

**THE STATES OF DELIBERATION**  
**of the**  
**ISLAND OF GUERNSEY**

STATES TRADING SUPERVISORY BOARD  
ALDERNEY AIRPORT RUNWAY REHABILITATION

The States are asked to decide: -

Whether, after consideration of the Policy Letter entitled 'Alderney Airport Runway Rehabilitation' of the States' Trading Supervisory Board, they are of the opinion:-

- 1 To approve Option 3 as the 'preferred option', to restore the existing pavement surfaces to provide a more lasting life for the runway, including re-widening and other improvements, as the option which optimises public value, following a detailed appraisal, as set out in the Policy Letter and in particular, in paragraphs 5.6 to 5.23.
- 2 To approve an increase of a maximum of £460,000 in the existing capital vote for the Alderney Airport Project funded from the Capital Reserve, to fund-all necessary steps for the development of the design stage and proposals for the procurement of Option 3, as set out in paragraphs 7.1 to 7.2 of the Policy Letter.
3. Subject to the Policy & Resources Committee's approval of the Final Business Case, to direct that Committee to increase the existing capital vote for the Alderney Airport Project, funded from the Capital Reserve, to a maximum of £12.2 million to fund the construction of the runway pavement rehabilitation scheme, in accordance with Option 3, including the design stage, professional fees and contingencies.
4. To rescind Resolutions of the States at Article 6, Billet XXVI of 10th December 2014, 4(b) and 4(e) in relation to the potential proposals to hard surface the grass runways at 14/32 and 03/21.

The above Propositions have been submitted to Her Majesty's Procureur for advice on any legal or constitutional implications in accordance with Rule 4(1) of the Rules of Procedure of the States of Deliberation and their Committees.

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STATES TRADING SUPERVISORY BOARD  
ALDERNEY AIRPORT RUNWAY REHABILITATION

The Presiding Officer  
States of Guernsey  
Royal Court House  
St Peter Port

19th November 2018

Dear Sir

**1 Executive Summary**

- 1.1 The States of Guernsey and the States of Alderney recognise the importance of Alderney Airport and the governments of both islands are committed through recent extant Resolutions, to urgent improvements to safeguard Alderney's air connections in the medium and long term.
- 1.2 The States' Trading Supervisory Board (STSB), in accordance with its mandate, puts forward the following recommendations for :-
  - (a) The investment in the Runway refurbishment at Alderney Airport according to the specification of the 'preferred option' to extend the life of the runway, including widening, improved drainage and replacement approach and runway lighting (i.e. Option 3).
  - (b) The release of the necessary funding to carry out the solution design and tender for construction, before subsequently contracting with a preferred bidder.
- 1.3 The rehabilitation of Alderney Airport's runway is a critically important investment in the islands' future. The runway provides an *essential* social and economic lifeline for the community of Alderney. This was reaffirmed recently in the Guernsey States of Deliberation following consideration of the Policy Letter, *Review of Air Transport Licensing*<sup>1</sup>. The Guernsey to Alderney route was

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<sup>1</sup> 18th July 2018, Billet XIX, P.2018/62

designated as a lifeline route, essential for social and economic well-being in Alderney.

- 1.4 This vital connectivity is a Bailiwick issue and the States of Guernsey are required to provide this critical infrastructure for Alderney, as a transferred service in accordance with the Alderney (Application of Legislation) Law, 1948. Alderney Airport is operated by Guernsey Airport and provides lifeline services to the residents of Alderney, 363 days per year.
- 1.5 This Policy Letter sets out the proposals for the preferred option for the runway rehabilitation, revisiting the original long list and short listed options. These have been updated but broadly represent the set of options that were consulted on and then debated in 2014. This Policy Letter demonstrates how the then preferred option continues to be the recommended option. This conclusion has been reached following lengthy substantive additional consultation and appraisal.
- 1.6 The current condition of the runway at Alderney Airport continues to deteriorate, as a consequence of the existing pavement now exceeding its operational life. Regular engineering inspections of the runway have evidenced a continued decline in pavement condition. Substantive patch repairs have been carried out in 2016 and 2018 and most recently the runway has had an application of an asphalt stabiliser in September 2018. These treatments only serve to mitigate the problems and to slow down any further significant deterioration. Whilst they provide short term solutions, it is vital the reconstruction project continues to avoid ongoing and escalating maintenance costs and operational risks.
- 1.7 This Policy Letter sets out the rationale for the recommended solution (Option 3), to restore the existing pavement and additional improvements. It also describes why this is deemed to be the best option, demonstrating that this option represents the best value for money. In addition it highlights key aspects of the findings from the Outline Business Case (OBC).
- 1.8 The proposed redevelopment will address the condition of the current infrastructure, ensuring it meets with the regulatory requirements set by the Office of the Director of Civil Aviation of the Bailiwick and is fit for purpose for the next 20 years. It will also ensure that should the conditions change, making it economically viable to do so, that the runway could be extended and strengthened to accommodate larger aircraft in the future.
- 1.9 This essential investment represents a significant capital outlay, which reflects the specialist nature of the works and the complexity of working on an operational airfield in a relatively remote island context. The estimated cost for this preferred option at this stage of the project has been identified within the

