalent compound annual growth rates represented by the figures for each option.

**Table 10.9 - Equivalent annual compound growth rates**

	GDP compound rate	GNP compound rate
<b>Long runway</b>	4.72%	4.09%
<b>Medium runway</b>	2.98%	2.46%
<b>RMS replacement</b>	0.69%	0.59%

10.23 It can be seen that GDP in the RMS option does not fall as fast as the population, as a result of the need to maintain a minimum level of SHG services (government expenditure being a large component of economic activity on St Helena). For example, not all elements of government expenditure fall wholly in line with their key driver, as some government services exhibit economies of scale and are therefore relatively expensive at lower population numbers. GNP increases for the RMS replacement option partly because of the impact on remittances from Saints living overseas (remittances from overseas are included within GNP but not GDP).

10.24 GDP flattens out after year 2033 for the long runway option directly as a result of the assumed decision to cap tourist numbers at a sustainable level. The exact point at which this should occur will be a policy decision to be taken by SHG. It should be noted that by this point in the model the total forecast financial support from HMG is 'negative', so an

alternative choice of tourist cap has a limited impact on the NPV of financial support if negative figures are excluded.

10.25 **These results show that the GDP and GNP are significantly higher for the long runway option than in the other two options**, and the RMS replacement option has the lowest GDP and GNP figures. This is pronounced, from relatively early in the 40-year assessment period. Moreover the levels achieved by GDP and GNP in the later years of the airport options is arguably understated, to the extent that budget surpluses could be reinvested in the economy.

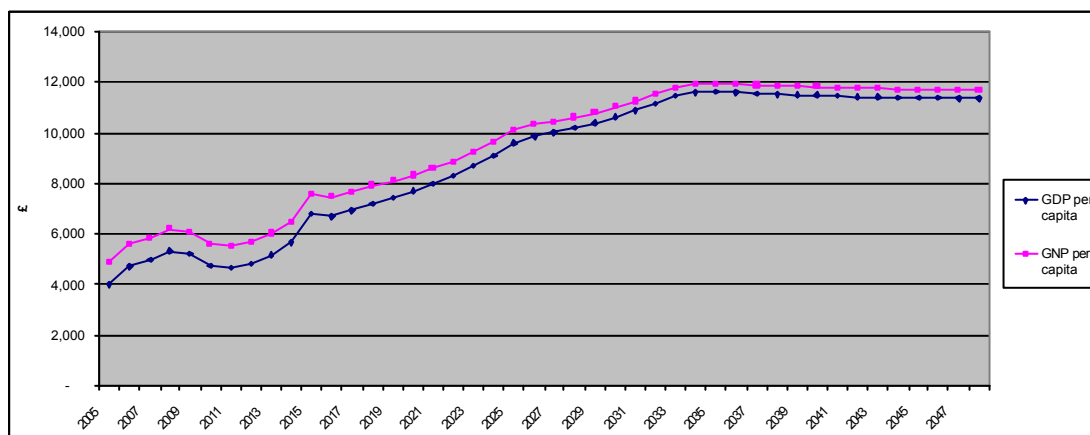
### GDP and GNP per capita

10.26 Figure 10.4 illustrates the trends in GDP and GNP per capita for each option.

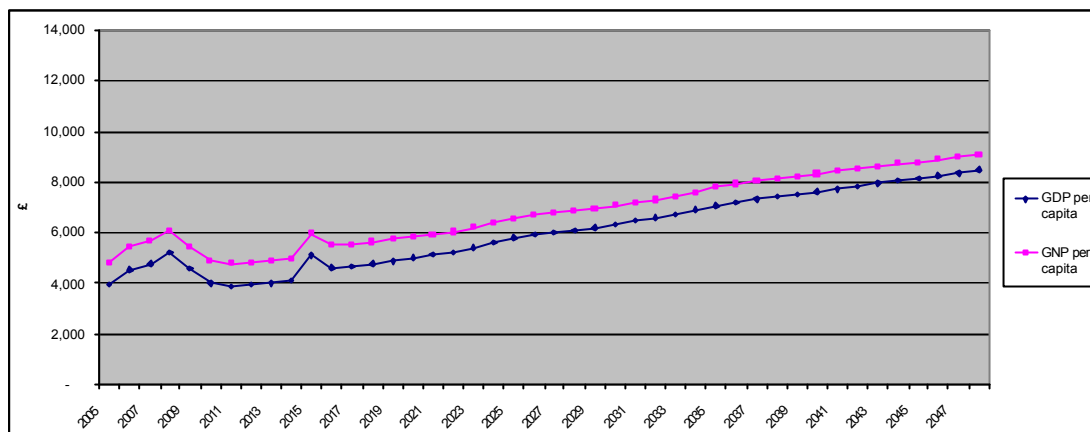
10.27 GDP per capita exhibits the same relative ranking of the options, with the long runway demonstrating the highest per capita figure. GDP per capita holds up well in the RMS option primarily as a result of the declining population. However as regards GNP per capita, it is higher in the RMS replacement option than in the Medium Runway. The most significant reason for this is the impact of remittances as above – in 2048 remittances are forecast to reach £1,664 per capita for the RMS replacement option but only £398 for the medium runway and £184 for the long runway; also SHG's portfolio investment income has been assumed to remain constant, at a little over £1m p.a., which is an increasingly significant figure on a per capita basis as population declines (e.g. in 2048 it represents almost £600 per head).

**Figure 10.4 - Per capita GDP and GNP**

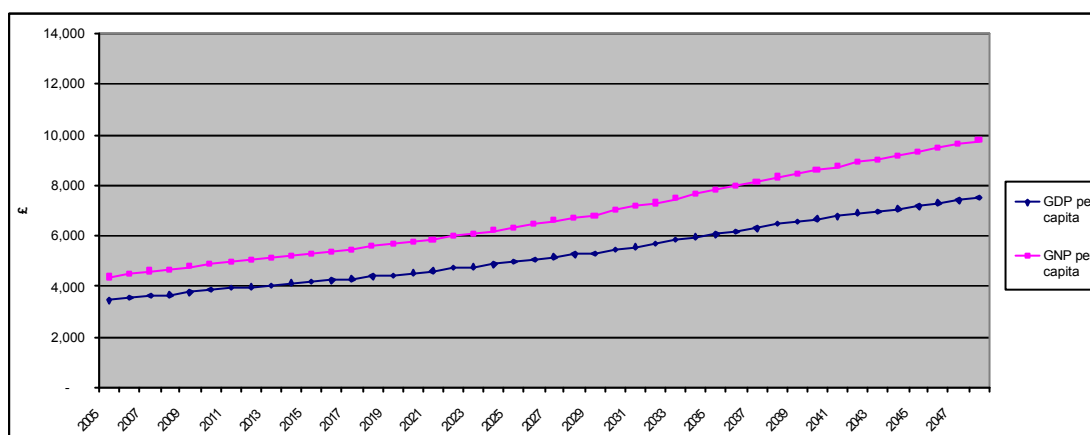
### Long runway



### Medium runway



### RMS replacement



10.28 Table 10.10 compares the outturn GDP and GNP per capita figures of the three options, showing average values over five year periods.

**Table 10.10 - Five-yearly GDP and GNP per capita**

**Long runway**

	Average over five year period starting in:								(four year period)
	2005	2010	2015	2020	2025	2030	2035	2040	2045
GDP per capita (£)	4,853	5,024	7,013	8,351	10,003	11,133	11,542	11,429	11,362
GNP per capita (£)	5,734	5,866	7,745	8,933	10,454	11,501	11,883	11,760	11,687

**Medium runway**

	Average over five year period starting in:								(four year period)
	2005	2010	2015	2020	2025	2030	2035	2040	2045
GDP per capita (£)	4,611	3,994	4,812	5,281	6,013	6,600	7,321	7,846	8,312
GNP per capita (£)	5,494	4,868	5,675	6,084	6,773	7,322	8,022	8,520	8,953

**RMS replacement**

	Average over five year period starting in:								(four year period)
	2005	2010	2015	2020	2025	2030	2035	2040	2045
GDP per capita (£)	3,624	4,001	4,315	4,715	5,156	5,711	6,317	6,876	7,342
GNP per capita (£)	4,589	5,064	5,485	6,000	6,588	7,317	8,127	8,889	9,540

10.29 Table 10.11 shows the equivalent constant annual growth rates for the GDP and GNP figures, on a per capita basis (since 2000/01)

**Table 10.11 - Constant Annual Growth Rates for GDP/GNP**

	GDP per capita compound rate	GNP per capita compound rate
Long runway	3.20%	2.59%
Medium runway	2.58%	2.06%
RMS replacement	2.32%	2.21%

**Government expenditure, total and per capita**

10.30 Government expenditure is also an important indicator of the changes in the St Helena economy and the ability of the state to support the well-being of the inhabitants. We have assumed that government expenditure is not affected by any large one-off items (e.g. privatisation), other than the investment expenditure related to the aerodrome or RMS replacement and revenue from land sales relating to hotel / private villa development (our assumed land sales are a relatively insignificant source of revenue in context).

10.31 Tables 10.12 to 10.14 show average government expenditure in each five year period, together with a breakdown of the key elements of SHG revenue. The first line, entitled "Total revenue before devt aid, TC, budgetary support" represents the revenue to SHG as generated on the island (tax take, other). The next three rows represent revenue received from HMG. These latter agree with the total financial support from HMG set out in Table 10.4 above. For example in the five years from 2020 in the medium runway case, the total

support received from HMG is £111 as stated in Table 10.5. The element excluding Development Aid and TC, £111, is also shown in both tables. The total revenue and total expenditure are both shown, and shown as being equal: as stated in Section 9 above, we have assumed that the budget is balanced in every year.

**Table 10.12 - Total and per capita government expenditure: Long runway**

Table 10.12 contains commercially sensitive information and has been redacted

**Table 10.13 - Total and per capita government expenditure: Medium runway**

Table 10.13 contains commercially sensitive information and has been redacted

**Table 10.14 - Total and per capita government expenditure: RMS replacement**

Table 10.14 contains commercially sensitive information and has been redacted

10.32 It can be seen from the above that total government expenditure is highest in the long runway case but the lowest on a per capita basis. As shown in the forecasts of HMG financial support and above, this is financeable by SHG without recourse to HMG, as a result of significantly higher domestically-generated revenues. The medium runway again has an intermediate position and the RMS replacement has the lowest total expenditure but the highest per capita expenditure by almost a factor of two.

10.33 **The growth in the economy under the air access options would allow government expenditure to rise and increasingly be financed by SHG's revenues.** On a per capita basis we forecast that expenditure would fall for the air access options. This is due to efficiencies resulting from economies of scale in service delivery for a larger population, reduction in the requirements for development aid and technical cooperation in the runway options as the island becomes more self-sufficient, and an increase in private activity including investment.

#### **The implication of using a shorter evaluation period**

10.34 We have evaluated the options using a time-frame of 40 years from the start of airport operations. The rationale behind this is as follows:

- 40 years represents the approximate lifetime of the runway infrastructure.
- 40 years represents a round number of ship lifecycles (two).
- On the basis of a discount factor of 3.5%, the discount factor applied to the final year of the model, 2048 (i.e. 40 years after the first year of operation, being 2009) is 0.2; using the higher discount factors it is significantly lower, i.e. 0.1 for 5% and 0.02 for 10%. Therefore extending the model further into the future, as well as increasing the inherent uncertainty of the approach, will have increasingly less impact on one of the core decision drivers, the NPV of cost to HMG.

10.35 However, it is also possible to calculate the NPV of the cost to HMG over a shorter evaluation period. We have produced the following analyses (Table 10.15) on this basis, using a period of 20 years airport operation (i.e. until 2028) and a period of thirty years, as per the Terms of Reference. All are calculating using a discount rate of 3.5%.

**Table 10.15 - Shortened evaluation period: impact on NPVs**

Option	Evaluated until 2028 - half life of airport	Evaluated until 2035 - 30 years as per ToR
<b>Financial support and budget surpluses both counted</b>		
Long runway		
Medium runway		
RMS replacement		
<b>Budget surpluses (in later years where they occur) ignored – i.e. assumed not to flow back to HMG</b>		
Long runway		
Medium runway		
RMS replacement		



10.36 As can be seen from the above, using these shorter evaluation periods does not have any effect on the ranking of the three options.

#### **Profile of key economic variables**

10.37 The overall levels of GDP and GNP have been discussed above. As described in Section 9 above we have broken down the overall economic activity into consumption (private and public), investment (private and public), imports, exports, remittances from Saints living overseas, and income to SHG on overseas investments. Of these, private consumption is generally the largest, as it is in most economies. Figure 10.5 shows the makeup of GDP and GNP, and Figure 10.6 shows the makeup of the private consumption element. Please note that the charts do not all have the same vertical scale, in order best to accommodate all the information.

#### **Figure 10.5 - Makeup of GDP and GNP**

#### **Long runway**

Figure 10.5 contains commercially sensitive information and has been redacted

## Medium runway

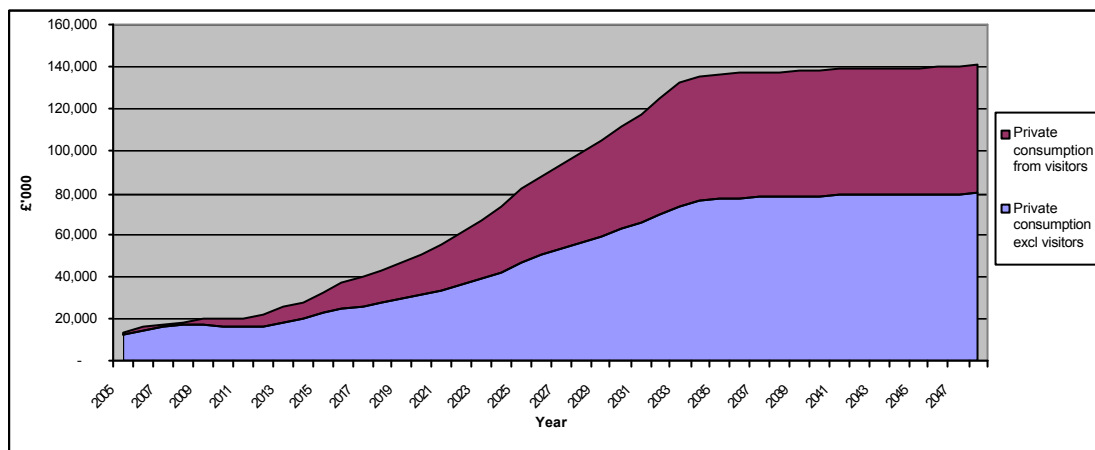
Figure 10.5 contains commercially sensitive information and has been redacted

## RMS replacement

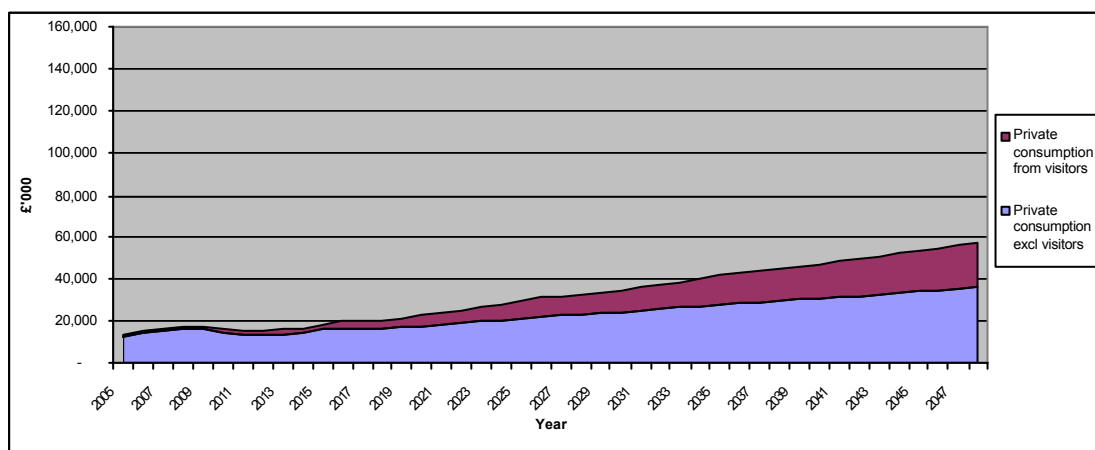
Figure 10.5 contains commercially sensitive information and has been redacted

**Figure 10.6 - Breakdown of private consumption**

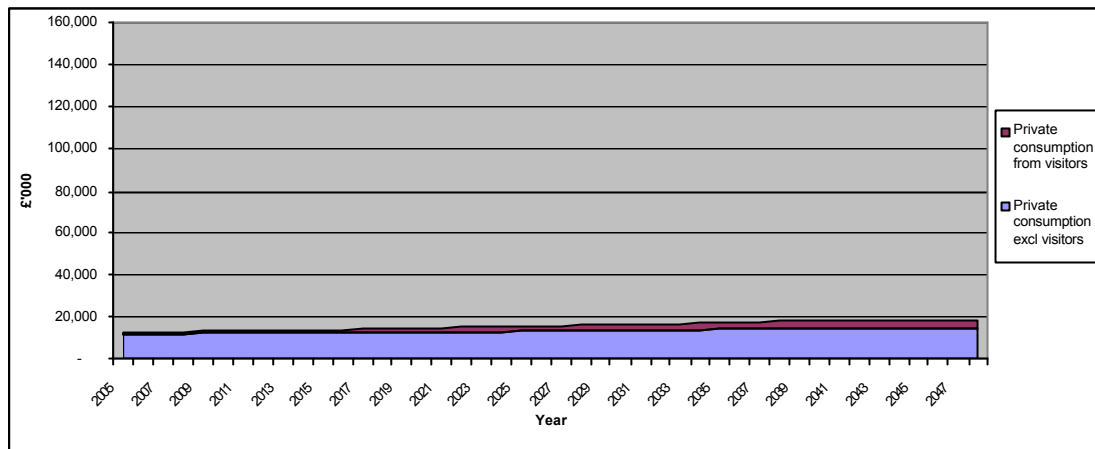
### Long runway



### Medium runway



## RMS replacement



10.38 Figure 10.7 compare the overall levels of private and public activity, before the effect of imports and exports.

**Figure 10.7 - Overall comparison of private and public economic activity**

## Long runway

Figure 10.7 contains commercially sensitive information and has been redacted

### **Medium runway**

Figure 10.7 contains commercially sensitive information and has been redacted

### **RMS replacement**

Figure 10.7 contains commercially sensitive information and has been redacted

10.39 The above analysis makes clear that the nature of the economy is forecast to undergo a significant shift towards the private sector in the runway options, particularly the long runway, but only a slight shift in the RMS replacement option.

### **Total investment / private share of investment**

10.40 We have modelled investment as split between public and private, the former being financed by SHG and the latter being a mixture of investment by islanders and by immigrant entrepreneurs (including both off-shore Saints and non-Saints). Investment by immigrants is important if the opportunities for tourism are to be taken full advantage of, as noted under the discussion of demographic behaviour (Sections 3.4 and 8 above) but we have not sought to model in detail all items of tourism-related expenditure.

10.41 As discussed above, we have determined that there are two items of private investment that are significant enough to the results of the model to be worth modelling separately within it. These are investment in a significant new hotel facility and investment in private villas that could cater for a measure of residential tourism. For the purpose of the economic model, it is the overall size of these investments that is more significant than their precise nature.

10.42 Figure 10.8 shows the total investment, split between these elements.

### **Figure 10.8 - Total investment**

#### **Long runway**

Figure 10.8 contains commercially sensitive information and has been redacted

#### **Medium runway**

Figure 10.8 contains commercially sensitive information and has been redacted

## RMS replacement

Figure 10.8 contains commercially sensitive information and has been redacted

10.43 The air access options, in particular the long runway, exhibit significantly higher levels of investment in the island than the RMS replacement. The effect of the cap on tourist numbers is apparent in the levelling-off of investment in the long runway option. This investment includes investment in the existing accommodation as well as additional accommodation and other tourism-related investment.

10.44 We have also examined the changing relationship between public and private investment. In the runway cases private investment makes up an increasingly large proportion of investment, achieving 70% of total investment in the runway options, but it remains at a low level in the RMS replacement option.

## Rates of Return

10.45 We have examined the Internal Rates of Return (IRRs) on the long and medium runway options. This analysis was carried out by treating the RMS option cash flows as the base case and deriving the incremental cash flows associated with the incremental investments in the long and medium runway options. The results are shown in Table 10.16.

**Table 10.16 – IRR on incremental cash flows**

Access Option	Including SHG budget surpluses	Excluding SHG budget surpluses
Long Runway	14.9%	13.5%
Medium Runway	11.2%	11.2%
DBOT – Long Runway	12.8%	14.3%

10.46 The results in Table 10.16 demonstrate that both options have IRRs substantially above the test discount rate of 3.5% and that the long runway is clearly preferred.