OBC at circa £11.6m. Whilst this cost estimate includes appropriate contingencies and a set of assumptions, it can only be indicative until final design and procurement. In addition there are costs already expended on the project and future design and professional fees estimated at £558k prior to the tender for the construction stage.

- 1.10 Detailed financial analysis has involved input from several consultants, including the TPS Consult Runway Options and York Aviation Reports (detailed below). Project and financial assurance has been carried out at the Strategic Outline and OBC stages. **Northgates Limited, having reviewed the project OBC most recently, consider the economic and financial analysis of the runway extension options to be thorough.** This Policy Letter also identifies the funding sources for the recommended option and the next stages, including implementation of the procurement strategy and design phase for the recommended option.

## 2 Introduction

- 2.1 This Policy Letter provides further information and the recommendation to procure services to implement the preferred Option 3 to rehabilitate the Alderney Airport pavement on the main runway and to make additional improvements.

- 2.2 This follows a Policy Letter which explained the key findings of the Strategic Outline Case (SOC) for the project. The Resolutions of the States at Article 6, Billet XXVI of 10th December 2014, included the following directions to the then Public Services Department:

- **“to include proposals for full refurbishment of the existing asphalt runway at its existing length (877m), to hard surface to the existing width of 23m and to include an overlay of the whole runway and ancillary taxiway and aprons;**
- **at the present time, not to include any proposals to extend the existing asphalt runway to 1100m or to widen or strengthen the existing taxiways to accommodate an 40-seater aircraft, on the basis of indicative cost and an absence of direct evidence to link a significant investment in the runway to economic growth, provided that no works are carried out that would effectively prevent such an extension at a future date (if demand grows to a point where a sound evidence-based business case can be developed to justify such an extension);**
- **to retain the potential lengthening of the asphalt runway as an issue to be reviewed in the future, dependent on economic development and subject to a persuasive case in future.”**

- 2.3 The project team has since continued to develop the requirements for the 'preferred way forward' option as directed (now Option 3). However, States Resolutions of 2014 left the future open to a potential lengthening of the runway, dependent on a number of factors, including economic development.
- 2.4 The December 2014 Policy Letter referred to the Alderney Economic Development Study, conducted by Frontier Economics commissioned and completed earlier that same year (August 2014). This identified economic drivers and scope for future economic development, including whether there was a causal link to improving Alderney Airport and unlocking economic potential. The main economic drivers identified were not all directly related to the airport, the focus being on improvements to public administration, business services, finance, eGaming, tourism and energy.
- 2.5 The report identified the need for improvements to the Alderney Airport, to ensure regulatory compliance and service performance are maintained but there was no clear case for an extended runway. The report was inconclusive as to whether or not an extended runway would improve the service, reduce the cost of the service or reduce the passenger fares.
- 2.6 In addition, a technical review was commissioned (TPS Consult Runway Options Study) which concluded it would be technically feasible to extend the Runway 08/26 to the east to provide a 1,100m long runway.
- 2.7 For a number of reasons, key stakeholders, including the States of Alderney and Aurigny, still felt strongly that the opportunity should be taken further to review whether the runway should be lengthened at the same time as the works to be undertaken to rehabilitate the existing runway length. This would allow larger (typically 42-seater) aircraft to operate into the airport.
- 2.8 Following further stakeholder engagement and options appraisal after the States debate, an economic and financial analysis of the advantages and disadvantages of an extended runway, compared to the refurbishment of the existing length of runway, was jointly commissioned and funded by the States of Guernsey and States of Alderney. The Final Report was provided by York Aviation in January 2017. In summary, this report independently concluded, to the satisfaction of the States of Alderney, that on a cost/benefit analysis, an extension of the runway could not be justified. This is dealt with later in this Policy Letter and the full report is available in Appendix 1.
- 2.9 The Alderney Airport Pavement Rehabilitation Project Board recommended a 'preferred way forward' of an equivalent to Option 3 in 2014. This report provides the background and evidence following further consultation and analysis, that, despite a number of significant changes, Option 3 should now be

confirmed as the preferred option. This was supported by the States of Alderney in their letter of April 2016 (see paragraph 11.4).

2.10 Since the initial scope of the SOC, the project scope has changed.

(a) Works to the grass runways are no longer required, as appropriate remedial works and an intensive maintenance regime has been developed since 2014. This approach has improved the tolerance of the two grass runways when subjected to wet weather. Both of the grass runways are now fully functional and the operational restrictions imposed by the airport operator have now been removed. The Dornier 228 is capable of using the grass runways, but performance limitations could impact on take-off weights.

(b) The works proposed to the existing tarmac runway (i.e. Option 3) has significantly expanded since the SOC, from just repairs to complete re-surfacing and other ancillary elements comprising:

- a. re-widening<sup>2</sup> of the existing asphalt runway, aprons and taxiways;
- b. enhanced airfield lighting;
- c. runway centreline lights;
- d. improved drainage and outfall; and
- e. does not impede the facilitation for a runway extension to the east some time in the future<sup>3</sup>.

2.11 Additional lighting for the approach to the runway and the centre line of the runway will improve the standards of the runway to meet the airport regulatory requirements and assist with landings. Reinstatement of the width of the runway to 23m will assist with operations, particularly in landing in cross-winds. This together with other enhancements such as drainage improvements in combination, will assist with withstanding effects of the weather, improve operational performance, improve safety and meet regulatory standards. Runway centre line lighting will provide greater visual references for pilots, increasing safety measures, particularly in poor conditions.

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<sup>2</sup> The declared runway width was reduced from its original width (23m) down to 18m in 2014. The outer edges of the originally declared runway width were grass, with an 18m paved centre. By declaring the runway as 18m, it prevents the runway being closed when the grass element is waterlogged (due to anomalies in classification).

<sup>3</sup> Whilst Option 3 allows for any future extension, its costs are marginally higher than Option 6, Phase 1. The only difference is the addition in Option 3 of replacement airfield approach lighting at the Eastern end, which could be delayed until the extension for Option 6, in Phase 2 (see also Table 4).

### 3 Current Situation

- 3.1 The Airport runways consist of three runways: one paved runway and two grass runways. Following improvements to the grass runways, it is the paved areas that are now the focus for this project. See Appendix 2: Airport Runways.
- 3.2 Previous options also considered paving the two grass cross-wind runways, with the intention of them being brought back into use for commercial passenger aircraft as well as private aircraft. This was at a time when the Trislander aircraft operated in Alderney, which from time to time made use of these runways during conditions with strong cross-winds.
- 3.3 The cost of paving the two grass cross-wind runways was estimated to be in excess of £22m. Since the 2014 Policy Letter, the grass runways have been improved, through a highly effective maintenance regime, as part of the 'business as usual operations'. Improved drainage and aeration of the grass has now brought them back into suitable operation.
- 3.4 There are very few occasions on which commercial aircraft would need to use the grass runways because the Dornier 228 has improved cross wind performance when compared to the Trislander, for example. The Dornier 228 is capable of using the grass runways, but performance limitations could impact on take-off weights. Private aircraft now use the improved grass runways on an occasional basis. For these reasons, capital rehabilitation of the grass runways is no longer required, nor is any work on them included within the scope of this project.
- 3.5 **The pavement condition of the existing paved runway 08/26, taxiway and apron are now deteriorating to the extent whereby ongoing patch repairing will neither provide an acceptable surface for the safe operation of aircraft, nor be economical, over the medium term.**
- 3.6 The existing asphalt runway was last resurfaced in 1999 with a surfacing which has a design life of between 12 and 15 years. A major patch and repair was undertaken on the eastern end of the runway in the Autumn of 2016, to provide a short term improvement. As bitumen ages, the surfacing becomes brittle and is then prone to loss of stone particles. If left untreated, pot holes occur due to the effects of weather and traffic. Deterioration to such an extent would be in contravention of regulatory requirements and would lead to unpredictable losses of service to the community and the airlines. This reduction in service would be required to decrease the risks of aviation incidents or accidents.