## Summary of Financial and Economic evaluation

10.47 Table 10.17 summarises the findings represented in the above tables and charts.

**Table 10.17 - Summary of Financial / Economic findings**

Area of model results	Assessment	Which option favoured
NPV and profile of HMG financial support, total and per capita	<p>The long runway has the lowest net present cost, then the medium runway, then the RMS replacement option. The reason for this is the increase in self-sufficiency which follows from the airport investment.</p> <p>In terms of the cost of financial support in the first period, 2005-09, the ranking is reversed because of the capital expenditure associated with the airport. However, from the second five-year period onwards the long runway has a lower cost of support.</p>	Long runway
Capital expenditure	<p>The airport involves a higher level of capital expenditure than the RMS replacement in the early years. The long runway is more expensive than the medium runway. Although the total over the evaluation period is higher for the RMS option in undiscounted terms, because of the second ship replacement, the total cost of the RMS Replacement lies between the medium and long runways when considered in present value terms. This must be understood in the context of DfID's views on what is affordable for the department and SHG.</p>	Medium runway
Time elapsed until aid / total support fall to zero	<p>The long runway offers the most likely prospect of being able to eliminate HMG financial support to St Helena, and our forecast is that this could happen in 2020. The medium runway demonstrates the same trend and is forecast to cease requiring support in 2045, whilst the RMS replacement option will involve ongoing support for the foreseeable future.</p>	Long runway
GDP and GNP	<p>The differences in GDP and GNP between the options are pronounced, and the long runway offers significantly more opportunities for the island's economy than either the medium runway or the RMS replacement. The medium runway does however still offer the opportunity for growth over the period whereas the RMS option will lead to the continuing stagnation of the economy.</p> <p>Social issues are discussed elsewhere, but in terms of the employment opportunities for Saint Helenians the long runway offers more scope for diversified economic activity to take place on the island.</p>	Long runway
GDP and GNP per capita	<p>On a per capita basis the distinctions between the options in terms of GDP and GNP are muted, but</p>	Long runway

Area of model results	Assessment	Which option favoured
	remain, although the impact of remittances and SHG's own portfolio are forecast to be sufficient to allow the RMS replacement option to have a higher GNP per capita than the medium runway option.	
Using a shorter evaluation period	The use of the shorter evaluation periods discussed above does not have a significant impact on the choice between options.	No significant effect
Profile of key economic variables	These profiles support the conclusions regarding impact on the overall level of economic activity.	Long runway
Private investment	Under the runway options, private investment represents a higher proportion of overall investment, as the economy grows. Tourism is a capital-intensive industry despite the high labour costs, and is the main driver of this.	Long runway

10.48 All of this assumes a decision in the short term. If the decision is delayed, the demographic profile will continue to change, making the economic changes required to make a success of the runway more difficult. Moreover the requirement for a replacement ship will become more urgent. As well as making the present value of the ship investment larger compared to the runway options (it is assumed that the decision to replace the ship will not take effect until 2009 so in our analysis this cost has been discounted for several years), the risks of delay in runway construction would assume greater significance in the context of an increasingly aged RMS.

**10.49 We conclude that our financial and economic analysis shows that the long runway is the preferred option.**

## SENSITIVITY ANALYSES AND SCENARIO MODELLING

### Sensitivity analysis

10.50 A number of sensitivities have been applied to the key assumptions within the model, as discussed in Section 9 above. This reflects the fact that many of the inputs to the model are subject to risks and uncertainties both in relation to initial estimates and forecasting, and therefore it is important to be able to focus attention on which inputs have the most impact on the results, and compare options with that in mind. The risk modelling provides a more sophisticated analysis than the following, but this is complemented by gaining an understanding of the significance of individual factors in isolation.

10.51 We have calculated the sensitivity of the net present value of the total HMG financial support to changes in each of the following:

- airport capex
- airport opex
- tourist numbers
- tourist spend
- population
- discount rate.



10.52 In each case, the numbers in every year have simply been moved upwards or downwards, with the exception of population, where the stated sensitivity factor is applied to the final year (2048), and the years until then have the additional percentage population applied on a basis proportionate to the amount of time elapsed since the initial demographic figures in 2003. The resulting scaling factor is applied across all age groups.

### **Results of sensitivity analysis**

10.53 Figure 10.9 and Table 10.18 set out the results of this sensitivity analysis. The charts represent this as outturn NPV (in £'000 using a discount factor of 3.5%) for a range of percentage changes in each of the inputs.

#### **Figure 10.9 - Diagram of sensitivities for each option**

##### **Long runway**

Figure 10.9 contains commercially sensitive information and has been redacted

##### **Medium runway**

Figure 10.9 contains commercially sensitive information and has been redacted

## RMS replacement

Figure 10.9 contains commercially sensitive information and has been redacted

10.54 Table 10.18 shows the change in NPV for a 1% change in the inputs, based on the calculation points used in the analysis. For example, for the long runway option a 1% increase in the tourist forecasts in each year would lead to a £1 ↓ decrease in the present value of the costs of the required contribution.

**Table 10.18 - Summary of sensitivities**

Variable considered	£'000 change for 1% increase in underlying		
	Long runway	Medium runway	RMS replacement
Airport capex	↓↓	↓↓	↓↓
Airport opex	↓↓	↓↓	↓↓
Tourist forecasts	(1,538)	(408)	(324)
Tourist spend	(1,674)	(476)	(163)
Population	603	395	202

10.55 Both air access options demonstrate an increasing net present cost if the capital and operating expenditure both rise, and all options do if the population rises in isolation of tourism development. This is consistent with natural expectations. The economy currently requires a subsidy, therefore it is reasonable that, other things being equal, a rise in population would lead to an increased requirement for financial support.

10.56 If tourist numbers or spend per visitor rise, the net present cost falls, as would be expected, given the contribution these make to the economy and SHG finances. The long runway is most sensitive to tourist numbers and spend, partly because a 1% move represents a larger absolute change.

10.57 For the long runway option the NPV criterion is most sensitive to tourism spend and tourism forecasts, and airport capital expenditure. It is slightly less sensitive to the population projection. For the medium runway option capital expenditure is the most sensitive variable, followed by tourism spend, tourism forecasts and population. In the RMS replacement option the level of tourism forecasts remains significant, as does population. Neither air access option is particularly sensitive to the operating costs of the airport.

10.58 As part of the model we have calculated the impact of tourist numbers on jobs within the economy and this has fed through to population numbers for each option. For the purpose of these sensitivities we have ignored this effect, i.e. flexing tourism numbers does not have any impact on population in the determination of the sensitivity. An indication of the impact of this simplification can be gained by considering the sensitivity to population numbers. For example if that were very low, then we can infer that the simplification of ignoring this relationship in the calculation of the tourism sensitivities is not misleading. The results above suggest that the effect would be offsetting – that is that rising tourism, if accompanied by rising immigration to fill the jobs generated, would not lead to quite such

significant impacts as calculated above by considering tourism in isolation. However, it should be noted that timing and the strength of the economy are relevant here – immigration in later years when the economy is self-sufficient is different from immigration in the early years.

### Scenario analysis – Long Runway

10.59 The risk modelling is designed to demonstrate the relationships between the various risks and uncertainties that this project would face in implementation. However, scenario analysis remains a helpful way to illustrate these interactions at a basic level, and gives a better insight into the overall worst and best case outcomes than simple sensitivities. We performed two scenario analyses, a 'worst case' and 'best case' scenario, in addition to the central estimates, which are in effect the 'most likely' scenario case.

10.60 We then considered what might happen in the highly unlikely situation in which all tourism marketing efforts for air access failed, as a 'disaster scenario' for air access.

10.61 These calculations were only performed for the long runway, as the recommended option, in order to highlight the importance of the assumptions made. The three scenarios are summarised as follows:

- **Worst Case :**

- ? construction time overrun: completion date delayed by 2 years
- ? capital cost overrun: +30%
- ? operating costs overrun: +20%
- shortfall in tourist numbers: 30% reduction in every year.

- **Best Case :**

- ? early airport completion: completion date advanced by 6 months
- ? capital cost saving: -20%
- ? operating costs saving: -10%
- ? out-performance in tourist numbers: 25% more than forecast in every year.

- **Disaster Case :**

- Visitor numbers set equal to those in the RMS replacement option, i.e. rising to 3,320 tourists and Saints constant at 1,560, these numbers being constrained by the capacity of the new RMS.
- Removed the cost of additional fuel storage in 2029, being £11.1m.
- Reduced the minimum schedule frequency. The RMS is scheduled to make 30 return visits a year, with 15 journeys CPT-STH-ASI-STH-CPT. For the purposes of making the air service more competitive at these continuing very low passenger numbers, we have set the minimum frequency of flights at an equivalent level. The flight pattern is still assumed to alternate between CPT-STH-ASI-STH-CPT and CPT-STH-CPT, and a frequency of 20 of these alternating routes a year is set. This is a total of 30 return flights to St Helena. This almost allows the air service to break even (£11.1m), but in reality would

probably require a fare increase to say, £11 – which is still way more competitive than the RMS fare structure.

- Removed revenue to SHG from land sales and also the investment in the economy of the hotel / villa investment, so as to make these factors identical to the RMS replacement option.
- Allowed the requirements for technical co-operation to continue indefinitely, as in the RMS case (for the main long runway case these cease in 2014).
- Used the demographic predictions calculated for the RMS replacement option, given that these were based on the jobs created by the RMS replacement visitor numbers.
- Set the institutional costs equal to those for the RMS, i.e. no additional expenditure promoting tourism etc., but retained costs of flight testing and environmental work.

10.62 In the 'disaster' scenario, it is quite pessimistic to assume that Saints visitor numbers, as forecast by our structured survey (see Section 6 above) would not be realised, even at the lower flight frequencies. As a variation on the 'disaster' scenario therefore, we present also the effect of including the original Saints visitor numbers.

10.63 Table 10.19 summarises the results.

**Table 10.19 - Scenario analysis, Long Runway (3.5% discount rate)**

Impact of scenario features	NPV (£'000) – all cashflows	NPV (£'000) – HMG financial support only
Baseline figures from Table 11.2, Long Runway		
<b>Worst case scenario</b>		
Impact of delay and consequent delays to tourism and revenue		
In addition, impact of capital and operating cost overruns		
Additional shortfall in tourist numbers (final worst case scenario position)		
<b>Best case scenario</b>		
Impact of earlier completion		
In addition, impact of capital and operating cost reductions		
Additional rise in tourist numbers (final best case scenario position)		
<b>Disaster scenario – RMS Saints and tourists on Long Runway</b>		
Impact, RMS visitor numbers		
<b>RMS comparison</b>		
For comparison – baseline RMS replacement figures		

**10.64 The worst case scenario results are still better than the RMS replacement forecast,** whilst the best case scenario figures are significantly better than the base case long runway. The sequential inclusion of each element of the scenario shows that all of the items being considered have an impact on the outturn, as reflected in the sensitivity analysis (we have not split out the capital expenditure and operating expenditure – as above changes in the capital expenditure have more influence than changes in operating costs). However, the final stage of changing the tourist numbers has the greatest single impact when the changes are applied in this way, which again is consistent with the findings of the sensitivity analysis.

**10.65 The disaster case scenario shows that, in numerical terms only, there is nothing to chose between building an aerodrome with a long runway and replacing the RMS** and that even inclusion of the relatively low number of Saints' visitors predicted for the long runway tips the balance by || over the period in favour of the long runway. The overall results for the disaster case are similar to the results for the RMS replacement option. This may appear surprising, but the reason is simple: the only significant difference between these two cases is the capital expenditure. As shown above in Table 10.18, the two levels of capital expenditure, in NPV terms, are very close. This difference is eroded almost to zero by a range of minor factors, such as the different impacts of the two options on the island's economy (e.g. the airport involves economic activity on the island), and the

different impacts on SHG's finances given the tax differences between the two modes of transport. We concluded that there was no need to perform a risk analysis of this case.

10.66 These scenario assumptions would impact in a similar way on the medium length runway option.

10.67 Figures 10.10 and 10.11 show the profile of HMG financial support and the breakdown of GDP for each of these scenarios.

**Figure 10.10 - Profile of HMG financial support and GDP breakdown for worst case scenario**

Figure 10.10 contains commercially sensitive information and has been redacted

**Figure 10.11 - Profile of HMG financial support and GDP breakdown for best case scenario**

Figure 10.11 contains commercially sensitive information and has been redacted

10.68 Figures 10.12 and 10.13 compare the GDP and total financial support for the 'Disaster' scenario, long runway with RMS Saints and tourists numbers, and long runway with RMS tourist numbers (and L-R Saints visitors numbers), against the baseline long runway option and the RMS replacement option.

**Figure 10.12 – GDP comparisons, 'Disaster' scenario**

Figure 10.12 contains commercially sensitive information and has been redacted

**Figure 10.12 –Comparisons of total financial support, 'Disaster' scenario**

Figure 10.13 contains commercially sensitive information and has been redacted

**Conclusions from sensitivity and scenario analyses**

10.69 A detailed conclusion on the impact of the above analyses depends on the view taken of the confidence placed in each input. However, it is possible to draw the following high-level conclusions:

- The sensitivities for the long runway largely keep the NPV below £11m. The 'worst case' scenario yields a result of almost £11m (when negative subsidies included). It is to be expected that this would be worse for that option than the sensitivities considered in isolation.
- The sensitivities for the medium runway keep the NPV within a band of approximately £11m.
- The sensitivities for the RMS replacement keep the NPV within a band of approximately £11m.

- The 'disaster' scenario analysis demonstrates that the economic case for the long runway remains strong, in terms of impact on GDP and costs to HMG, in a situation where effectively, the tourism promotion effort fails: if it came to a choice between air and sea access to provide nothing more than today's 'status quo', one may as well choose air access simply because it provides the potential to break the status quo, on the grounds that it would cost the same in status quo terms.

10.70 The sensitivity and scenario analyses demonstrate that the significant gaps, in financial / economic terms, between the three options remain, even under this type of stress-testing of the model calculations.

## ANALYSIS OF SUB-OPTIONS

10.71 We have considered two sub-options together with the three main options, as discussed in Section 9 above:

### **B737 using modified medium-length runway**

10.72 It is possible for a B737 to land and take off from the medium length runway (see Section 7 above), although it requires a slightly wider pavement than the 19-seater business jet.

10.73 As described in Section 7, we have concluded that in order to model this sub-option realistically, that is, in a way which reflects the likely continuing development of the aircraft market towards larger commercial passenger aircraft, it is necessary to include an extension of the runway during the period. We have assumed an extension in 2024, at a cost of £1.1 (real terms), which would bring the runway to the length of the long runway. This is technically possible although it is more expensive in cash terms than building a long runway at the outset – though there would be engineering and flight safety issues.

10.74 In broad terms the impact of this on HMG financial support to the island is threefold:

- The extension is an expensive capital investment, although it is reduced by the impact of discounting (£1.1 discounted at 3.5% for 15 years is ~£0.6). This deferral does however help affordability in the short term.
- Prior to the extension the ticket prices are higher so tourism development is slower, which in turn reduces the benefits to the economy and the reduction in the cost of financial support which flows from those benefits.

10.75 It would be preferable to operate the B737-700 on the (modified) medium length runway. The rationale for this is discussed in Section 7, but in essence, the smaller size of this design compared to the B737-800 means that whilst it is a less economic aircraft when full, it is able to carry more passengers than a 737-800 in the restricted takeoff and landing space of the medium runway. However, the trend towards larger commercial passenger aircraft means that not only is it appropriate to model the costs of the extension of the runway (as we are doing), but that there are many more of the larger B737s in circulation in the marketplace (and in particular, the South African marketplace) than of the smaller models (by way of illustration only 54 of the smallest in the family, the 737-600, have been sold). Given that in practice the choice of air service provider is likely to be limited to one of the South African carriers (as discussed in Section 7), there is a real risk that a B737-700



will not be available to provide the service. We have therefore run two versions of this sub-option through the economic model:

- B737-700 prior to runway extension in 2024, then B727-800
- B737-800 before and after runway extension in 2024, in case B737-700 not available.

10.76 The tourist and Saints visitor numbers have been reworked on the basis of revised ticket prices. The ticket prices prior to extension are £110 for the B737-700 and £110 for the B737-800 (STH/CPT – for ASI the prices are £110 and £110 respectively). The B737-800 is only flying at maximum 49% load factor, which is why it is so much more expensive than the long runway and post-extension prices of £110 and £110. The tourism and Saints visitor numbers reflect the higher ticket prices until extension; following extension they are repeated at the same level for a year, i.e. 2025, then they follow the long runway demand curves, starting from the level of demand reached in 2025. This reflects an assumption that the ticket price post-extension would be the same as for the long runway option. We consider that this approach is fairly generous to the sub-option, given the level of disruption that the extension works would generate (both width and length would need modifying).

10.77 The population numbers have also been adjusted (note that we have not run the population numbers through the full demographic model but regard our assumptions, as stated in Appendix C as reasonable).

10.78 The results for this sub-option are set out below.

### **19-seater business jet using Medium Runway with subsidy for Saints**

10.79 The 19-seater business jet requires significantly higher fares than the B737 models, in order to cover the costs of flying these aircraft. We have investigated the possibility of offering a subsidy for Saints using the business jet service. This arguably enables this option better to meet the access objective of the airport, and would also have an impact on the economic and social circumstances of the island. We have considered offering a subsidy of £110 on the Cape Town flights and £110 on flights to Ascension Island, to Saints only (residents and non-residents). This brings the costs of Cape Town flights down to £110.

### **Analysis of results of sub-options modelling**

10.80 For each sub-option we present an abbreviated form of the analysis produced for the main options:

- NPV and profile of total HMG financial support
- time until HMG financial support falls to zero
- profile of resulting GDP / GNP forecasts and main economic variables
- capital expenditure.

10.81 Tables 10.20 and 10.21 and Figures 10.14 and 10.15 set out these results.

10.82 It can be seen from the above results that **the sub-options are more expensive in terms of financial support than the main long and medium runway options for the same aircraft**, although the runway extension sub-options are cheaper than the medium runway option.

Table 10.20 - NPV of sub-options, £m

Option	Net present cost – real terms no discount	Net present cost @ 3.5% real discount p.a.	Net present cost @ 5% real discount p.a.	Net present cost @ 10% real discount p.a.
<b>Financial support and budget surpluses both counted</b>				
<i>For comparison – long runway option</i>				
<i>For comparison – medium runway option</i>				
19-seater on medium runway with subsidy				
737 on medium with later extension – 700 model prior to extension				
737 on medium with later extension – 800 model prior to extension				
<b>Budget surpluses (in later years where they occur) ignored – i.e. assumed not to flow back to HMG</b>				
<i>For comparison – long runway option</i>				
<i>For comparison – medium runway option</i>				
19-seater on medium runway with subsidy				
737 on medium with later extension – 700 model prior to extension				
737 on medium with later extension – 800 model prior to extension				

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**Figure 10.14 - Profile of financial support for sub-options**

**19-seater on medium runway with subsidy**

Figure 10.14 contains commercially sensitive information and has been redacted

**B737 on medium runway with extension; B700 prior to extension**

Figure 10.14 contains commercially sensitive information and has been redacted

**B737 on medium runway with extension; B800 prior to extension**

Figure 10.14 contains commercially sensitive information and has been redacted

**Figure 10.15 - Profile of economic aggregates for sub-options**

**19-seater on medium runway with subsidy**

Figure 10.15 contains commercially sensitive information and has been redacted

**B737 on medium runway with extension – 700 prior to extension**

Figure 10.15 contains commercially sensitive information and has been redacted

**B737 on medium runway with extension – 800 prior to extension**

Figure 10.15 contains commercially sensitive information and has been redacted

**Table 10.21 - Time until financial support falls to zero for sub-options**

Option	Year in which financial support falls to zero
19-seater on medium runway with subsidy	Does not reach zero during evaluation period
B737 on medium runway with extension; B700 prior to extension	2022
B737 on medium runway with extension; B800 prior to extension	2026

10.83 Figure 10.16 and Table 10.22 show all of the capital expenditure requirements of the different runway options, together with the RMS for comparison, in real undiscounted terms (and in NPV terms in the table). As well as the main and sub-option capital costs, the costs of the procurement options, which are subject to discussion in Section 12, are included for completeness

**Figure 10.16 - Capital expenditure for sub-options**

Figure 10.16 contains commercially sensitive information and has been redacted

10.84 The sub-option 19-seater (medium runway) with subsidy has the same capital cost as the main medium runway option. The B737 on medium runway with extension capital expenditure is not affected by the choice of B737 aircraft using the runway prior to extension.

10.85 Table 10.22 summarises all of the capital expenditure requirements of the different runway options.

**Table 10.22 - Summary of capital expenditure options**

Option / sub-option (£'000)	Initial infrastructure	Equipment, utilities & IT	Terminal and transit	Over-heads	Later capital costs - fuel storage / extension	Total capital costs	Capital costs discounted @ 3.5% real	Average operating costs p.a. (£'000)
Medium runway main option								
Medium (wide) runway								
Medium (wide, extended) runway								
Long runway main option								
<i>RMS replacement (sum of 2009 and 2029)</i>								

### Sub-options conclusion

10.86 Table 10.23 summarises the foregoing report on the outcomes of the investigation into whether viable sub-options exist, over and above the main three access options that were short-listed for detailed study.

10.87 We conclude that:

- From the point of view purely of the economic decision criteria the medium runway option with the 19-seater aircraft should not involve a subsidy.
- The construction of a medium runway wide enough to accommodate larger aircraft is more attractive, on financial and economic grounds, than the core medium runway option (issues concerning safety and operations are discussed in Section 7 above). However, it does not score as highly as the long runway option.

**Table 10.23 - Sub-options summary**

Area of model results	19-seater on medium runway with subsidy	B737 on medium with later extension
NPV and profile of HMG financial support	This sub-option is more expensive than the main medium runway option.	This sub-option is more expensive than the main long runway option, but is cheaper than the medium runway. It therefore represents a less good option than the long runway over the medium to long term.
Time elapsed until aid / total support fall to zero	Does not reach zero during evaluation period.	It takes longer in the sub-option for St Helena to become self-sufficient than it does in the long runway option.
Economic activity	The island achieves a higher GDP and GNP	The pattern exhibited is similar to that for financial support – at the end of the



Area of model results	19-seater on medium runway with subsidy	B737 on medium with later extension
	than in the main option, caused by additional visits by Saints and expenditure by them on the basis of the lower ticket prices.	forecast period the level of economic activity is similar to in the long runway option, and the cap in assumed tourist numbers has been reached in all cases (in 2039 for the -800 variant and 2036 for the -700, compared to 2033 for the long runway option). However, the growth until then is retarded by the more expensive air service prior to extension.
Capital expenditure	Same as main option	Additional £1.1 in 2024, saving of £1.1 in the initial construction.

### Financial / Economic modelling: Overall Summary

10.88 The overall findings of the foregoing financial / economic analysis are summarised in Table 10.24 and lead to the conclusion that the long runway is the preferred option.

**Table 10.24 – Overall summary of Financial / Economic modelling results**

Area of model results	Assessment	Which option favoured
NPV and profile of HMG financial support, total and per capita	The long runway has the lowest net present cost, then the medium runway, then the RMS replacement option. In terms of the cost of financial support in the first period, 2005-09, the ranking is reversed because of the capital expenditure associated with the airport. The sub-option involving B737s on the medium runway is more attractive in financial and economic terms than the medium runway option but still less attractive than the long runway option.	Long runway
Capital expenditure	The airport involves a higher level of capital expenditure than the RMS replacement in the early years. The long runway is more expensive than the medium runway but cheaper than the sub-option involving B737s on the medium runway (extended). The medium runway is the cheapest option in present value terms.	Medium runway
Time elapsed until aid / total support fall to zero	The long runway offers the most likely prospect of being able to eliminate HMG financial support to St Helena. The RMS replacement option will involve ongoing support for the foreseeable future. The medium runway and the sub-option involving B737s on the medium runway both take longer than the long runway option.	Long runway
GDP and GNP	The differences in GDP and GNP between the options are significant. The long runway offers more opportunities for the island's economy than either the medium runway or the RMS replacement, including the sub-option involving B737s on the medium runway.	Long runway

10.89 Overall, therefore, after considering various sensitivities and scenarios, and also two sub-options, the long runway remains the recommended access option on the basis of financial and economic analysis.

## **SUMMARISED ADVANTAGES AND DISADVANTAGES OF THE OPTIONS**

### **Medium Runway (19-seater business jet solution)**

#### **For**

- (marginally) lowest capital cost
- (marginally) least environmental impact
- (marginally) built quickest
- simple air service agreements (effectively UK aircraft operator)
- flexibility satisfies low traffic forecasts
- independent St Helena airline
- greater landing fee income to aerodrome
- effective medevac capability.

#### **Against**

- very high ticket price
- unacceptable to tour operators - does not encourage maximum tourist growth
- downstream traffic growth - need to re-negotiate Ascension Island usage agreement?
- large capex needed to extend to longer runway for B737 use
- extension to longer runway would disrupt operations severely
- extension to longer runway could leave unacceptable environmental scar
- no belly hold cargo
- no independent cargo (must rely totally on sea cargo provision)
- effective disaster relief restricted to use of military aircraft.

### **Medium Runway (modified for B737 operations)**

#### **For**

- marginally lower capital cost than long runway
- marginal second least environmental impact
- reduces possibility of having to re-negotiate Ascension Island usage agreement
- built marginally quicker
- medium ticket costs
- middle-road solution to growing tourist traffic.

#### **Against**

- middle-road ticket price would not encourage maximum tourist growth at fastest rate
- high risk in maintaining continual air service over 40-year period

- restricts market for supplying acceptable air service provider – high risk long term
- possible changes to air service provider over the 40-year period could lead to need to re-negotiate several air service agreements
- possible further restrictions on payload due to runway approach conditions or enforced by the Regulator (ASSI or country of registration Civil aviation authority) – this could lead to higher ticket prices
- high capex to extend runway length if operational strategy fails after construction completed
- extension to longer runway could leave unacceptable environmental scar
- embarrassment to HMG/DFID if strategy fails during tender process or during construction phase
- limited belly hold cargo
- limits Open Skies ability
- no independent cargo
- effective disaster relief restricted to use of military aircraft.

### **Long Runway (B737 or Airbus equivalent operation)**

#### **For**

- manageable capex
- one-time solution
- if runway on other options is extended, cheapest option
- cheapest ticket price
- maximises potential for economic and tourism growth
- good air cargo belly hold capability: could lower ticket price or provide SHG income
- independent air cargo operations possible
- best for operational flight safety
- fully exploits Open Skies policy
- use of larger aircraft minimises possibility of having to re-negotiate Ascension Island usage agreement
- nature of cut-and-fill engineering leaves minimal environmental scar
- good medevac capability - improving with increased aircraft frequency
- effective disaster relief from both civil and military aircraft.

#### **Against**

- highest initial capex
- longest construction period.

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## OVERALL VALUE FOR MONEY

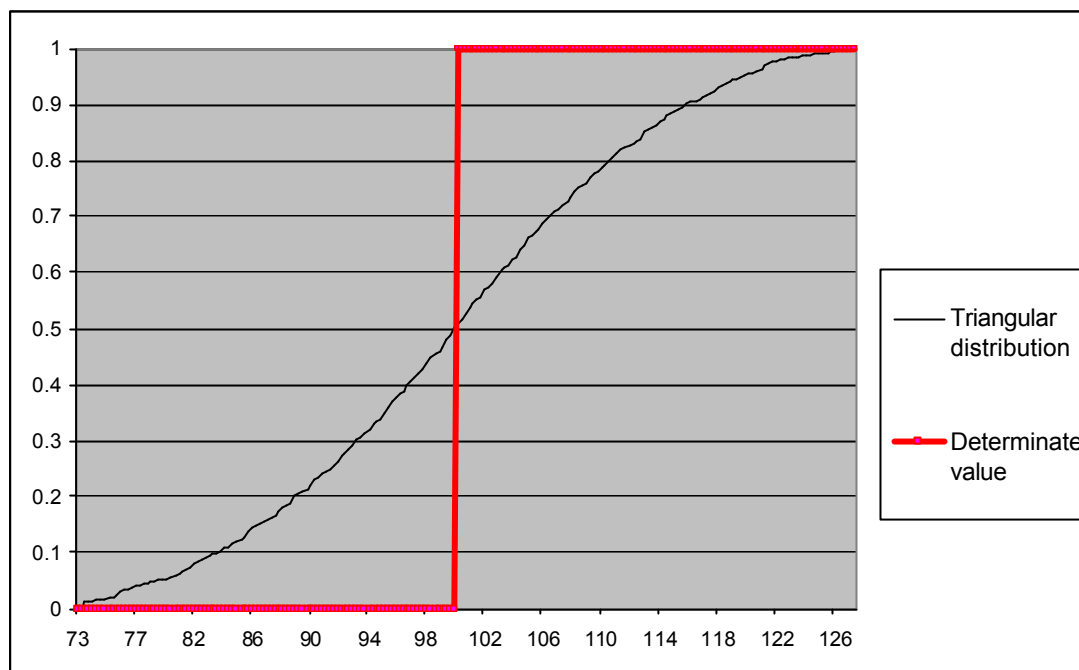
10.90 In terms of utility of the procured asset the Financial / Economic assessments demonstrate that overall value for money can best be derived from an airport development with a long runway. The overall consideration of the qualitative issues indicates that the long runway offers the best opportunity for the social fabric of St Helena to recover from its current state of decline.

## 11 RISK ASSESSMENT

### THE ROLE OF FORMAL, NON-DETERMINISTIC RISK MODELLING

- 11.1 In the core Financial / Economic model, every input has a determinate value. However, when forecasting future events it is not possible to forecast with absolute certainty. We have considered two types of uncertainty about future events:
- Risks – there are a number of risks facing the project, from capital expenditure overruns to natural or economic disasters affecting either St Helena or the economies which are expected to be the source of tourists.
  - Uncertainties – the inputs to the model that relate to future events, e.g. tourist numbers, have been estimated from market studies and proxy islands' experience, and therefore are not certain.
- 11.2 The approach to analysis of sensitivities and scenario modelling described in Section 9 above goes some way towards illustrating the potential impact of these risks and uncertainties. However Monte Carlo analysis provides a more sophisticated way of applying these factors to the model results.
- 11.3 In Monte Carlo simulation, inputs are not expressed as determinate values, as it is in Financial / Economic modelling. Instead, they are assigned probability distributions. In addition, the details of risks can be included, in terms of their likelihood and consequent impact on the model's workings. The outputs of the model are then generated on the basis of these revised assumptions and they themselves appear in the form of a probability distribution rather than as a determinate figure (as in Financial / Economic modelling). The technique used in Monte Carlo simulation is to run the model a large number of times (say 1,000 iterations), drawing random numbers from each input array for each iteration. The output probability distribution then aggregates the results of all these iterations.
- 11.4 This enables the investment decision to be based on not just the central base case results, but also on an understanding of the range of uncertainty for the recommended option, both in comparison to the uncertainties attached to the other options and in isolation. It is possible, for example, for one option to appear more attractive on the basis of the central, deterministic case (e.g. as might be indicated by Financial / Economic modelling on its own), but less so when it is recognised that is much more risky than alternatives.
- 11.5 This approach yields the results of the risk modelling as it relates to the overall investment decision.
- 11.6 Simulation can also clarify issues relating to procurement decisions.
- 11.7 Figure 11.1 is an example of a probability 'S-curve'. It is based on a simple single-variable input, which has a triangular distribution shape and ranges between 70 and 130, with the mode, median and mean of the distribution at 100. This has been produced using only 100 iterations, and the mean from the simulation is therefore not exactly 100. Superimposed on this is the equivalent line for a determinate input, set to equal 100 in every instance.

**Figure 11.1 – Example of Probability S-Curve**



11.8 We have considered risks and uncertainties in the following areas by assigning probability distributions and specific risks to each. These risks and their impacts were developed through a series of workshops with the study team and are displayed in Tables 11.1 to 11.3 below. Uncertainties were also developed and these are discussed around Table 11.4 below.

- tourist numbers
- tourist and business traveller spend
- airport capital expenditure
- airport operating expenditure
- population.

11.9 These Tables should act as the start point for a Risk Management Plan, to be developed in conjunction with the Outline Implementation Plan, presented in Section 14 below, taking account of all the discussion in this Report around these now crystallised headline risks and generating responsibilities and accountabilities for each of the principal roles suggested by the Outline Implementation Plan.

Table 11.1 – Long Runway Option: Risks and Impacts

RISKS		Headline Risk	Scope	Probability	Impact			Rationale	Modelling Notes
					L	M	H		
CAPEX	C1								
	C2								
	C3								
OPEX	O1								
TOURISM	T1	SHG fail to implement full range of actions necessary by time of airport opening	Protective legislation stifles investment e.g. residency; failure to implement vital policy / legal changes; failure to plan for & facilitate growth; failure to prevent ethnic conflict	20%	see notes			There are many activities that must be implemented by SHG to facilitate successful growth. Failure of any key element will suppress growth in period after airport opening	When risk occurs, use low range estimate for growth in tourism in period following airport opening

RISKS		Headline Risk	Scope	Probability	Impact			Rationale	Modelling Notes
					L	M	H		
	<b>T2</b>	Tourists expectations not met	Low standard of amenities due to lack of local or external investment; lack of skill in local population; failure to attract major hotel operator; lack of attractions	30%	see notes			Any shortfall in the standard of amenities is likely to deter travel firms and tourists	When risk occurs, use low range estimate for growth in period following airport opening
	<b>T3</b>	Airline capacity unable to meet demand	Contract conditions cannot be varied in time to capture demand; unreliability of service;	10%	see notes			Risk most likely to impact initial period of air travel if demand is on high side of estimate. Future contracts should be able to respond	When risk occurs, use low range estimate for growth in period following airport opening
	<b>T4</b>	Disaster or epidemic or external event depresses tourism	Landslip / flood; outbreak infectious disease; downturn in world economy; instability in South Africa; world terrorism;	10%	see notes			Local disaster or major external event is likely to depress tourism for up to 5 years.	Risk applies to each period. Model by assuming initial reduction in growth followed by a stable period followed by recovery.
<b>GOV REVENUE</b>	<b>G1</b>	Ascension Island air access unavailable or severely limited	US change policy; failure to reach firm agreement; current agreement is reneged;	5%	£1m	£5m	£10m	If flights to Ascension unavailable or restricted, ship might be required to allow jobs on Ascension/Falklands to be	Apply risk to each period and assume that charter cost would be spread over that period



RISKS					Impact				
					L	M	H		
		Headline Risk	Scope	Probability				Rationale	Modelling Notes
			temp disruption to access at Ascension					sustained	

**Table 11.2 – Medium Runway Option: Risks and Impacts**

RISKS		Headline Risk	Scope	Probability	Impact			Rationale	Modelling Notes
					L	M	H		
CAPEX	C1								
	C2								
OPEX	O1								
TOURISM	T1	SHG fail to implement full range of actions necessary by time of airport opening	Protective legislation stifles investment e.g. residency; failure to implement vital policy / legal changes; failure to plan for & facilitate growth; failure to prevent ethnic conflict	20%	3%	7%	12%	There are many activities that must be implemented by SHG to facilitate successful growth. Failure of any key element will suppress growth in period after airport opening	When risk occurs, use low range estimate for growth in tourism in period following airport opening
	T2	Delay in establishing air service after runway complete	Air service severely restricted for initial period	3%	1 year		2 years	Could be difficult to reach an agreement with potential contractors due to lack of commercial attraction	Model so that risk applies from airport opening date for a variable period. When risk occurs, cap tourist numbers at very low level. In addition, increase

RISKS		Headline Risk	Scope	Probability	Impact			Rationale	Modelling Notes
					L	M	H		
									operating costs for 5 years after to reflect higher cost to government
	<b>T3</b>	Tourists expectations not met	low standard of amenities due to lack of local or external investment; lack of skill in local population; failure to attract hotel operator; lack of attractions	30%	3%	7%	12%	Expectations of many business jet tourists are likely to be high and any shortfall could seriously reduce the island's attraction	When risk occurs, use a low upper limit for tourist numbers throughout
	<b>T4</b>	Disaster or epidemic or external event depresses tourism	landslip / flood; outbreak infectious disease; downturn in world economy; instability in South Africa; world terrorism;	10%	see notes			Local disaster or major external event is likely to depress tourism for up to 5 years. After this, recovery up to earlier projections is probable over a similar period	Risk applies to each period. Model by assuming zero average growth for entire period, but to reflect the ability to recover start the following period from the original mid-point expected growth rate for the affected period.
<b>GOV REVENUE</b>	<b>G1 O2</b>	Ascension Island air access unavailable or severely limited	US change policy; failure to reach firm agreement; current agreement is reneged;	5%	£1m	£5m	£10m	If flights to Ascension unavailable or restricted, ship might be required to allow jobs on Ascension/Falklands to be sustained	Apply risk to each period and assume that charter cost would be spread over that period

RISKS					Impact				
		Headline Risk	Scope	Probability	L	M	H	Rationale	Modelling Notes
			temp disruption to access at Ascension						

Table 11.3 – RMS Replacement Option: Risks and Impacts

RISKS		Headline Risk	Scope	Probability	Impact			Rationale	Modelling Notes
					L	M	H		
CAPEX	C1								
	C2								
UNCERTAINTY	C3								
OPEX	O1								
	O2								
	O3								
	O4	Fail to generate additional freight revenue	Unable to utilise ship for non-island related freight	20%	10%	20%	30%	It is not yet established if there is a market for coastal cargo work in addition to St Helena access usage	Reduce/eliminate assumed revenue applies to all years once happened after replacement but before 2020

RISKS					Impact				
					L	M	H		
		Headline Risk	Scope	Probability				Rationale	Modelling Notes
UNCERTAINTY	O5	Tourism demand exceeds expectations	Opportunity risk that higher growth can be achieved by extra investment	Not applicable	4%	5%	7%	Current assumption is zero growth in tourism, but in the event demand may be detected but require some investment to realise e.g. better docking facilities for cruise ships / visiting yachts	Apply a growth profile to tourism numbers (with a range) and add capital costs as shown. Risk could occur in any year but only once in 40 years. Start tourist increase from year after investment to reflect lag from investment to return.
	T4	Disaster or epidemic or external event depresses tourism	Landslip / flood; outbreak infectious disease; downturn in world economy; instability in South Africa; world terrorism;	1%	£1m	£2m	£5m	Local disaster or major external event is likely to depress tourism for up to 5 years. After this, recovery up to earlier projections is probable over a similar period	Risk applies to each year

## APPLICATION OF THE MONTE CARLO SIMULATION APPROACH

### Overview

- 11.10 The economic model compares the Access Options by deterministic means based on central estimates and assumptions. Quantitative risk assessment takes the economic model as its starting point and then applies estimating tolerances and significant risks to key inputs such as costs and tourist numbers. This enables us to view the potential spread of costs for each option in terms of the principal financial indicators, NPV and cash-flow, set against levels of confidence. This provides a risk-aware view of each of the options as well as an ability to compare them on a consistent basis.
- 11.11 Three risk models have been constructed for the specific purpose of this assessment, corresponding to the three Access options, in MS Excel, with an add-on risk analysis package, @Risk by Palisade. @Risk is a proprietary risk analysis tool that uses Monte-Carlo simulation techniques by running a series of iterations, typically 1,000, which simulate the risks occurring (or not) according to probabilities ascribed, and with impacts falling within given ranges. It also models estimating tolerances around elements such as quantities and costs. One of the benefits of this form of analysis is to eliminate statistically incredible results such as all risks occurring.
- 11.12 The models have been designed principally to show NPV and cash-flow, but they are also capable of providing other key outputs including the length of time taken for the Government subsidy to reach zero, and the spread of potential growth in tourism, with uncertainty and risks taken into account.

### Model Structure

- 11.13 The three main components of the model, described below, are baseline, uncertainty and risk. Risks and uncertainties were developed in a series of workshops with the study team.

#### 1. Baseline

- 11.14 The deterministic economic model provides the baseline for each option, simplified to improve reliability and comprehension of the risk model. The economic model contains a number of fixed elements. These include the discount rate used to calculate net present value, changes and mix of population, private consumption, levels of direct and indirect taxation, breakdown of tourist expenditure and numerous other items believed to be relatively insignificant. The models have the ability to test changes in these assumptions, if required.

#### 2. Uncertainties

- 11.15 To represent the inherent tolerances present in estimating, irrespective of risk, uncertainty ranges are applied to baseline values for capital expenditure, operating costs, tourism growth rates, and tourism expenditure per head. Uncertainty is also applied to the cap level likely to be applied to the number of tourists allowed on the island at one time. Three-point estimates are used throughout, with triangular distribution, skewed as judged to be appropriate. Although numerous customised distributions are available for three-point estimates, we have concluded from our long experience in risk modelling that

resulting differences in outputs are marginal, and consistent use of simple triangular inputs is an aid to reliable interpretation of results. To enable the effect of estimating tolerance to be tested, the model is constructed so that each or all of the uncertainty ranges can be “switched off” so that only the central value is used.

11.16 The uncertainties applied to elements within each option are shown in Table 11.4 below, and it can be seen that different ranges are used for each option. For example both airport options are reckoned to have greater capital cost uncertainty than the RMS option due to the different methods of procurement and implementation.

**Table 11.4 – Uncertainties used in the risk modelling**

Long runway option				
Airport costs		min	mid	max
Capex	Materials			
	Labour/Plant			
Opex				
Tourists		min	mid	max
Numbers				
Band 1	Average compound growth rate over second period		6%	
Band 2	Average compound growth rate over second period	30%	57%	85%
Band 3	Average compound growth rate over third period	7%	15%	25%
Band 4	Average compound growth rate over forth period	3%	7%	15%
Band 5	Average compound growth rate over fifth period	2.0%	3.8%	5%
Expenditure		-10%	0%	10%
Medium runway option				
Airport costs		min	mid	max
Capex	Materials			
	Labour/Plant			
Opex				
Tourists		min	mid	max
Numbers				
Band 1	Average compound growth rate over second period		6%	
Band 2	Average compound growth rate over second period	-6%	0%	6%
Band 3	Average compound growth rate over third period	7%	15%	23%
Band 4	Average compound growth rate over forth period	3%	7%	11%
Band 5	Average compound growth rate over fifth period	1.8%	3.8%	6%
Expenditure		-10%	0%	10%



RMS replacement option				
RMS Costs		min	mid	max
Capex	New and replacement vessel			
Opex				
Tourists		min	mid	max
Numbers	Average compound growth rate over all years	-1%	0%	2%
Expenditure		-10%	0%	10%

11.17 The really significant differences between the options are in the uncertainties applied to the estimated growth in tourism. The Long Runway Option has by far the greatest uncertainty, which is consistent with it having the greatest potential for growth, which may or may not be realised. The Medium Runway Option, being constrained by air travel costs and capacity, has relatively moderate uncertainty. The RMS Option has a very narrow band of uncertainty, being constrained by travel cost, time and capacity.

11.18 The significant risks that could impact each option are included in Tables 11.1 to 11.3 above. They cover risks to capital costs, construction delay, operating costs, and tourism and government revenue. Each risk has a probability ascribed e.g. 20% chance of occurring in a defined period. The consequences of risks occurring are expressed with a range, similar to estimating tolerances. All risks are independent. To enable the effect of risks to be tested, the models were constructed so that they could be run with each or all of the risks deactivated.

11.19 Both airport options have two major construction risks representing (i) physical difficulties and (ii) poor management. When either risk occurs the model assumes a significant increase in capital cost and a delay in completion of one year. If both risks occur, the capital cost is increased further, and a delay of two years is included. These effects are applied in addition to the effects of estimating uncertainty described earlier. There are also capital cost risks with the RMS option. Though ship procurement is reckoned less risky than airport construction, there is thought to be a small chance that additional port facilities may be considered necessary should tourism development, by sea access, demand it.

11.20 Of the remaining risks, there are a number that could impact the growth of tourism. The Long Runway option is particularly sensitive to these risks due to its potential for growth, on which its success depends.

## RESULTS OF RISK MODELLING

### Results - Comparison of Options

11.21 Results from the risk models for the three options are summarised in Table 11.5 below.

**Table 11.5 – Net present costs from risk model, discounted at 3.5% real**

Comparisons of Options, including negative subsidy, £'000			
	Long Runway	Medium Runway	RMS Replacement
<b>Baseline</b>			
<b>5%</b>			
<b>50%</b>			
<b>95%</b>			
<b>Mean</b>			

11.22 In Table 11.5, the baseline figure is the deterministic value from the economic models, and the 5%, 50%, 95% and mean values are from the risk models. In reading this table, the “%” label indicates the probability of the given value being achieved. For example in the long runway option there is a 5% chance of the NPV being || or less, and a 95% chance of it being || or less. Table 11.5 shows that at comparable levels of probability the RMS Replacement option has the highest NPV and that the Medium Runway option is likely to have a higher NPV than the Long Runway option.

11.23 Figure 11.2 below compares the NPV of the subsidy for each option at all levels of probability from 0% to 100%. It can be seen that the NPV of the Long Runway option has the shallowest gradient, indicating that a very wide range of results is possible. Later analysis shows that this is due to the effects of uncertainty and risks to the growth of tourism. Conversely, because of its potential for growth, only the Long Runway option has a possibility, albeit slim, of returning a positive NPV.

**Figure 11.2 – Cumulative probability distributions of NPV at 3.5%**

This figure has been redacted as it contains information that is commercially sensitive and could influence future procurement processes.

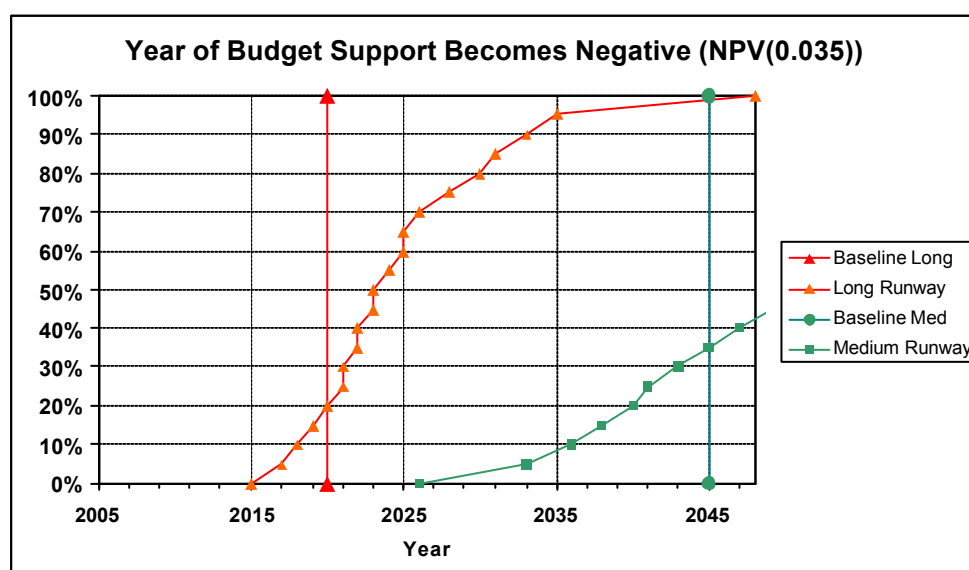
11.24 Figure 11.3 below shows the distribution of 1,500 results from the risk model. It emphasises the wide range of possible outcomes for the long runway option, particularly when compared with the narrow band for the RMS Replacement option. (The results represented in this chart are used to generate the probability curves in Figure 11.2 above.)

**Figure 11.3 – Distribution plots of NPV at 3.5%**

This figure has been redacted as it contains information that is commercially sensitive and could influence future procurement processes.

11.25 Figure 11.4 below shows the point at which the subsidy for each option is likely to reach zero. It is significant that only the Long Runway option appears certain to reach this point by 2047 (with 2023 having an evens chance). The Medium Runway option has only a 43% probability of reaching zero by 2048, and the RMS option never achieves it (and so does not feature on the chart).

**Figure 11.4 – Year when financial support from HMG falls to zero**



11.26 Figures 11.5 and 11.6 show the NPV for the subsidy but with negative subsidy excluded.

**Figure 11.5 – Cumulative probability distributions of NPV at 3.5%: excluding negative subsidy**

This figure has been redacted as it contains information that is commercially sensitive and could influence future procurement processes.

**Figure 11.6 – Distribution plots of NPV at 3.5%: excluding negative subsidy**

This figure has been redacted as it contains information that is commercially sensitive and could influence future procurement processes.

11.27 The difference between the two pairs of charts is that in the second pair (Figures 11.5 and 11.6), any years with a negative financial support requirement have been ignored. This makes no difference to the RMS option, and little to the medium runway, but for the long runway it has a substantial impact, particularly for the lower-cost iterations of the model, because the present value of future year cash inflows has been removed, which has the effect of increasing the cost to HMG over the period.

11.28 The mean of each probability distribution is also shown, which it can be seen is higher than the output from the non-risk model. The reason for this is that, although the uncertainties are fairly symmetrical, the risks are all downside risks, i.e. they increase the cost rather than reducing it, so the mean output from the risk model is more expensive to HMG than the output from the non-risk Financial / Economic model.

11.29 It can be seen that with negative subsidy excluded, the range of results has narrowed considerably for the Long Runway option, illustrating its potential to generate a budget surplus. Nevertheless, the Long Runway option maintains a clear advantage.

### Conclusions – risk modelling

11.30 In summary, the results from the risk modelling indicate that despite the risks and uncertainty in tourist numbers, the long runway option has a high probability that zero subsidy can be achieved, almost certainly by 2035 or sooner, and even viewed pessimistically the NPV of its total cost is unlikely to exceed £10m.

11.31 It also demonstrates that although high tourist demand cannot be guaranteed, effective management of all risks within the control of Government should reduce the NPV and the period for which it is positive. The focus for management should be on implementation planning for construction of the airport, and the full range of enabling measures that will encourage and promote tourism before the airport opens.

11.32 In the case of the medium runway solution, it is very unlikely that the NPV of costs would fall below £10m, whereas for the RMS replacement option, the modelling indicates that the NPV would exceed £10m in all cases.

### Composite conclusions from Financial/Economic and Risk modelling

11.33 Perhaps the most helpful indication of the overall cost of an option to HMG is the mean of the distribution of NPVs of total financial support calculated within the risk model, ignoring those years in which SHG shows a surplus. The difference between this amount and the output from the Financial / Economic model provides an indication of the impact of risks on the calculation. Capex is skewed upwards and tourism numbers are skewed downwards, so that the main source of difference between the non-risk and risk models is the impact of risks, i.e. one-off events that negatively impact an aspect of SHG's finances (e.g. tourist numbers), as described in this Section.

11.34 A good indication of the overall riskiness of each access option is the gap between the mean of the risk model output and the 95% confidence result from the risk model. The choice of 95% is arbitrary; the graphs presented in this Section allow other confidence levels to be read off as required.

11.35 On this basis, a summary of the results of modelling are presented in Table 11.6.

**Table 11.6: Composite summary of modelling results (£m, present value terms discounted at 3.5%), SHG budget surpluses ignored**

Indicator	Long runway	Medium runway	RMS replacement
Expected overall cost to HMG in present value terms – the mean of risk model output	£11.36	£11.37	£11.38
95% confidence level of total cost to HMG	£11.39	£11.40	£11.41
Difference between mean and 95% confidence figure	£11.42	£11.43	£11.44

11.36 The long runway has the lowest expected cost.

11.37 The long runway has a greater than 95% chance of being lower cost than even the expected cost of either the medium runway or RMS replacement options – this conclusion is based on the fact that the figure of £11.36 is lower than the expected figures for the other two options.

11.38 The long runway and medium runway options have a greater variance on potential outcomes than the RMS replacement – this is unsurprising given that they represent a greater degree of change compared to present arrangements.

11.39 There is a degree of ‘overlap’ between the three options as presented in Figure 11.6 above. This implies that a worst case outcome for the long runway would be worse than a best case outcome for the medium runway. There is very little overlap with the RMS replacement option. The relevance of this must be considered in the light of the fact that the factors affecting the two runway options have a large degree of commonality – if the tourism figures are significantly overestimated for the long runway it is likely that they are also overestimated for the medium runway, so it is unlikely that we have the choice between a worst case outcome for the long runway and a best case outcome for the medium. We acknowledge that there are differences, depending on which segment of the tourism market is being targeted, so the influences on the outcomes of the two options are not totally identical.

11.40 The ‘disaster case’ scenario analysed in Section 10 above, where visitor numbers in the long runway option are set equal to those pertaining to the RMS replacement option, shows that, in terms only of the NPV of HMG financial support, there is nothing to choose between building an aerodrome with a long runway and replacing the RMS. In our view the ‘disaster scenario’ is excessively pessimistic and does not represent a realistic outcome for the project, but this finding reduces the decision to one of affordability.

Moreover, on the basis of our modelling, the long runway option is the only option to offer a significant chance of reducing the annual financial support from HMG to the island to zero

## RISK OUTPUTS - LONG RUNWAY OPTION

11.41 The following section explores the Long Runway Option in more detail to provide a fuller understanding of its uncertainties and risks, and their possible effect.

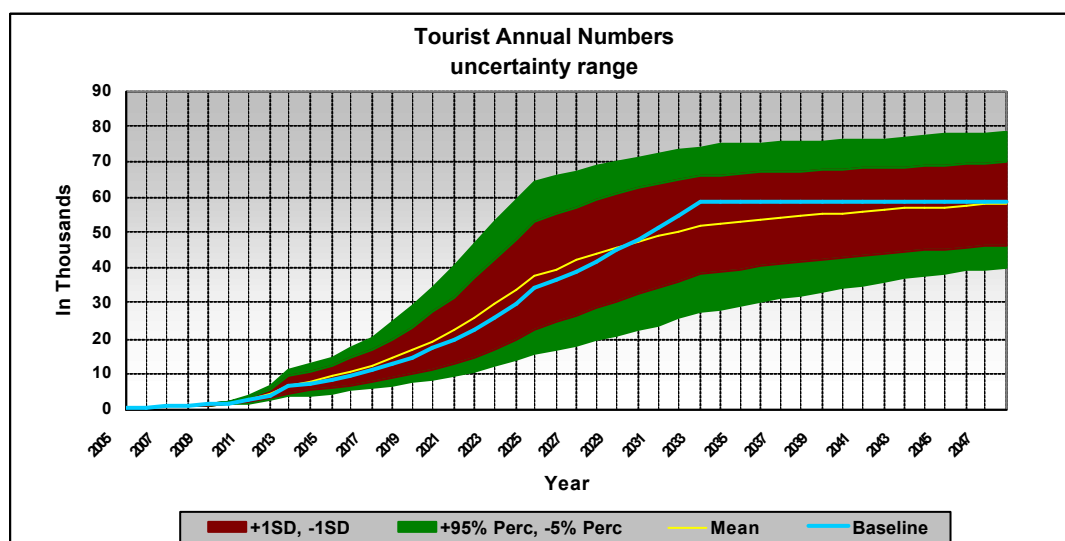
### Uncertainty Influences

11.42 The dominant uncertainty in the model relates to the estimated growth rate of the number of tourists, which has a large and unavoidable estimating tolerance (uncertainty).

11.43 Figure 11.7 below shows the potential band for tourist numbers arising from the estimating tolerance alone, and illustrates that the mean value is comparable with the baseline estimate. The flat profile of the baseline in later years results from the assumption that a rigid cap on tourist numbers (of 60,000 annually), will be applied. The risk model recognises that in practice this might be higher or lower, and allows the potential of a higher cap.

11.44 To test the effect of this wide variation on results, the model was run to include uncertainty but with all risks excluded, to determine the view on the NPV of costs, as shown in Figure 11.8. The shallower curve represents the effect of allowing all uncertainties (see Table 11.4 above) to be applied; the steeper curve excludes uncertainty in tourist growth.

**Figure 11.7 – Tourist projections: effect of applying uncertainties without risks**



**Figure 11.8 – Long Runway: Cumulative probability distributions of NPV at 3.5%:  
effect of applying uncertainties without risks**

This figure has been redacted as it contains information that is commercially sensitive and could influence future procurement processes.

**Risk Influences - Construction**

11.45 The model contains two construction risks, C1 (physical construction difficulties) and C2 (poor management), see Table 11.4 above. As shown in Figure 11.9 below, the impact of these could be considerable in terms of the out-turn cost of the airport.

**Figure 11.9 - Long Runway: Cumulative probability distribution of NPV at 3.5%:  
effect of applying construction uncertainties only, with risks**

This figure has been redacted as it contains information that is commercially sensitive and could influence future procurement processes.

11.46 Large increases in construction costs would have an impact on short-term cash-flow, and on the number of years of initial high subsidy if the construction programme over-runs. The effect on NPV over the entire period is perhaps less significant, as illustrated in Figure



11.10 below, which shows results assuming that the construction risks could be fully mitigated. This is of course a dangerous assumption.

**Figure 11.10 - Long Runway: Cumulative probability distribution of NPV at 3.5%:  
effect of applying all risks and all uncertainties, with construction risks mitigated**

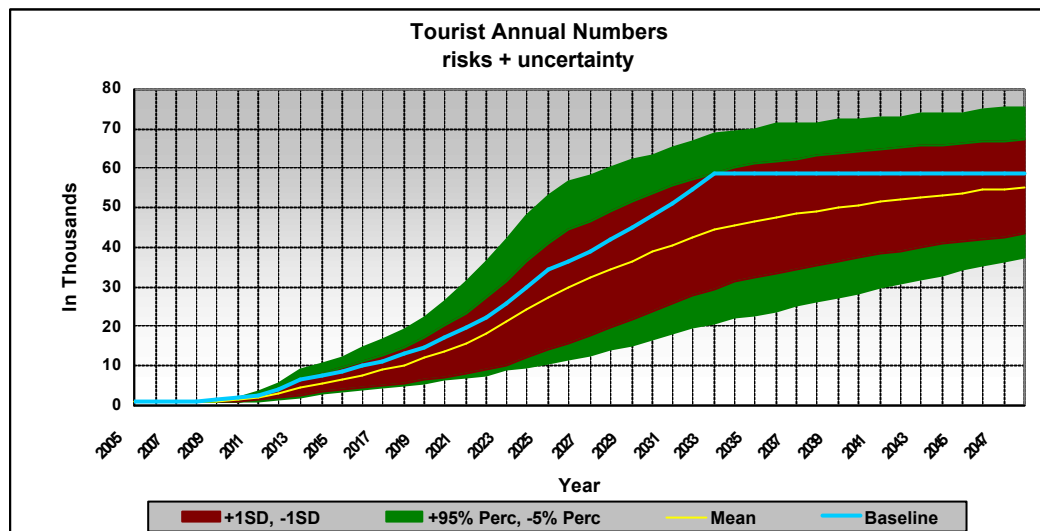
This figure has been redacted as it contains information that is commercially sensitive and could influence future procurement processes.

**Risk Influences - Tourism**

11.47 Four risks were modelled that impact tourist numbers (see Table 11.1 above). Of these, T4 (disaster or economic depression) is outside the control of the Government, but the remainder, T1 (SHG fail to implement all necessary measures), T2 (tourist expectations not met) and T3 (airline capacity unable to meet demand) could be mitigated by firm commitment, investment and other effective action by Government.

11.48 The effect of these risks alone on tourist numbers, together with their corresponding estimating uncertainties, is shown in Figure 11.11 below.

**Figure 11.11 - Tourist projections: effect of applying risks T1, T2 & T3 only, and related uncertainties**



11.49 Figures 11.12 and 11.13 compare the NPV results with all risks and uncertainties 'turned on' (i.e. modelled) with the increased confidence possible by assuming that risks to tourism growth (T1, T2 and T3) are fully mitigated. For example, the probability of the subsidy reaching zero by the baseline date of 2020 rises from 25% to 40%.

**Figure 11.12 - Long Runway: Cumulative probability distributions of NPV at 3.5%: effect of applying risks T1, T3 & T4 and related uncertainties, mitigated**

This figure has been redacted as it contains information that is commercially sensitive and could influence future procurement processes.

**Figure 11.13 - Long Runway: Time to achieve zero subsidy: effect of applying risks T1, T3 & T4 and related uncertainties, mitigated**

This figure has been redacted as it contains information that is commercially sensitive and could influence future procurement processes.

**Cash Flow**

11.50 Figure 11.14 shows the spread of potential cash-flow of the annual budgetary support. The spread in the early years is due to risks and uncertainties with the airport construction programme and costs. The spread in the later years is due mainly to risks and uncertainty with tourist numbers. | | .

11.51 Further discussion of the risk-based 'behaviour' of the long runway solution is contained in Appendix X, from which some material is extracted and presented above.

**General conclusions – long runway solution**

11.52 It is clear that tourism is the dominant risk. Its effect far outweighs that of construction risks, for example.

11.53 The long runway presents the best opportunity for HMG to reduce its financial exposure and for SHG to obtain a condition of budget surplus for the first time.

**Figure 11.14 - Long Runway: cash flow projection, all risks and uncertainties applied**

This figure has been redacted as it contains information that is commercially sensitive and could influence future procurement processes.

11.54 Some key aspects of the long runway solution that will need to be managed very carefully include:

- Attracting tourists to St Helena in sufficient numbers to realise the desired financial outcome. Subsumed in this are all the elements relating to market knowledge, effective 'connectivity' abroad, including with an air service provider - a vital link to the tourist industry - pricing, appropriate accommodation on the island, measures to facilitate and attract investment, etc.
- Contract management, including procurement and monitoring of the prime and sub-contractors.
- Agreeing an effective basis of commercial operations with an air service provider.
- Policy development.
- Development of institutional capability on St Helena to make informed decisions, carry out effective administration of effective policies, nurture and manage an embryonic economy. Corresponding development of the physical infrastructure.
- Attracting Saints and other migrant workers with good knowledge and skills suited to developing the economy and who would in effect turn round the in-built momentum of population decline.

11.55 There can be little doubt that DFID would need to provide effective guidance to SHG for a considerable period of time, to ensure that all the conditions were in place to allow the long runway solution to have its desired effect. This period of guidance would need to address up to say, 10 years, to begin with, i.e. covering procurement, policy development, marketing, institution building, investment, operations, sales, and so on.

## 12 PROCUREMENT STRATEGY FOR PREFERRED OPTION

### RMS REPLACEMENT

- 12.1 The foregoing analyses indicate that this is the least value option. Details of a potential procurement strategy for a replacement RMS are given for completeness of this Report in Appendix Y.
- 12.2 The remainder of this Section focuses on a procurement strategy for the preferred option, the long runway. Similar considerations would apply to procurement of the medium runway solution.

### LONG RUNWAY OPTION - PROJECT SCOPE AND SERVICES

- 12.3 This Section discusses procurement of a long runway solution and procurement of an air service. The different modes of procurement are discussed in the context of the impact on risk-sharing and cost, the nature of the underlying contracts and the public sector obligations.
- 12.4 The construction and operation of the aerodrome covers a wide range of activities, which are listed in Table 12.1 below. The full air service covers the provision of the flights. It would be unusual to package in one contract the provision of the infrastructure and the flights. Well-trying contractual structures exist by which to obtain the flight capacity and timetabling necessary at each stage, through chartering or scheduled flights agreed with a national carrier. These arrangements can be flexible in capacity, frequency and duration. There is no economic justification for SHG acquiring aircraft as the level of utilisation is never forecast to make this competitive. The fixed capacity would require a professional infrastructure to market the significant spare capacity that would arise and to succeed in an existing highly competitive environment. The procurement analysis therefore concentrates upon the infrastructure. The air service options are noted separately.

### AERODROME DESIGN AND CONSTRUCTION

- 12.5 The design and construction of the aerodrome is to meet a basic requirement to service the limited number of aircraft movements with full regard to the requirements of air safety, given the remote situation of St Helena.
- 12.6 The risk analysis indicates that critical events that could cause increased cost or delay to construction completion arise from, for example (for full list see Tables 10.1 to 10.3 above):
- shipping delays
  - rate of fill variation
  - unforeseen ground conditions
  - poor management- inexperienced team, poor contractual arrangements or slow and poor decision making
  - fundamental design changes by the authority.

12.7 Appropriate contractual arrangements – fixed price turnkey contract - could remove a number of these risks. Whilst events may still cause delay or cost increase, these would be expected to be principally for the account of the contractor (under fixed price turnkey contract conditions), unless SHG specifically underwrites these risks. The contractor would also be paying liquidated damages in the event of not achieving completion dates.

12.8 The operational phase requires routine checking of aviation landing equipment and periodic maintenance of the infrastructure. The low level of flights and passenger numbers should mean this is routine but not arduous.

12.9 Critical risks identified in operation and evaluated in the risk work include:

- breakdown of the RMS before operational completion of the air access
- unavailability of Ascension Island access as a diversion.

12.10 The aerodrome operations detailed below illustrate the limited scope for operational development and risk transfer.

**Table 12.1 - Construction and operation of the aerodrome activities**

Service	Contract scope	Qualifications
<b>Air traffic services</b>		
Runway maintenance	Concrete runway requiring limited surface repairs, joint repairs, runway markings and periodic major overhaul	
Runway/ approach lights and navigation systems	Checking on proper function, replacement of systems and other systems servicing	
Grounds maintenance	Includes grass cutting, bird management, drainage, litter clearance etc.	
Perimeter maintenance	Daily checks to ensure no intrusion of wild life or unauthorised intrusion to secure space.	
Air traffic control systems; and Communication systems	Servicing of the control centre and ancillary equipment	Visiting ATC engineer
Air traffic control service	Training and providing traffic controllers to requisite standard.	15 months training is required prior to opening.
Aircraft parking	All aircraft are self manoeuvring	No provision required
Aircraft handling	Undertaken by airport staff under the supervision of the Carrier's agent	Business jet operators provide own team
Baggage handling systems and operation	Labelling and routing baggage for each flight/ collection of luggage from craft and delivery to terminal	Business jet operators provide own team
Cargo handling and storage	The design requirement includes only basic cargo storage	

Service	Contract scope	Qualifications
Fuel storage and handling	Procuring, storing in secure tankage, delivering fuel to craft and billing.	
Fire and safety management	Specialist training to be provided for handling volatile air fuels / emergencies	May be separate contract with Solomons
<b>Terminal</b>		
Departures check-in	Maintenance of check-in facilities / provision of check in staff and service	
Flight information	Public address systems maintenance / flight information collation and delivery to VDU/ PA system	
Building maintenance	Repairs and maintenance, decorating, and periodic refurbishment	
Car park maintenance and management	Ensuring the car park is properly marked out and surface is clean and safe. Parking charges unlikely to be feasible.	
Cleaning	General cleaning, litter clearance, removal of graffiti	
Medical services	Emergency services, staff services and holding facility for passengers in transit	RAFS International aid and island facilities off site would be sufficient
In flight catering preparation	None	Provision by double ration on incoming flights
Catering – staff and passengers in transit	Small canteen facility- limited services	Outside catering provision but could be part of overall soft services
<b>Other</b>		
Utilities management 1. Telephone 2. Power 3. Water and sewerage  Airport Dues	Provision of telephones / booths/ email facilities Provision of power and light hardware / air conditioning and other Provision of utilities/ cleaning and provision of all ancillary supplies –toilet paper / hand driers etc. Collection of landing charges from airlines and departure taxes or entry visa fees from passengers.	External suppliers to provide service – e.g. Cable and Wireless  Expected to part of air traffic service income. Cooperation with Immigration control required
Initial training	Training of airside and terminal staff – particularly H&S would be undertaken on the job.	

Service	Contract scope	Qualifications
Security	General security in cooperation with policing, baggage inspection and immigration control	Shared commitment with island
Retail management	Little scope for development of this service but in general would need to cover the following services. Catering may include a small café or drinks bar, but there is limited potential for significant trade.	Short term leases
Banking	Would develop in the medium term and travellers will have a requirement	Short term leases
General retail units  Ticketing Marketing, including Tourist Board facility Postal services Ground transport	There is limited potential for significant trade    Probably collection service only Car hire, taxis, hotel buses - Contact desk	Short term leases  Provided by airline Short term leases  No requirement Short term lease

12.11 This list covers all the areas that would generally be required in the operation of an aerodrome. There is a number of differing procurement approaches. Whilst certain of these construction, 'hard' facilities management and 'soft' facilities management services can be provided locally under contract to SHG, it may prove better VFM if they are grouped and let as packages or as one package.

## AIR SERVICES

12.12 The air services would be procured under a series of contracts with an existing operator to meet the scheduled requirements of the island, its inhabitants and visitors. There is no case for the establishment of a unique air operator with owned craft (discussed in the reduction of long runway sub-options, Appendix N. Details of a typical contract are set out below. The contract would define whether the operation should be based on a charter or schedule, the standards, term of the contract, the routes, timetable and the minimum seating numbers | | | . The contract would govern fare setting and cargo prices and the responsibilities of the air service provider. | | | .

12.13 The contract, conditions of which are set out in Appendix Z to this Report, could be let as and international and domestic scheduled air service, being a service operated to a predetermined timetable; or a charter service, being an air service provided from time to time but not to a predetermined timetable. This latter could be appropriate where the volumes are at such a level that a scheduled service was unsustainable | | | .

12.14 The principal issues surrounding establishment of an air service agreement were discussed in Section 8 above. For a flight to be a scheduled flight it must:



- be operated to a regular schedule; and
- offer seats for purchase by the general public.

12.15 | | | .

12.16 | | | . However, as the provider would be given the right to charge for the provision of the services, it would be excluded from the Regulations (service concessions are expressly excluded from the definition of a public service contract – see 2(1)(e) PSCR).

12.17 The air service agreement between the UK and South Africa has been modified three times within the last two years: a new round of negotiations is due in November 2004. | | | . The establishment of the route between St Helena and South Africa is an important first step in any tendering or negotiating process to provide an air service to St Helena. Without this, any negotiation or tender is unlikely to be treated seriously. The South African authorities are likely to insist that the St Helena route is flown by a South African based carrier. We recommend that the **DfT should be requested to raise these issues with their South African counterparts as soon as possible to advise that the creation of this route is a possibility subject to Ministerial decision.**

#### POSSIBLE PROCUREMENT OPTIONS, AERODROME

12.18 A range of procurement contractual structures was reviewed. We considered the risk transfer and the value for money of each procurement route, considering the relative outturn costs and timeliness. The impact on procurement process is discussed (in Appendix AA), particularly where there are specific issues to be addressed that are peculiar to any one procurement approach.

12.19 The method of procurement must reflect the flexibility that may be required as the service level changes over time. **It should allow adequate benchmarking and market testing to ensure that SHG continue to attract best VfM.**

12.20 In addition to this, given the size of the capital expenditure, a detailed analysis of a PPP option has been undertaken on the viability, desirability and achievability of this approach to procuring the aerodrome infrastructure.

12.21 The range of contract structures and the issues that affect them is considered in Table 12.2.

**Table 12.2 – Contract structures and issues**

Contract description		Risk transfer	
Privatised airport		High	Takes full commercial risk on traffic and investment outcome without subsidy. Facility is entirely in private ownership.
BOOT			Based upon concession terms for a fixed period. Has commercial potential for significant risk sharing. Principal revenue originates in commercial sector. Concessionaire takes development risk but has limited property ownership e.g. non transferable long lease.
	Franchise		Relates to the term operation of services generally taking full revenue risk, but with an agreed subsidy level.
PPP			May be based on a payment mechanism that reflects availability and usage of infrastructure. Reflects some underwritten commercial revenue. Payment is from public sector with deductions for non-availability and low performance. Property interests lie in project agreements underpinned by long leasehold from public sector which can be terminated for poor performance.
Design Build and Operate			Provides all of the benefits of an integrated build and operate approach but does not have the cost of private finance.
	Managed service contract		May cover most of the services required to run the facility and include the provision of key equipment, its servicing including critical testing and calibration, training and periodic upgrading. Technical risk and service level risk is passed for a fixed annual fee
Design Build Finance and transfer			Removes the completion and construction finance risk from the public sector.
Turnkey contract	Operating contract		Turnkey contract will pass design risk to the contractor. If the completed aerodrome cannot be handed over to the service level required then no acceptance/payment. Operating contract may be let to a different party who take on-going risk on service level and cost. Limited potential for accepting all risks emanating from the design or construction of the facilities.
Design and Build	Direct Labour	Low	D&B contract let by SHG who also employ airport staff.

12.22 There is a number of differing procurement approaches. Empirically it would benefit SHG to aim to pass as much risk and responsibility to a commercial third party, i.e. the contractor.

- 12.23 Many of the required air traffic management services could be provided by visiting representatives of an air traffic service provider or job sharing on the site. Even in this case there would be requirements to engage and train local staff. In the short term, SHG should be concentrating on the establishment of a monitoring procedure and competence within the Public Works Department (properly constituted and authorised Access Forum and Access Implementation Unit is recommended in Section 8 above) with external assistance funded by DFID. In the medium term SHG should aim to replace the external provider of assistance.
- 12.24 The supervision / monitoring of the contractor's performance is an essential part of the contractual structure. Typically under a design-and-build contract the Employer employs an 'Employer's Representative' to monitor the contractors performance. In the past DFID has sometimes employed the Employer's Representative under a technical cooperation contract. This has given rise to problems where contractors have perceived that DFID can exert influence over the Employer's Representative. This has sometimes placed DFID in an awkward position. It is therefore recommended that DFID includes in the financial aid to SHG sufficient funds for SHG to employ the Employer's Representative direct.
- 12.25 Each of the contractual structures is assessed on the basis of their commercial and legislative implications and the relative impact upon DFID cash flow.
- 12.26 Some of the risks and their management must be regarded as outside the scope of the air access contract. It is not realistic to expect any aerodrome construction or operational contractor to take any risk whatsoever on the timely functioning of the RMS or any other shipping outside their immediate control. This must include provision of fuel for the air service and transshipment of replacement parts that cannot be flown in or landed under normal operating conditions. Parts of the air operation may become inoperable for periods of time due to mechanical breakdown or fire. Whilst these may be corrected and insured (possibly at a considerable cost, given the RMS track record), lost traffic and its revenue to SHG cannot be adequately compensated, particularly if this results in a knock-on effect on tourism.
- 12.27 Each of the procurement approaches would have a different impact on the timing of cash required from SHG/DFID, as the terms of the contract would require different front-end payments, milestone payments, retentions and completion payments. Each form of contract captures a different degree of risk which would be reflected in a higher price for the greater risk to be retained and managed by the contractor. However, the range of outturn costs would be very much narrower where the contractor had given a fixed price but assumed a wider level of risk. Design-and-build and operating contracts let separately by the public sector should have a lower contract price than a turnkey contract, but the scope for design change, claims, counterclaims, interfacing problems and delays is significantly greater in the former case, which would give rise to a significant possibility of the outturn cost being greater than the turnkey contract. We have assumed in the analysis below that the contract price for DBOT and PPP procurement would be 10% higher than conventional procurement, i.e. separate publicly-let contracts.

## QUANTITATIVE ANALYSIS OF PROCUREMENT OPTIONS

12.28 The full range of potential contract structures is set out in Table 12.2 above. In this section we quantify the impact of the risk transfer under three procurement alternatives:

- separate design/build and operate contracts
- Design-Build-Operate-Transfer (DBOT)
- PPP.

12.29 These alternatives define the limits of risk transfer appropriate to procurement of the long runway access option.

12.30 The PPP approach is assessed against the qualitative elements of the Treasury's VfM guidance. It does not have a compelling case and the recommendation is not to pursue this option. However, as it is an important procurement option for capital projects of this size we have included it in this quantitative analysis to demonstrate what the cashflow and value for money impact could be. It has been assessed against the Treasury's quantitative assessment tool, which indicates that cost-wise it is less attractive than the Public Sector Comparator (effectively a conventional procurement), with a cost which is approximately 17% higher (using assumed IRR of 15%). Against this must be offset the additional advantages of using PPP, such as management control by an experienced contractor, advantages of integration, transfer of whole life cost risk, and staff training. However, in the context of St Helena a very significant factor is the cost of the delay which would result from PPP (our assumption is that it could take two years longer than conventional procurement and eighteen months longer than the DBOT approach). Such delays would defer the potential for increased tourist numbers and have a cost in terms of a higher subsidy from HMG.

12.31 We adopt the same approach as used in the risk modelling for the main option appraisal, for the conventional and DBOT contracts. For each option we have run the model with all risks and uncertainties other than capital expenditure-related ones 'turned off', and with the capital expenditure risk / uncertainties adjusted to reflect the implications of the different risk transfer profiles. For PPP, the risk transfer in relation to capital expenditure is intended to be almost the entirety of the risk except force majeure, and therefore this risk modelling has not been applied. Instead the single periodic payment which commences at start of operations (Unitary Charge) under a PPP contract has been estimated and replaces the capital and operating costs which SHG would expect to incur. This enables us to estimate the overall impact on DFID / SHG finances. The risked figures would still be higher than this given that some risks (e.g. pre-contract close price movements and interest rate risk) remain.

## COST OF PROCUREMENT OPTIONS - SUMMARY OF COST AND TIME IMPLICATIONS

12.32 The cost of each procurement approach would vary with the time and management effort required. It is not therefore possible to give any certainty as to the outcome but the elements and likely costs are set out below showing the possible SHG/DFID spend. In the case of the PPP option the private sector legal and financial costs would be significant and transparent and have therefore been shown separately. The estimated SHG/DFID technical costs are for supervision only and do not include the design costs where these are incurred by the public sector.

12.33 The design consultant would have to be selected by way of Open or Restricted Procedure if contract price is likely to exceed the threshold (currently £99,695). This would take approximately six months in the case of the Restricted Procedure (involving short listing). This assumes no Framework Agreement (e.g. S CAT) is in place.

12.34 Tables 12.3 and 12.4 set out cost and timescale implications for alternative procurement routes, by access option for comparative purposes. This is based on our own experience and knowledge of procurement of capital projects of this nature.

**Table 12.3 – Typical costs of procurement as % of the capital purchase cost**

	RMS replacement	Aerodrome / Air service procured by public sector	Aerodrome / Air service procured by public sector-turnkey contract	Aerodrome procured through PPP
<b>Public sector costs</b>				
Legal				
Financial services				
Technical services				
Total				
<b>Private sector costs</b>				
Legal		Included in the tender price		
Financial services				
Technical services				
Total				
<b>Project total</b>				

**Table 12.4 – Procurement Timeline**

<b>Timetable to completion</b>	<b>RMS replacement</b>	<b>Aerodrome procured by public sector Design and Build contracts<sup>1</sup></b>	<b>Aerodrome procured by public sector-turnkey &amp; operate contract<sup>2</sup></b>	<b>Aerodrome procured through PPP<sup>3</sup></b>
Tender preparation <sup>4 5</sup>	1-2 month	1-2 month	1-2 month	3 months
Tender period	4 months	6 months	7 months	9 months
Competition assessment and clarification	1 month	3 months	3 months	3-6 months
Final negotiation	1 month	1 month	3-6 months	6 -12 months
<b>Total elapsed time</b>	<b>7-8 months</b>	<b>11-12 months</b>	<b>14-17 months</b>	<b>21- 30 months</b>

12.35 Table 12.3 assumes that DFID would not embark on any specific project-financed approach e.g. ECGD supported finance, other than PPP. It also assumes that no event occurs that might materially affect the process (e.g. tendered default). In particular it assumes that all arrangements with regard to Ascension Island have been agreed and finalised prior to or within this time frame. If this is not secured as a condition precedent to bidding, | | .

12.36 In the Financial / Economic modelling we have included a further provision of | | (see Table 12.3) on top of the | | design fee discussed in Section 7 above, to account for the costs of procurement of an aerodrome.

12.37 Table 12.5 sets out the capital expenditure under each option, including the procurement costs to DFID/SHG and the additional costs for DBOT and PPP required to obtain a fixed price (i.e. our estimates of the cost of risk transfer). The actual cash cost to DFID/SHG would not equal these amounts in the DBOT or PPP approaches: under DBOT there would be significant retentions until completion, and under PPP the capital expenditure costs would be replaced by the unitary charge (which would also cover related services under the PPP contract). The higher costs and longer time to completion of the DBOT and PPP procurement routes, when compared to those of separately let contracts is, as discussed

- 
- <sup>1</sup> Assumes that Public Sector lets and manages design and build contracts. The aerodrome management contract is let separately. The air service contracts are let separately in every case.  
<sup>2</sup> This assumes that the design and build and the operational contracts are let as an integrated package.  
<sup>3</sup> Assumes that work continues from the Base Case prepared in this exercise and that no new work is commenced to prepare OBC and PSC  
<sup>4</sup> Tender preparation is assumed to commence after definition of Design/Employers Requirements and completion of design and does not include time taken to appoint technical consultants to draw up Invitation, such appointment period presumed to take 6 months.  
<sup>5</sup> OJEU notice period 37 days followed by minimum 40 days response period

in the preceding paragraphs, due to the three factors: variance in terms of contract price, fees and time delay – which is a cost of transferring risk.

**Table 12.5 - Capital costs under procurement alternatives**

Procurement option	Real terms contract capex (£m)								
	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Fuel upgrade in year 20	Total
PPP	11	11	11	11	11	11	11	11	11
DBOT	11	11	11	11	11	11	11	11	11
Separately let design, build and operating contracts	11	11	11	11	11	11	11	11	11

12.38 Table 12.6 below shows the impact of these three alternatives on the total cost, the NPV of HMG financial support (from the unrisked Financial / Economic model), and on the 90% and 95% confidence level values of these two variables. The confidence levels have the same meaning as in the main risk analysis – it is that cost which we are 90% or 95% confident will not be exceeded on the basis of the assumptions made about risk transfer. The difference between the central estimate and the 90% / 95% confidence estimate is an indication of risk – a large gap means that the impact of risks and uncertainties is significant compared to a smaller gap.

12.39 The additional time taken to negotiate the DBOT contract (extra six months) and PPP (extra two years) are reflected in the changes to the value of HMG support. This is increased as delay to the airport becoming operational incurs both additional RMS subsidy and loss of income because of the delay to increased tourist arrivals.

12.40 This analysis shows that:

- The lowest estimated unrisked cost and NPV of HMG support is for the conventional procurement.
- If a degree of risk averseness is assumed, and the 90% or 95% confidence levels are used as the decision criteria, **the cheapest option is the DBOT approach**, in terms both of the cost of the airport and the overall NPV of the cost of support from HMG. PPP is significantly more expensive once the impact of delay is taken into account, reflected in the high cost of HMG support even before allowing for the impact of risks and uncertainties.

**Table 12.6 - Comparison of procurement options**

Procurement option	Total capex (£m)	NPV of HMG financial support (£m)	90% confidence level of capex (£m)	90% confidence level of HMG support (£m)	95% confidence level of capex (£m)	95% confidence level of HMG support (£m)
PPP						
DBOT						
Separately let design, build and operating contracts						

12.41 Figure 12.1 below shows the costs of the conventional procurement and the DBOT procurement. It is not meaningful to show the PPP on the same basis because of the replacement of the costs by the unitary charge. The chart illustrates further the impact of Table 12.6 – that whilst the unrisks cost of the conventional procurement (i.e. ||) is lower than the unrisks cost of the DBOT approach (i.e. ||), there is a more significant risk that it could be higher, as indicated by the fact that the risks costs line for the conventional procurement is to the right of the DBOT risks line in the top half of the chart (above approximately 57%).

**Figure 12.1 - Comparison of conventional procurement and DBOT capital costs**

This figure has been redacted as it contains information that is commercially sensitive and could influence future procurement processes.



## REVIEW OF THE PROCUREMENT ROUTES

12.42 Our recommendation, to maximise value for money and risk transfer, for procurement of the long runway access option is to seek a Design, Build, Operate and Transfer contract on a remunerated basis. The strategy is outlined as follows.

12.43 For the sake of completeness we discuss the pros and cons of the remainder of the various procurement alternatives presented above and we present these in Appendix AA.

## DESIGN BUILD OPERATE CONTRACT

### Contract structure

12.44 A single point completion contract (design and build) would be placed on the contractor who would have responsibility for designing the works to meet the prescribed 'Employers Requirements'. The works would have to meet a 'fitness for purpose' standard (which is higher than that usually required in split responsibility arrangements where the contractor is not responsible for design, and which therefore carries a cost). In addition to designing and building the aerodrome the contractor would have primary liability for the supply and installation of equipment and the operation of the aerodrome, thus establishing aerodrome operations as a commitment from the outset. This transfer of risk would enable DFID/SHG to avoid the risk of constructing an airport and then finding it difficult or impossible to find an operator. We would anticipate the contract being let for a period of 20 years from completion, with a break clause after 10 years if a more cost-effective approach could then be taken.

### Funding Arrangement

12.45 DFID would provide 100% of the funding under an MOU between DFID and SHG that would provide for purpose and conditions of grant. Predetermined amounts would be paid by SHG to the contractor from the time the aerodrome came into full operation. This charge would meet the Service elements only, on an agreed fixed fee basis and which will have been included in Budgetary aid allocation.

12.46 A contractual structure such as that shown in Figure 12.2 below is suggested as a starting point for implementation. This is extracted from Appendix AB, which also summarises how this arrangement would operate in practice.

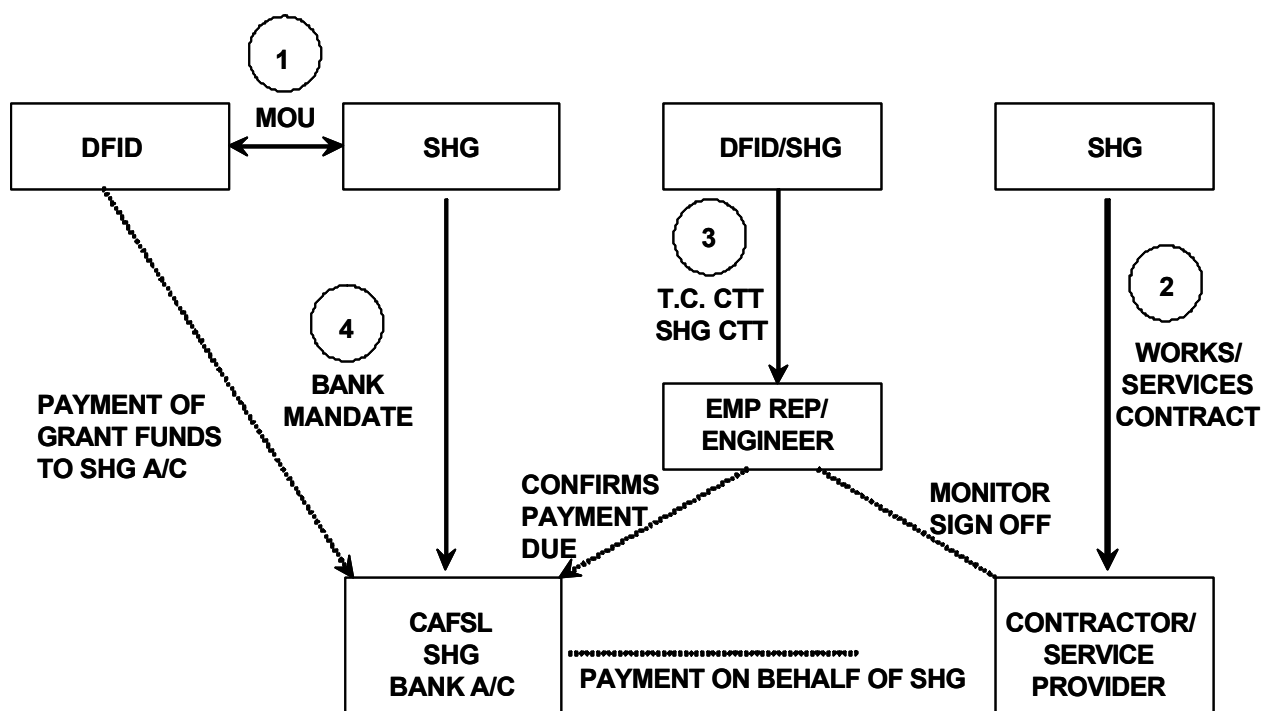
### Comment on market appetite

12.47 Most companies we have talked to for the purposes of establishing interest in constructing and operating an aerodrome on St Helena (on an informal basis) are accustomed to working in joint venture. We report these findings in a separate Appendix to this Report (Appendix AC).

### Likely outturn cost

12.48 The likely outturn cost of construction would be confidently predicted to be close to the contract price and therefore achieve significantly greater value than the risk-assessed outcome under public procurement of the basket of contracts shown in Table 12.1 above.

**Figure 12.2 – DFID / SHG / Contractor: Proposed Contract / Funding Structure**



### Risk transfer

12.49 Cost and performance risk are transferred to the private sector for the first period of operations, discussed as follows.

12.50 The design risk, cost and delay risk to completion of the aerodrome are transferred to the turnkey contractor, who is to provide an integrated design, build and operate solution. This requires the contractor to take full risk on the operability of the aerodrome and all of its equipment such that it is completed to meet all of the international air safety regulations and can be operated in an acceptable manner. This integration risk or handover risk is critical to the performance of the contract. If the aerodrome is not accepted on the due date the contractor will not be paid the amounts due and may be obliged to make compensation in the form of liquidated damages. The same contractor will be responsible for the operations of the airport providing fixed prices for the management for an initial period. The contractor will therefore take all risk of bedding-in the aerodrome and its services. This initial period could be for 20 or more years but in view of the developing nature of this facility and the possibilities of knowledge transfer to islanders this should be reviewed in a period of say 10 years.

12.51 Unlike any PPP option the DBOT route would not include risk arising from or to the financing of the project (including interest rate risk during the term of any funding as well as the risk to equity returns from poor performance). The contractor would nonetheless take performance risk in reduced profitability of the contract. The contractor would take risk that the air service equipment becomes obsolete and that the airside infrastructure requires major maintenance. Neither of these risks is considered significant in this instance and could be adequately priced, i.e. the contractor could bid on this basis.

12.52 The project provides certain unique risk features due to the remoteness of the island, the specific difficulties with the location, and the lack of a local supply market. The level of risk transfer would be the subject of due diligence by the contractor and careful negotiation between the parties. Certain potential suppliers have suggested (suppliers we contacted are noted in Appendix AC) that this might be best procured by a partnership with SHG to development the project scope and risk before the contract is fully worded and it can then be priced.

12.53 Given the venture capital nature of this facility it is unlikely that any operator will take risk on passenger numbers in their remuneration. This may be reconsidered in a later phase of operations.

### **Legal requirements**

12.54 The process would be very similar to that required to let a PPP contract (see Appendix AA). However, since no private sector funding is envisaged, the time and expense in satisfying lenders' due diligence would be avoided. This would, in our experience, allow financial close to be achieved in up to a year ahead of a PPP solution. We would expect the professional cost of establishing such a contract to be half that of PPP.

### **Timeframe in Implementation plan**

12.55 Due to the early finalisation of documentation the benefits of the economy would be accelerated - compared with PPP.

### **Applicability / implications of HMG procurement regulations**

12.56 The same considerations apply as to PPP, as follows.

12.57 Assuming that EC Procurement Regulations are to be applied then, as the contract includes both works and services, the question arises: which regulations: works or services?

12.58 The significance of the answer to this question is that if the contract is to be considered a services contract it would be unregulated because it would include a right for the contractor to charge for the services it provides (this type of contract is expressly excluded in the definition of 'public service contract' (r2(1)(e)PSCR).

12.59 If the contract is a works contract then it would be a works concession contract and while the Works Regulations will apply, it would only be to a limited extent, as works concession contracts are treated differently. Nevertheless some regulations would apply, such as advertising and time limits for response. These would not impact on the implementation of a project of this nature.

12.60 The answer to the question – works or services – is perhaps academic, particularly as a competition would be run. It is suggested that the regulations relating to Works concessions should be applied.

## **Cashflow**

12.61 The funding of this approach would be an obligation of SHG and therefore require significant cash commitments during construction. Anticipated cash flow in the early years is presented at the end of this Section.

12.62 | |

12.63 While this Study has produced what is essentially an input specification for the purposes of facilitating a public competition, the next stage of procurement, undertaken in advance of, and to facilitate a public competition, would be to prepare an output specification containing the recommendations of this Study.

12.64 In practice, as part of the contractual structure, DFID/SHG would set up a monitoring regime, which would involve their Employer's Representative in assessing contractor performance according to an agreed set of standards governing quality, fitness-for-purpose and timeliness, among others. This monitoring regime would be linked directly to the payment structure and therefore influence cashflow. It would continue seamlessly under DBOT from construction, testing, handover and on into the operations phase, where it would also operate, although via a modified contractual structure.

## **DFID obligations**

12.65 To ensure that initial grants and continued grant in aid available to underwrite the payment and contingent obligations of SHG

## **Value for money**

12.66 DBOT provides a good value-for-money approach as it transfers maximum risk exposure and harnesses performance measurement and professional management of the facility. It allows flexibility in operations after the bedding-in period when transit numbers may be clearer and local staff and management may be available.

## **GENERAL CONCLUSION ON PROCUREMENT ROUTE**

12.67 We recommend that the appropriate procurement approach is to issue an invitation to tender on the basis that the aerodrome is procured on a design, build and operate basis for a period of 10 years post completion. This would achieve a seamless low risk approach to the completion of the aerodrome in a manner that is acceptable to the aviation authorities and that is capable of efficient operation. After this point the operations could be re-let and could take advantage of skills and resources, which should by then be more readily available on the island.

12.68 There is insufficient risk transfer to warrant the additional set up and funding cost of PPP.

12.69 The air service should be procured by contract with a national carrier for a period of at least five years, at which point the underlying take or pay levels of passenger numbers could be reviewed.

12.70 The fuelling contract should be let separately; initially it may be that Solomons could provide this under their current arrangements for importing and distributing bulk fuel on the island.

12.71 The costs attributable to choice of procurement route should be viewed as illustrative. The market will determine the contract price in the light of competition, perceived risk and resource availability. The comparative outturn costs for each procurement route will therefore lie within a range.

### CASH FLOWS – EARLY YEARS, LONG RUNWAY AERODROME, DBOT PROCUREMENT

12.72 Table 12.7 and Figure 12.3 set out the expenditure forecasts for the first seven years of the model, for the long runway option under the preferred procurement method (design-build-operate-transfer).

**Table 12.7 – Cash flows, early years: Long Runway (DBOT)**

Calendar year	2005	2006	2007	2008	2009	2010	2011	Total
NEW BUDGET STREAMS								
Access option capital expenditure (includes DBOT costs)								
Institutional / environmental costs								
Operational costs - aerodrome / airline								
<b>SUB-TOTAL</b>								
CURRENT BUDGET STREAMS								
Operational costs - current RMS subsidy								
Technical Co-operation main budget *								
Development Aid *								
Budgetary support								
<b>SUB-TOTAL</b>								
<b>TOTAL</b>								

\* These figures have been drawn from DFID forecasts for the first three years; thereafter they represent Atkins model forecasts, as for other items.

**Figure 12.3 – Cash flow, early years, by type: Long Runway (DBOT)**

This figure has been redacted as it contains information that is commercially sensitive and could influence future procurement processes.

- 12.73 The figures above are a composite of the figures given in Sections 10 and 11 above, which are based on conventional procurement (non-risk-transfer), and the costs of DBOT procurement.
- 12.74 The Implementation Plan presented in Section 14 below reflects the procurement strategy derived in this Section, in particular, its timing. It is important to understand however that in pursuing the Study as described and presented thus far, the financial / economic modelling was built on a presumption of public procurement – which could result in a faster start-up than the time period required to allow the negotiations leading to a DBOT procurement route. The precise timing of the cash flows as stated above is therefore out by some six months when compared with the timeline represented by the Implementation Plan.
- 12.75 The proposed cash flow is not to be used for financial planning without further discussion with Atkins. The model has not been designed for the purpose of detailed analysis by individual year and if the project was to proceed on the basis of the modelling carried out, then more detailed budgeting must be developed. In this sense therefore, this Study represents what might be referred to as the first iteration of a design spiral. Subsequent iterations should include re-runs of the financial / economic model so as to reflect changes in inputs and timing and thus to maintain accurate time-based portrayals of the discounted cash flows.

## 13 CONCLUSIONS AND RECOMMENDATIONS

### DETAILED CONCLUSIONS

- 13.1 The overall conclusions are presented in the Executive Summary above; here we draw attention to the detail lying behind the 'big picture' assessment, presenting the key items, Section by Section as they appear above.

### SECTION 3 – THE CURRENT SITUATION

#### Demographic Trends

- 13.2 A 'demographic momentum' is built into the existing age-sex structure of the population of St Helena, a consequence of the net out-migration of recent years, which if left unchecked, will lead to a declining and ageing population [Table 3.3]. The conclusion is that simply stopping outward migration would not be enough to prevent a continued decline. This infers that something more is required - that being the need for interesting and sustained new employment and investment opportunities.

#### Constraints on development

- 13.3 The loss of skilled resource from the island has descended to a point where it has begun to affect the ability of the community to support itself, e.g. in education, health and social services. The continued provision of public services is under immediate threat and SHG has introduced the 'key posts' initiative, and others, to address this issue. The conclusion is that the cost to HMG of maintaining these services will rise year on year if no intervention is made to address the underlying causes.
- 13.4 There is a notable culture of dependency and a notable lack of interest in being entrepreneurial. The continued frustration of discussion without action about improved access has exacerbated the problem and will accelerate its effects if it continues. Similarly, while there is external interest in investment on the island, the absence of air access prevents it from happening. Intervention is required that would provide the basis for initiative at the level of the individual or enterprise with the money-making ideas.
- 13.5 There appears to be tight control over rules governing immigration and land-holding which, linked to a bureaucratic, slow and inefficient law-making process, acts to strangle initiative. We conclude that a 'new broom' is needed, new mindsets are required that will take a different view of the latent opportunity that St Helena possesses and of the ways in which the outside world can help realise it. Under air access, there would be a need for acceptance of a give-and-take attitude to removing obstacles while at the same time maximising benefits to St Helena. 'Open but tough' would be the hallmark.

## SECTION 4 – KEY CHALLENGES

### Transforming the economy

- 13.6 The case is made, largely through the experience of the island to date, articulated by others in various studies preceding this one, that tourism alone has the potential to transform the economy and that air access alone has the potential to help exploit the tourism market. This Study provides the evidence in support of these arguments.

### Promoting economic development

- 13.7 Should the recommended intervention be adopted, and assuming success by those charged with delivering a functional aerodrome and air service, assuming also a degree of success in preparing for (investing in accommodation and tourist-related infrastructure) and attracting tourism (effective marketing), then there are likely to be profound economic effects. These include reversal of population decline, applications for residency status, improving SHG budget position, growth in personal wealth, more economic diversity. These economic effects would require facilitation (pave the way to make them possible) and management. For example, a substantial rise in investment and consumption would allow tax revenues to expand faster than expenditure, which combined with the elimination of the shipping subsidy and a decline in technical cooperation and development aid, would result in a declining requirement for UK financial assistance. Monetary inflationary pressures would arise from interest in land and from imported wage and other prices, which would need managing, or at least, careful monitoring.
- 13.8 We have derived lists of actions pertaining to facilitation and management that would be the prime responsibility of SHG and the conclusion is that unless these things were done, and done effectively, then the desired effects would not be realised.
- 13.9 This conclusion in turn leads logically to a need for a mechanism by which to determine whether and how effectively these actions were being undertaken. The presumption is made that if a large investment is to be made then conditions would attach.
- 13.10 St Helena, we conclude from all that we have learned, has the potential to reverse its own decline but if the potential is not actively exploited then it will not be realised by remaining passive.

### Types of Access

- 13.11 We concluded from our short-listing exercise at the outset of the Feasibility Study that air access would need to be based on commercial jet aircraft of the type recognised by the tourism industry – that is, no other form of air access will satisfy the criterion that access be fully available. We also concluded that if sea access were to be considered then to satisfy this criterion, at a minimum, it would need to be of a type similar to a replacement RMS.
- 13.12 Our subsequent detailed work concentrated on meeting the financial and economic criteria for air and sea access: that the access should permit the potential to develop the economy of St Helena and that the subsidy should be reduced, while also developing the technical feasibility at the next level of detail.



## SECTION 6 - DEMAND ASSESSMENT AND IMPLICATIONS FOR DEMOGRAPHY

### Proxy Islands research

- 13.13 The research into ten islands with air access, picked because they shared many of St Helena's characteristics, indicated some important parallels, which we then used in developing the recommendation for St Helena. There were three important conclusions from this exercise: that tourism contributes significantly to economic development among the proxy islands, that tourism growth rates could be deduced and applied to St Helena as a new entrant, and that the market dictates how the host island should respond.

### Conclusions and observations from proxy island research and tourism demand assessment

- 13.14 The research demonstrated that tourism has become the world's largest industry with international arrivals worldwide predicted to reach 1.56 billion by 2020 from 700 million in 2000, implying a compound average growth rate of 4.1% p.a. Its share of world GDP is expected to reach 12%. We conclude that St Helena would find opportunity to commence a tourist industry under these circumstances and that the overall trend would help it develop.
- 13.15 The flip side of this global opportunity is that St Helena would be competing with a number of long-haul destinations – and not solely island destinations – to attract a share of the global tourist market.
- 13.16 The growth rates from the proxy island research were applied to projections of demand that we derived through talking to the market in a structured manner. The market research yielded examples of the market dictating the outcome, a first being that the 19-seater business jet concept was not welcome (for reasons to do with forward-block-booking). We concluded that some growth could be obtained from this concept and arrived at a scaled-down version of the growth curve that was deduced from the comparator islands. This yielded two growth projections of tourist visitor numbers: one each for the long and medium length runways (B737 aircraft and 19-seater business jet types, respectively). A second example of the market dictating outcomes was that St Helena could not expect to be marketed as a single-centre holiday destination, that it would need to be offered in conjunction with another destination. A third example was that the market was disinterested in offering holidays on St Helena based on sea access. These influences would oblige the islanders to adjust and re-align their thinking to accept and thus deal with market forces.
- 13.17 The experience of the comparator islands illustrates how organised the marketing effort needed to be to attract tourism in the first place and we conclude that SHG will need to re-think its approach – radically in the case of air access – and in this case that it would need to develop a completely new strategy and set of plans to go with it. From our work with SHG we observe that it does not presently have the capability to do this.
- 13.18 Higher growth rates are associated with ecotourism, nature-based or heritage based tourism; however, to maintain a sense of perspective, activity holidays account for a small proportion of the overall holiday market. The share of activity holidays of the total number of overseas holiday trips from the UK is estimated in the region of 15%.

- 13.19 St Helena would have to be marketed as a complete 'package' since it has no single, well-defined unique characteristic upon which to base its entry to world tourism, despite its Napoleonic heritage. In doing so it will have to be carefully aligned with the needs of the market segments to which it should appeal. The customer profile we summarise as "Well-travelled, middle to upper income, well-educated, preference for customised itineraries, specialist operators or independent travel". We identified a sub-segment known as the fully independent traveller (FITs), being mainly in the 60+ age group, which makes its own travel arrangements, typically does not use tour operators and is therefore likely to be difficult to identify as individual targets. FITs are estimated to represent perhaps half of St Helena's potential market. The marketing effort required to raise their awareness and attract their interest would need to be sophisticated. For example, the majority of specialist operators use the Internet as the main communication channel for both customers and suppliers.
- 13.20 Again, this emphasises the need for a sophisticated marketing capability with the sophistication to reach individual targets: affluent, well-travelled with discretionary spending power.
- 13.21 The most likely tour operators are specialist, mostly small, offering walking or nature-focused holidays. The type of specialist operator likely to find the island attractive tends to make greater use of local resources and facilities and is thus associated with fewer 'leakages'. The number of operators or organisations acting as such is very large and diverse. The large generalist operators, who deal in tens of thousands per resort area would not advertise St Helena because it does not have the beaches and other populist characteristics required. None of the operators specialising in 'luxury holidays' and 'exotic destinations' showed interest. Should a third party decide to invest heavily in resort-style amenities on St Helena this might impart confidence to tour operators to sell it as a destination (assuming they had access to sufficient of the island and the amenities). We conclude that there is a well-defined set of suppliers to target, that they are many and small and specialist, and that finding them would be far from easy.
- 13.22 The customer segments of most interest to St Helena look for mid-range, local character accommodation facilities, which are preferred to international hotel chains. This indicates that St Helena would not need to establish a large hotel at the outset; rather that it would be likely to satisfy demand by investing in its existing accommodation infrastructure. This move would also have the added advantage of minimising economic leakage.
- 13.23 We conclude from the relationships between proxy islands and their closest 'source market' that for St Helena, South Africa and other southern African countries would be important markets for tourism on the island; we also noted that its safe and stable environment would be attractive.
- 13.24 Potential for 'leakage' comes with excessive imports and we conclude that it would be important for St Helena to guard against leakage, principally through maximising the use of indigenous resources, in particular, human capital, land and financial capital.
- 13.25 Many of the proxy islands reacted to market forces by enacting policies corresponding to the need to attract inward investment and to facilitate on-island development. We concluded that the active participation of the private sector was a necessary ingredient for economic success, as was its active facilitation by the on-island authorities.

- 13.26 The length of stay would depend primarily on the range of activities on offer. One-week stay was perceived as the most typical holiday duration, although some operators anticipate demand for shorter, 3-4 day breaks. Therefore the basic economics for locally-based tourist-facing businesses would need to be based around fast turn-around.
- 13.27 The remoteness of the island will act to maximise travel costs so ways would need to be found that compensate for relative cost disadvantages. We concluded from the market research that a return fare Cape Town – St Helena should be in the order of £100 if market expectations were to be met. We applied this level of fare to our Financial / Economic modelling, of which more below.
- 13.28 Our research contact with proprietors of large international hotel chains indicated no interest in St Helena; they listed pre-conditions that would need to be satisfied before they would even consider investing serious money in the island. Taken together, these conditions add up to a need for significantly increased economic activity on St Helena, which would require a considerable period of time to realise. We concluded from this that the earliest that a stand-alone hotel investment, of the standard contemplated by international chains, would be possible on St Helena, would be after some years from opening of an aerodrome (with B737 capability). We therefore allowed for such an investment in our financial / economic modelling.
- 13.29 Contact with cruise operators identified an opportunistic interest in St Helena: they would not advertise it as a destination to fly to or from in connection with ocean cruising but would call there if and when it suited individual cruises. Nevertheless the incidence of such visits could be expected to be quite high and we conclude that improvements to current passenger transfer arrangements, as enticement to come ashore and spend, would be desirable.
- 13.30 It is clear that a range of holiday-style activity facilities would be required, both land and sea-based. In a sense, St Helena would need to ‘manufacture’ its attractions while ensuring they were both ‘authentic’ and locally-grown – for a non-existent market. Timing would be important and there would be an element of cause-and-effect that could justify commercial start-up assistance.

### **Demand for travel by Saints**

- 13.31 Our close interaction with Saints on the island and elsewhere indicated a desire to visit the island regularly; through the statistical analysis of the questionnaire we concluded there would be the equivalent of 107 arrivals and departures, each, per week (long runway) and 40 per week (medium runway), but no increase over current numbers should the RMS be replaced. If there was no economic expansion it is doubtful if these numbers could be obtained; that is, if an aerodrome was provided and it was not made to work in the manner envisaged by this Study, the Saints would not come marching back.

### **Demographic Assessment**

- 13.32 We have studied closely the demographic makeup of the island and its dynamics. We conclude that it is characterised by a low birth rate and relatively long lives, which are unlikely to change dramatically, and that migration is the one demographic factor that is open to influence by economic conditions, social policy, or political decisions.

13.33 Our population projections, based on our study of the demographics and linkages between investment, jobs created and workforce required indicate a slowly rising recovery under the long runway set of economic and financial assumptions; a maintenance of the status quo under the medium runway; and a steady and unrecovering decline under RMS replacement. We conclude that it would be difficult but worthwhile in social terms to attempt the 'long runway' recovery, that the medium runway scenario would soak up effort and dash expectations, and that to replace the RMS would be to accept an expensive and socially very unhappy decline into high levels of state support and dependency, increasingly difficult to sustain in mid-Atlantic, without even emergency air cover.

## **SECTION 7 - TECHNICAL CONSIDERATIONS AND COST ESTIMATES**

### **Aerodrome design**

13.34 We left no Regulatory stone unturned in our search to minimise costs while maximising use of the only site on the island suitable for landing commercial jet aircraft. The terrain is, in commercial passenger air transport terms, safety-critical, due to its steep approaches and rocky outcrops. Without an instrument approach the provision of a viable air service is not possible. The location and the alignment of the runway as described by this Study are critical to the creation of a usable runway and also limit the availability of land on the site that could be used for the runway construction. Therefore the design can not be one whose driving purpose is to minimise costs based solely on engineering reasoning, but rather one that makes optimum use of the land available. In practice this means that there is only one solution, a condition that would have to be accepted by DFID and SHG in treating with a contractor to build an aerodrome.

13.35 We conclude that it would be feasible to accommodate aircraft up to the size of the Boeing 737 family of designs or its Airbus A 319 / A320 equivalent, and in so doing, to accommodate also the 19-seater business jet variety – with a shorter runway.

13.36 From our analysis of the type of runway surfaces that would be suitable for the circumstances we conclude that concrete should be stipulated, offering whole-life advantages over tarmac.

13.37 The operational approach roads may be accommodated from a variety of existing routes, suitably extended. The aerodrome could be made self-sufficient with its own water, waste water and power facilities.

13.38 Supply of aviation fuel could become an issue at about Year +20, when a pipeline could be required from Rupert's Bay; in the interim we conclude from our calculations that a road bowser system would be sufficient.

### **Construction**

13.39 From our geotechnical investigations on St Helena and analysis of samples extracted we conclude that it would not be necessary to transport aggregate to the island, that maximum use could be made of the resident material (though some would need to be discarded). Sand and cement would need to be imported.

13.40 The construction 'haul routes' may be built from either the west or east coasts; we concluded that there were too many variables involved in this decision, in which SHG would have a vested interest, to make a firm recommendation. In siting the terminal buildings and approach roads we chose a position that would minimise damage to the ecologically sensitive Central Basin, of which more later.

#### **Air ticket prices and subsidies**

13.41 Through a bottom-up approach we developed an extensive range of ticket prices for each of the two principal air access options and the two sub-options (subsidised 19-seater business jet solution and B737s on a widened medium runway). This allowed us to investigate many different scenarios. We concluded that in no case should air fares be subsidised.

#### **Provision of an air service**

13.42 The concept of operating commercial jet aircraft rests on the notion that a commercial airline would be prepared to operate a scheduled service to St Helena and Ascension Island at normal commercial prices from and to a South African hub, say Cape Town or Johannesburg (the Study adopted Cape Town under instruction from SHG). ||| Our contact with the market suggests there would be room for sharing surplus above an agreed level.

13.43 The concept works on the basis that the owner uses the aircraft on other routes when not serving St Helena and Ascension Island. It has the benefit of being able to tap into the worldwide ticket sales network because the tickets would be sold by the airline; this brings marketing and promotional benefits, also spin-offs into hotel and other travel operators' operations.

13.44 The 19-seater business jet concept entails the complete opposite: SHG would need to underwrite the purchase of and contract out the operation of a fleet of aircraft. This means maintaining the aircraft. It also means operating an 'own' ticket sales operation and foregoing all the add-on benefits of the direct relationship with an airline. In this concept, SHG would have much increased responsibilities for active operations, of all types.

#### **Cargo operations**

13.45 The long runway provides the opportunity for two types of air cargo operations: in the hold of the B737 passenger aircraft and via a dedicated cargo type such as the Hercules L100.

13.46 The medium runway provides only for hold cargo, limited by type of 737 in the sub option; the business jet can carry only small packages. In the medium runway solution(s) St Helena would need to rest on provision of cargo by sea.

13.47 Provision of cargo by sea in the case of air access would be possible at commercial rates. Our researches lead us to conclude that SHG would be able to treat with current providers of sea cargo to service St Helena.

### **Medevac operations**

13.48 The long runway would permit evacuation via the commercial passenger aircraft; the medium runway would accommodate a military Hercules C130J and in this solution St Helena would have to treat with the military to achieve a reasonable level of service.

### **Capital costs**

13.49 We conclude from a long and very detailed process of careful design, analysis of survey and geotechnical information that the long runway could be built for a price of £1.1m and the medium runway (919-seater solution) for £1.1m; the medium runway could be widened to accommodate B737s at an additional cost of around £1.1m. Additional capital expenditure of £1.1m would be required in Year +20 in each case, to provide a fuel pipeline.

### **Alternatives**

13.50 Widening the medium length runway would permit operations of B737s but they would be load-limited due to the shorter length. We concluded, after detailed checks with the Regulator, that operating under these limitations would be less than optimally safe. Our contact with the air service industry indicated that the medium length runway, if widened to accommodate B737s, would in all probability have to be lengthened at some future point to accommodate trends in aircraft design. This would incur additional capital costs of the order of £1.1m and an environmentally unacceptable scar due to new excavations. Additionally, operating at less than optimal loads would be likely to exert upward pressure on ticket prices and limit cargo operations. We conclude that the marginal cost advantages offered by this concept are outweighed by its practical shortcomings.

13.51 We investigate what would be the likely effects of subsidising Saint's air fares under the 19-seater medium runway solution and concluded this would not be in anyone's interests.

### **Sea Access (Passenger and Cargo combined)**

13.52 We concluded that replacing the RMS, while meeting the access feasibility criterion would not meet the economic criteria and that this access should therefore be avoided.

## **SECTION 8 - CONTEXTUAL ISSUES**

### **Social behaviour**

13.53 From our survey of Saints we conclude that they would make more frequent visits to and from St Helena if air access was available; this is for a variety of reasons.

13.54 The ability of off-island business people to see St Helena for themselves and the ability of islanders to visit potential/actual business partners would help develop commerce. Air access also would improve possibilities for employment by giving employers a new option.

### **Social obligations**

13.55 It is acknowledged that SHG's social obligations could rise under conditions of economic growth, and with them, costs, but we conclude that, subject to effective economic



management, these costs would become offset by fiscal revenues and eventually, wholly offset so that HMG subsidies would decline to zero.

### **Institutional and Governance issues**

- 13.56 From our analysis of the situation on the island we conclude that the immigration process appears to cause frustration among those seeking to work or just reside on the island, and hence represents a barrier to investment and to a potential inward flow of funds. The processes for owning land and the right to be in St Helena do not appear to be joined up.
- 13.57 By default, ASSI is responsible for the provision of aviation regulation and safety oversight on St Helena. We conclude that it is not necessary to have a dedicated Director of Civil Aviation on the island as ASSI can fulfil all the requirements on a visiting basis; the airport manager could report on operations.
- 13.58 New laws would be needed covering aviation activities, though aviation laws from UK or elsewhere could be adapted. We conclude that this should not be problematic. SHG is not empowered to borrow or provide guarantees or indemnities (without consent of the Secretary of State) nor grant indemnities, guarantees or other contingent liabilities: UK Parliamentary approval would be needed.
- 13.59 Additional immigration, customs, planning and police staffing would be required (see Tables 8.11 and 8.13).

### **Operations into Ascension Island from St Helena**

- 13.60 We recommend strongly that DFID/SHG take action to understand further the precise limitations of the existing agreements relating to Wideawake Airfield, including time-limiting effects on any plans to operate an air service from St Helena to Ascension Island. The present arrangement, while currently not a showstopper, if not both clarified and made more attractive, could hamper commercial activities and make it difficult for Saints to reach St Helena from the Falklands.

|||

- 13.61 |||.

- 13.62 The establishment of a route between St Helena and South Africa is an important first step in any tendering or negotiating process to provide an air service to St Helena. Without this, any negotiation or tender would be unlikely to be treated seriously.

## **SECTIONS 9, 10, 11 - FINANCIAL / ECONOMIC AND RISK MODELLING**

### **Discount rate**

- 13.63 We complied with the Social Time Preference Rate (STPR) given by the Treasury 'Green Book'. The particular marginal utility of air access over sea access and over no access is very high and is not reflected in this STPR. Both air access options meet the urgent access requirement with insignificant differences in the timescale for delivery and a higher level of preference would not discriminate significantly between the two air options. Our VfM analysis addresses the UK taxpayer perspective, measuring the potential for reduction

in the ongoing subsidy to SHG. The UK STPR is therefore more appropriate than a local marginal utility and the analysis uses the standard discount factor in the Green Book (3.5% real).

### **Risks and uncertainties**

13.64 We assigned values to high level risks covering capital costs, operating costs, tourism and Government revenue. We assigned uncertainty ranges to the risks and also probabilities of occurrence to the risks. We contend that this provides an adequate range of risk analysis and that it can act as the start point for development of a risk management plan.

### **Summary conclusions from Financial / Economic / Risk Modelling**

13.65 Summary conclusions from the modelling and procurement value-for-money analyses are:

- The long runway has the lowest net present cost, at £1.1 (plus cost of risk-transfer), followed by the medium runway; the RMS replacement option is the most expensive option for HMG overall.
- An aerodrome involves a higher level of capital outlay than the RMS replacement in the early years. The long runway option requires greater capital investment than the medium runway.
- If shorter evaluation periods are used, the ranking does not change.
- The subsidy could be reduced to zero by the long runway option within the period of discounting; the risk analysis shows that only this option has a high possibility of achieving this outcome. The medium runway option has only a 43% probability of achieving zero subsidy within the period.
- The risk analysis shows that at all levels of probability the RMS replacement option has the highest NPV of costs – meaning that there is no ‘overlap’ between it and the air access options.
- Sub options require more financial support than the main long and medium runway options. If the medium runway option was selected it would be uneconomic to subsidise fares selectively.
- The GDP predictions are much stronger for the long runway option than for the medium runway or RMS replacement.

13.66 We concluded that the preferred access option should be the long runway, that this offered the safest operation of the B737-800, the largest of the type and which would offer the greatest opportunity over time for the economy of St Helena to be developed - as it would move the greatest number of people at the most commercially advantageous rate. We concluded also that the long runway solution would offer HMG the fastest means of reducing the subsidy to St Helena.

13.67 Of course, this preference is not without risk. However, taking a broader view of the risks involved, one might prefer to steer toward a repetition of sea access simply on the basis that this offered a known quantity, i.e. that the risks are familiar. Whichever air access option or sub-option was chosen, it will involve new risks for both SHG and DFID. Therefore the choice has to be ‘risk-aware’ – it cannot afford to be ‘risk-averse’ simply because it involves entering new territory for SHG.



## SECTION 12 - PROCUREMENT

- 13.68 We reviewed options that require different cash payment profiles and that include contractor finance, managed service arrangements and PFI/PPP terms. All of these arrangements would require SHG to be underwritten by DFID.
- 13.69 From an analysis of the advantages and disadvantages of the various forms of procurement, from conventional public procurement, through PPP types to privately financed, and the corresponding characteristics of the preferred option, in particular that it does not offer a commercially attractive basis of operations, we conclude that attempts to exploit private sector financing would be fruitless.
- 13.70 We observe that there are construction and operational risks with which neither SHG nor DFID would be sufficiently familiar to manage unaided and we conclude that involvement of the private sector in a risk-transfer movement would be prudent. We conclude that this route would maximise value for money as it would offer an effective means of risk mitigation.
- 13.71 There would be a financial cost associated with this transfer of risk. From our limited contact with the market on this particular project, and from our broader knowledge of the market generally, we conclude that there would be an appetite – though one that we are not in a position to quantify comprehensively - to undertake such a venture. We also conclude that the contract should extend into management of the aerodrome, for a period of up to ten years, that this would represent an attractive proposition to the market. Such a contract – for operations – would then become a rolling contract, either subject to renewal or re-competition.
- 13.72 We conclude that for the long runway solution, an international and domestic scheduled air service, being a service operated to a predetermined timetable, would be appropriate. Alternatively, a charter service, being an air service provided from time to time but not to a predetermined timetable, could also be appropriate where the volumes are at such a level that a scheduled service was unsustainable ¶ . ¶ .

## DETAILED RECOMMENDATIONS

13.73 The following recommendations are made under a presumption that air access is adopted.

### Commercial value of this Report

13.74 The financial situation as assumed for our modelling purposes could possibly be improved; our treatment of indirect economic spin-off from tourism has been conservative (we have not modelled indirect effects). If and when a decision on air access is announced and a firm commitment made by HMG, the content of this Report relating to private sector opportunities is likely to have commercial value because it not only identifies commercial opportunities but also helps to quantify them. We recommend that until such time as detailed planning has been undertaken with regard to the development of the economy, for example, public announcement of contract opportunities, this Report should be maintained as a commercially sensitive document.

### Aerodrome design concept

13.75 It is recommended that the long runway solution be adopted. This form of access carries the potential for St Helena to develop its economy and for SHG to work toward reduction of the subsidy until it reaches zero. It is a technically feasible solution. Financially, it is elegant: it should prove attractive to commercial air service providers and permit fare-setting at levels acceptable to air service and tour operators and the tourist market, without the necessity for SHG to intervene once the initial period of contract support has passed.

### Procurement route

13.76 The method of procurement of an aerodrome is recommended as Design, Build, Operate, Transfer, in which the prime contractor takes responsibility for quality and timeliness, possibly on a reward / penalty basis, and also for operating the aerodrome for a period of up to ten years.

13.77 The method of procurement should allow adequate benchmarking and market testing to ensure SHG continues to attract best value for money.

13.78 An Employer's Representative should be employed by SHG to oversee progress by the contractor, according to the terms of the contract.

### Policy, Governance and institutional development

13.79 SHG should develop a range of policies designed to facilitate activity by those who would invest in tourism, both directly and indirectly; this Report gives many examples of such policies; other islands, e.g. Easter Islands and Dominica as the two closest comparators, should be studied for this purpose.

13.80 In particular, since it is unlikely that all the skills, investment, and numbers of people required to support economic development will be found within the Saints community, to achieve the projected benefits the island must take a positive attitude to:

- foreigners recruited to take up employment

- foreign investors and business partners
- rapidly increasing tourist numbers
- foreigners wishing to purchase property and who wish to reside on the island.

13.81 Policies should be seen to be operable, that is, the institutional ‘enablers’ should be put in place and their existence made known. A common example is in banking and the requirement to have a bank account as a condition of obtaining a credit card, without which internet shopping is impractical.

13.82 Education is an area in which the Education Sector Support Programme will be required, in its widest sense, including vocational training, to help the economy in its early recovery. SHG should ensure that a holistic and temporal approach is brought to bear and it should monitor results through time with a view to making necessary adjustments to its delivery.

13.83 We note that the Land Development Control Plan, while available only in draft toward the final stages of our Study and while appearing restrictive in some areas, notably use of land for tourism development, is under review in the light of the recommendations of this Study. This is a good example of both policy statement and enabler. It should be published only after careful reflection of all areas of economic development so that it is consistent with those on which it impinges directly and with areas of economic life that would be addressed by other such instruments. It should be tested before publication to explore how it would be viewed and therefore interpreted by investors, perhaps leaning toward preferred outcomes and away from the prescriptive.

13.84 An external professional planning input is likely to be needed for updating the LDGP in 2010, when an aerodrome could become operational; our costs allow for a resident professional planner.

13.85 Measures to ensure that the maximum number of opportunities can be taken up by Saints may include:

- centrally-managed information about job opportunities
- register of interest / skills / availability for work
- targeted vocational training and accreditation
- targeted support to encourage long-term unemployed back into work
- requirements of contractors in respect of advertising, hiring and training policies
- mechanisms to ensure that Saints are trained to take over from expatriates
- assistance to help meet the cost of returning to take offers of work
- impart early understanding of the likely scale and nature of business opportunities
- demonstrate how to start and run a private business.

13.86 Consideration should be given to index-linking benefits to the vulnerable, in anticipation of inflation being imported.

13.87 Good data is a key ingredient to good public planning and monitoring. Consideration should be given to rescheduling the St Helena census. Rapid changes during the period 2005 to 2020, and the need for up-to-date information during this period, would justify a census in 2006 and another in 2011.

- 13.88 Co-ordination of contractual activities related to construction and service provision and of activities related to policy development and institution building would be essential. We suggest a small, full time executive SHG body (referred to in the Report as the Access Implementation Unit - AIU) to plan, co-ordinate, monitor, evaluate and generally drive the project. This AIU would report to an Access Forum, which would make major decisions and monitor AIU progress at a high level. The AIU would represent the public sector, the private sector and quasi public-private bodies. The key point is that these should not be 'committees' with a remit to debate but executive bodies with a remit to make things happen. See Figures 8.1 and 8.2.
- 13.89 The basic legal criteria for entry of immigrants should be reviewed to permit the skills and investment required in the event of building an aerodrome and tourist trade. A clear set of rules and guidelines on applying policy should be devised, reducing the discretion of the Immigration Board and making criteria clearer to potential applicants. The appointment and composition of the Immigration Board should also be reviewed. At the same time, the right of non-Saints to invest in and own property should be similarly reviewed; the Approved Investor Framework, dating from 1999, is not yet a useful instrument in this regard.
- 13.90 An environment agency should be contemplated, following a more detailed review of institutional arrangements for handling the environment. It would have responsibility for all environmental matters and develop procedures and policies for environmental protection.

#### **Legal obligations and taxation**

- 13.91 SHG must be able to grant the necessary rights in the land required for the project; it may not only have to grant an interest in land to a contractor who is a foreigner, but guarantee not to interfere with that interest. Contractors and lenders may need evidence that SHG was able to support its obligations over the long term and may require a direct commitment from DFID covering the obligations and contingent liabilities of SHG. This would require Parliamentary approval.
- 13.92 Fiscal incentives may be required to induce private sector participants in an air access project, and we recommend that all relevant aspects of taxation on St Helena be reviewed with this in mind. The need for offshore special purpose vehicles should be examined with both UK and SHG taxation laws in mind.
- 13.93 Under existing procurement Regulations, if DFID was the contracting party we foresee no compliance problems. If DFID provides the funding as financial aid and SHG is the contracting party, the conditions of DFID's grant may require SHG to comply with the Regulations – which could prove awkward for DFID. In this case, we recommend that DFID submits the OJEU notice but state it to be "on behalf of St Helena".

#### **Contractual considerations**

- 13.94 SHG would be obliged to give warranties over adequacy and availability of land for construction of an aerodrome and for access. Bidders should not be expected to take risk on ground conditions; therefore some reliance must be placed upon the work already undertaken. SHG should consider which warranties it is prepared to give and in granting them may be obliged to seek DFID and parliamentary approval.

- 13.95 In any concession arrangement SHG (in reality DFID) would have to agree to act as insurer if at any time insurance became unavailable at economic cost. DFID agreement and parliamentary approval would be required.
- 13.96 Contractors would seek to limit their liability, e.g. by capping liquidated damages for delay, and DFID could be left with the risks and cost of implementing alternative arrangements; we recommend that DFID engages the services of a legal representative experienced in letting large infrastructure contracts of this type who would be charged with identifying such risks and ways in which to minimise its exposure.
- 13.97 SHG would have to guarantee that sufficient Work permits are provided for non-Saints as well as passes for their dependants.

### **Attitudinal change**

- 13.98 There will be a need for a different view on the world and it is recognised that for some this could be unwelcome, indeed, painful; for 'progressives' it may still be difficult to adjust to the indomitable and also fickle nature of market forces. However if policy announcements are not followed up by corresponding enabling institutional changes, accompanied by a publicly practised will to carry them through – in the name of economic development - then the market will go elsewhere.
- 13.99 At the same time maximum benefit to the island should be extracted from the market; this will require vision, to ensure that the desired outcome is always achieved while at the same time offering maximum encouragement to investors (of all types). It would be unfortunate if say, a single investor was able to become dominant over all others and effectively prevent others from making gain, or even, stunt economic development through an inability of SHG to practice initiative.

### **Marketing tourism**

- 13.100 SHG should engage the services of commercially active marketers, in particular a Tourism specialist, and others engaged in the industry if it is to shape and then act upon a plan for making itself known in the world. St Helena needs to brand itself more strongly and give itself a clearer identity as a tourist destination.
- 13.101 The Tourism Advisory Committee / Tourist Board should be strengthened to fulfil the role outlined by the WTO report and ensure co-ordination of the relevant tourism-related organisations on St Helena. It could possibly be better located under the Development and Economic Planning Department. See Figure 8.3 for detail.
- 13.102 The SHDA should play a key role by actively facilitating the growth of tourist-related industry by supporting local and inward investors. It should aim to be effective at helping investors gain the appropriate legal status through its understanding of the machinery of government and should be the commercial face of St Helena overseas. It should have a dedicated inward investment unit and its remit should be widened so that it interfaces with all the SHG departments and their agencies. See section 8 for detail.
- 13.103 Following a decision on air access and for as long as the RMS is providing access, a direct link between the Tourist Office and the RMS operator should be fostered to ensure

that professional, active marketing is undertaken, that can be smoothly built upon when air access becomes a reality. The RMS is at least a vehicle that can be used to promote both access and awareness in advance of air access.

13.104 Representation Agencies should be installed in key cities in source market countries (e.g. London, Cape Town, mainland Europe) to act as local offices of the Tourist Office, to be responsible for promoting the island. Where possible the private sector should be actively engaged so that it is induced to share the cost of promotion; SHG should resist the temptation to swell staff numbers in the Tourist Office in proportion to anticipated tourism growth.

13.105 There is likely to be a range of 'trigger points' acting to initiate various new developments if and when a decision on air access is announced, e.g. announcement of a decision on air access, rate of construction progress, commencement of air operations, withdrawal of the RMS: different signals would be picked up and acted on differently by different groups, both investors and private individuals. SHG and DFID would need to be sensitive to such messages, be alive to the effects of planning and policy development, and ensure a steady stream of accurate information.

### **Infrastructure**

13.106 The island's physical infrastructure – roads, public services, sites of tourist interest and so on – will need to be reviewed in the context of both attracting and receiving greater numbers of visitors and investment and plans for its implementation established.

13.107 Its base capability in telecommunications appears to be adequate for intermediate planning purposes but there are likely to be specific services that either are now or will become either unavailable or over-subscribed. SHG will need to keep this situation under constant review with Cable and Wireless and its customer base and in due course, consider re-opening the contract to competition.

13.108 Vacant housing is a characteristic of the island and represents an unused asset: moves might be investigated under which properties could be let under timeshare or other 'co-operative' arrangements or otherwise used to accommodate new visitors (the LDGP acknowledges this topic). The experience of other islands should be examined for practical applications.

13.109 Although not a topic for detailed work by this Study, our consultants observed that the area around Rupert's Bay, which could become an important sea-land access point, currently is 'home' to some issues relating to safety (exposed pipelines) and habitation (proximity of pipelines): these will need to be resolved in the immediate future at a detailed level of planning.

13.110 If facilities for transferring passengers and cargo from ship to shore and vice versa, specifications for which have been developed by others, are to be upgraded, preference in the first instance should be given to portable items that can be deployed regardless of location. This, so that if developments at Rupert's Bay should prove adaptable to accommodating landing there, rather than at Jamestown.

### **Engaging an air service provider**

- 13.111 Discussions with prospective providers of a service for a long runway should start whenever a decision has been made to build it. There should be some communication on the subject to the South African authorities, involving the UK's Department for Transport, if it is chosen as the country to provide the selected gateway airport. A negotiated rather than a tendered approach is likely to be the best option for creating the air service.
- 13.112 DFID should ensure that DfT extends formal commitments of UK under international law for its liabilities to the international community when running or facilitating an air service.

### **Flight testing the runway orientation**

- 13.113 A charter aircraft should fly test the approaches to and departures from the intended (long) runway as early in the contractor's design spiral as possible. This is to ensure that the orientation as represented by this Feasibility Study is indeed practicable, not only from a civil engineering point of view but from an aviator's viewpoint also. This recommendation applies regardless of which aerodrome concept is selected.

### **Choice of haul route**

- 13.114 The choice of route – which we concluded should be between Rupert's Bay and Prosperous Bay – should be considered by SHG from the point of view of its planning intentions to determine the more economically advantageous choice. The result should be conveyed to the chosen contractor, who should then be asked to determine the choice on Financial and Economic grounds. SHG should then take a view and come to a decision, having due consideration to any risk-sharing arrangement with the contractor.

### **Landing construction materiel**

- 13.115 The contractor should be requested to include in its plans for landing materiel some forward planning concerning possible onward development of any facilities set up for its temporary purposes during construction. This would be with a view toward possible re-location of the passenger and cargo operations at James Bay.

### **Construction-related employment opportunities**

- 13.116 Although many construction-related posts might be filled by Saints it seems certain that some specialists will be required who cannot be recruited from the Saints population. These are likely to include particular construction-related skills and managerial experience – which will have to be recruited by the contractor(s) from elsewhere. SHG should keep itself informed and publish information related to skills required, numbers, equality of opportunity, family opportunities, length of stay, and so on.
- 13.117 Contractors should be made aware of local laws and customs and be required to observe them.
- 13.118 Any construction-related accommodation should be planned, where possible, as offering a suitable base for adapting to later, permanent use, without imposing unnecessary burden on the contractor.



### **Supply of aviation fuel**

13.119 The current arrangements for transfer at Rupert's Bay should, at a minimum, be continued (though upgraded to permit deeper draught ships to operate without contact with the sea bottom during swell conditions); naturally a shore-based installation capable of the safe handling of aviation kerosene would be required. While the Feasibility Study offers guidance as to the capacity, detailed surveys and design should be commissioned to size the facility.

13.120 SHG should determine whether Solomons is an appropriate agent for the procurement and supply of aviation fuel to an aerodrome, taking into account the regulation of such a business and the provision of training to allow it to extend its operations. A view will need to be taken on the feasibility of upgrading the (new) facilities, which we recommend should be based initially on supply by road, to supply by pipeline, when demand requires it, possibly by around Year +20.

### **Provision of sea cargo under air access**

13.121 SHG should investigate the following alternatives by drawing up the pros and cons of each, considering St Helena's immediate needs, allowing for possible mid-term requirements under air access, and setting out a mini business case for the best:

- Selling the RMS and seeking a contract for continuation of its use.
- Seek a risk-sharing agreement with a shipping company (requires a market testing exercise by SHG).
- Charter vessels on single-voyage basis for a period of time.
- Charter vessels on time-charter for a year or more at a time (significantly cheaper than single-voyage chartering).
- Buy a used cargo vessel, contract out its management and trial this approach for a few years (probably the most cost-effective solution in the long-term but actual demand data would be helpful in this decision).

13.122 The business case should assume as an initial condition that all costs related to transport of goods should be passed on to the consumer. Again, SHG should determine whether Solomons would be an appropriate agent to handle such supply transactions, in the round.

### **Managing construction-related activities**

13.123 Expertise with effective authority would be needed to monitor financial aspects and engineering progress: e.g. the contractor would need to satisfy SHG that airport structure is satisfactory, which requires structural engineer/building surveyor). We recommend the appointment of qualified personnel to act on behalf of the Public Works and Service Department, to work with the contractor(s). They should report direct to the AIU. The AIU should thereby drive the contract, and construction contract monitoring should come under it. AIU staff would manage the airport and air service contractors during operations, both technical and commercial aspects. The AIU would develop the approach and scope of this contract management role.



13.124 Building regulations should be reviewed to ensure that they are appropriate to the project and that new ones are implemented if necessary.

**Impact of tourist development – considerations for the ESIA**

13.125 Some level of control over numbers of visitors may be needed. Under the ESIA a more detailed capacity analysis should be undertaken if this has not already been completed under a proposed OTEP project. The effects of tourism on Easter Island's environment should be studied and used as a comparator together with experiences from other similar environments.

13.126 At the start of the ESIA the leading authorities on St Helena's environment should be consulted to guide the mitigation and construction management processes.

## 14 IMPLEMENTATION PLAN

### Introduction

- 14.1 The purpose of the Implementation Plan is to provide DFID and SHG with an outline timetable of activities and tasks to enable flight operations to begin in 2010. The plan has been divided into three phases and incorporates the following key activities:
- contract procurement
  - airport and air service regulation
  - design and construction of the aerodrome
  - environmental issues
  - social issues
  - marketing St Helena as a tourist destination
  - institutional development actions.
- 14.2 The plan is triggered by Ministerial approval for release of funds and works through design and build of the aerodrome to the start of flight operations. It highlights the interdependencies between activities, marks the key milestones and assigns each activity and task with an 'owner'. The 'owner' column on the plan indicates at a high level which organisation is responsible for the task i.e. DFID, SHG etc. The three principal phases are:
- Phase 1: begins with Ministerial approval and includes the procurement of the principal contracts (Technical Assistance, Principal Contractor).
  - Phase 2: incorporates the final design stage and the whole construction stage.
  - Phase 3: contains the remainder of activities in the build-up to the start of flight operations such as licensing the aerodrome but also includes a number of continuous tasks such as the marketing and institutional development elements.
- 14.3 One of the recommendations of this Report is that if the decision to proceed with air access is taken then the management of the project should be conducted with sufficient clarity of reporting and sufficient authority to ensure decisions do not become sandbagged in committees. The key roles – DFID, SHG and Principal Contractor – would have to work together in a partnership underpinned by strong and effective organisation. We attach, in Appendix AE, some principles and rules governing working with portfolios of projects, which would be usefully referenced at an early stage following a decision to proceed.
- 14.4 The Plan is accompanied by a series of explanatory notes, which appear in Appendix AF.
- 14.5 The following paragraphs describe the plan in outline, highlighting some of the main activities, tasks, sub-tasks and inter-dependencies. It should be read in conjunction with the relevant sections of the main report, where the activities are described more explicitly.

## PHASE 1

- 14.6 Immediately after Ministerial approval a DFID/SHG Programme Board should be established to drive the programme forward. Contractual arrangements between DFID/SHG and third parties need to be established early on.
- 14.7 A priority for the Programme Board will be to action the Foreign and Commonwealth Office to clarify Ascension Island agreements at the earliest possible moment so as to understand the effects they could have on commercial negotiations with air service providers. The remainder of the plan assumes that the issues surrounding use of Ascension Island will be resolved and therefore this activity does not fall on the critical path.
- 14.8 Key contracts need to be established in the first year of the programme, namely:
- the Technical and Legal Advisors
  - the Design, Build and Operations Contract.
- 14.9 The first two contracts awarded are for the 'Technical and Legal Advisors'. Corresponding Terms of Reference will need to be drawn up.
- 14.10 The second contract is for the design, build and operation of the aerodrome. The plan indicates that the procurement process for this contract will take over a year.
- 14.11 During the Employers requirements scoping stage there will be a consultation on the Environmental Impact Assessment Terms of Reference (EIA TOR) and a short period following this where the TOR is finalised. The contract will need to be drafted to account for recommendations from the EIA and will need to include detail on site management and operation. Once the principal design and build contract is in place separate sub contracts can be issued to local contractors on St Helena to get the construction enabling works underway.
- 14.12 Although this Study discusses the provision of an air service with airlines, until a decision has been announced to build an airport, any airline is unlikely to take the proposition seriously. The common view is that discussions should only start as soon as a decision has been made to build it. Further, there will need to be at least some indication from the DfT that any relevant, new, air service agreements are being considered. This will involve, at minimum, an exchange of Notes on the subject to the country operating the selected gateway airport.
- 14.13 Under these circumstances and in respect of the limited market sources, a negotiated rather than a tendered approach is considered to be the best option for creating the air service.
- 14.14 The process for providing the air service will include a number of phases before the start of commercial flying operations. These are:
- Short list of options
  - Selection of the desired gateway airport
  - Discussion with the gateway country in respect of air service agreements

- Early feasibility discussions with the desired aircraft operator
- Negotiation on use of refuelling stops if required
- Negotiation of the contract
- Pre-start up preparation
- Route proving flight(s).

14.15 It is important that the first five actions listed above start as soon as is possible after any decision to build an airport is made.

14.16 A small ship needs to be chartered to provide a shuttle service to and from Ascension Island. In support of personnel and equipment movement, an air service will replace the ship service once the temporary runway has been constructed.

## PHASE 2

14.17 Phase 2 encapsulates the finalisation of the technical designs and the construction of the aerodrome. This stage of the project needs to be managed carefully as there are a number of activities on the critical path. If certain activities slip behind schedule it will delay flight operations beginning.

14.18 The technical designs need to gain ASSI approval and have the EIA implemented upon them. An Environmental Management Plan must be devised after the EIA. Construction work cannot start until the EMP is in place. An Environmental Technician should be appointed at the start of the construction phase to regulate the EMP.

14.19 During the final design stage SHG and the principal design and build contractors should be working on the logistics for recruiting and transporting workers to the island in time for the enabling works to begin. Ideally, most of the workers will be Saints, some of whom will be living and working overseas, therefore a three-month assembly period has been allowed for these workers to reach the island.

14.20 The enabling works incorporate upgrading the haul road and other access roads; preparing the site for works; constructing the site accommodation and laying out boundary fencing. This work can start before the main workforce has been mobilised if independent contracts can be set up to utilise local contractors with experience in this sort of work or by sub-letting from the main design and build contract.

14.21 The haul road is required to permit access for construction plant during the early stages of the project and the transportation of imported materials during the main construction phase of the runway. Once the main plant has been moved to Prosperous Bay Plain the haul road could be stabilised to allow materials transfer with the final upgrading of the road being undertaken towards the end of the contract.

14.22 The main workforce will be built up to full strength over a three-month period once the majority of the enabling works has been completed by local contractors. The technical advisors will be mobilised on the island by this point and will be there to support for the duration of the construction stage.

14.23 Major earthworks can get underway once the heavy earthmoving equipment is on the island. The major earthworks will span approximately 32 months. During this stage the runway and terminal area facilities will be built on Prosperous Bay Plain and the access roads will be finished.

### **PHASE 3**

14.24 This phase includes the delivery of the vehicles necessary to operate the aerodrome, recruiting and training the operations personnel, licensing the aerodrome and procuring an air service contract. It also includes an outline plan of activities associated with marketing and institutional development.

14.25 All operations staff should be fully trained at least six months before flight operations begin and the aerodrome should be licensed at least two months prior to the start of flight operations.

14.26 The air service contract should be awarded approximately 6-12 months before flight operations begin. However, the air service provider can be appointed as a 'preferred supplier' prior to this which would enable the trade organisations associated with marketing the island as a tourist destination to be more informed at an earlier stage.

14.27 Flight operations are scheduled to start in January 2010. There will be a period of six months leading up to this date for the Airport Operator to work up and take over the aerodrome facilities.

14.28 Preparation of sea cargo arrangements for St Helena are accounted for in a series of activities between 2006 (when the current AWSL contract expires) and 2008 when a decision should be made on the future of sea cargo. The RMS is scheduled to be decommissioned in 2010, after an overlap of approximately six months with air services.

14.29 The marketing campaign for St Helena should start as soon as the Ministerial decision is announced. There are a number of important tasks to be carried out to successfully market St Helena as a tourist destination. One major task that needs to start immediately is the upgrading of existing accommodation and tourist facilities.

14.30 The institutional development requirements include recruiting a number of staff for short term and permanent posts and strengthening of various departments.

### **CRITICAL PATH (NOMINAL)**

14.31 The activities and tasks listed below fall on a nominal critical path. Any delay of an activity on this critical path directly impacts the planned project completion date. The full outline implementation plan is displayed in Figure 14.1 below.

1. Ministerial approval
2. Appoint DFID/SHG team for aerodrome project
3. Agree contractual arrangements between SHG, DFID & 3rd Parties
4. Procure TA contract
  - a. Develop TOR for TA and Legal advisors
  - b. Issue TOR for TA & Legal contracts

- c. Competition for TA & legal contracts
  - d. Review tenders
  - e. Agree Mandate
  - f. Award TA & Legal contract
- 5. Procure design, build and operations contract (Principal Contractor)
  - a. Draft employers requirements
  - b. Agree with SHG on concessions, warranties & other obligations
  - c. Prepare enabling legislation
  - d. Prepare contract documentation
  - e. Prepare ITN
  - f. Issue ITN
  - g. Competition for contract
  - h. Review tenders
  - i. Negotiate contract with preferred bidder
  - j. Award design, build and operations contract
  - k. Initial sub contracts
- 6. Implement EIA
- 7. Complete EMP
- 8. Construction of temporary Haulage Road
- 9. Major Earthworks
- 10. Route Prooving
- 11. Start air service operations

Figure 14.1 Outline Implementation Plan