- 3.7 Following several harsh winters, the pavements at Alderney have recently experienced an increased rate of deterioration, with increased loss of aggregate from the surface of the runway. Following detailed inspection and specialist advice, an asphalt stabiliser was applied in September 2018. This product provides improved binding and waterproofing properties to the existing surface. **This will arrest immediate deterioration of the pavement, but will not improve the underlying strength nor likely to extend the runway's operational life beyond 3 years. Therefore, work should continue on the substantive rehabilitation of the runway without further delay, so that the rehabilitation work will be complete just before the recently applied binding and waterproofing agent reaches the end of its life.**
- 3.8 Whilst not within the scope of this project, remedial works are also necessary to maintain the structure of the Alderney Airport building, including the roof. Initial work has commenced with some testing of a fibreglass material.

#### **4 Strategic & Legislative Context**

- 4.1 The States of Guernsey has an obligation under the Alderney (Application of Legislation) Law, 1948 to provide, amongst other services, an airfield for Alderney; these services are known as the 'transferred services'. In exchange for these services that Guernsey must provide to Alderney, Alderney residents pay Guernsey tax. The obligation to provide and maintain an airfield has been met by provision of the airport.
- 4.2 The States' Trading Supervisory Board (STSB), is responsible politically for discharging the obligation to provide and maintain an airfield for Alderney and is funded accordingly. Guernsey Airport is a Trading Asset of the STSB and provides the day to day operational management for Alderney Airport and levies a cross-charge for these services.
- 4.3 Developing a solution for the rehabilitation and improvement of Alderney Runway is a project that is an integral part of the Alderney Strategic Plan 2014.
- 4.4 A subsequent update to the States of Alderney's Strategic Aims (2015/2016) has seen the focus on transport links redefined to achieve social and economic objectives. These include ensuring acceptable minimum service standards for air services to and from Alderney and to ensure the airport is fit for purpose.
- 4.5 The Alderney Airport Runway is prioritised as a project to be funded from the Capital Reserve to be developed into delivery (Design stage) and as such is contained in the States of Guernsey's Medium Term Financial Plan (2017 – 2021), Appendix 1, Capital Portfolio Plan. Previously it had been identified as a 'Priority A' status capital project.



- 4.6 The design for airfield pavements is highly prescriptive and based on international regulations and guidelines issued by European Aviation Regulatory bodies. The Alderney Airport runway must conform to the relevant international standards as directed by the Office of the Director of Civil Aviation of the Bailiwick. Any design specification will need to conform to these regulations and will ultimately need to be approved by the Director of Civil Aviation, before any procurement commences.

## **5 Review of Proposed Options for Alderney Airport Runway Rehabilitation**

- 5.1 The following Investment Objectives were identified against which all the identified project options and the recommended or 'preferred option' have been assessed. During the workshop sessions Investment Objectives 5 and 6 were added to the original Investment Objectives set out in the SOC. These were reviewed and agreed in the course of meetings and workshops with all key stakeholders held in May 2016.

**Table 1: Investment Objectives**

<b>Investment objective 1:</b>	To maintain a fit for purpose airfield over the medium to longer term. To rehabilitate the 08/26 Runway and associated pavements to provide a reliable and safe paved surface for the operation of aircraft. This is defined as a pavement which is in full compliance with regulatory requirements, with an expected design life of 20 years (with a first maintenance period of 5 years).
<b>Investment objective 2:</b>	To ensure that any works achieve an appropriate level of compliance with current airfield construction regulatory standards, including the Civil Aviation Authority (CAA) and EASA. This is achieved through regulatory approval of the preferred design and subsequent ratification of the construction phase against that design.
<b>Investment objective 3:</b>	To ensure that works take into account the likely passenger and aircraft fleet demands for the next 20 years. This should be based on the status quo, accepting there is already capacity for significant additional aircraft movements and passenger handling – (i.e. back to the highest levels experienced - circa 1990 levels), without significant changes to the layout and configuration of the airfield.
<b>Investment objective 4:</b>	To ensure that works take into account the opportunity for development now that could provide enhanced capacity for larger aircraft (GA and Commercial) and increased incremental passenger capacity over the next 25 years. This represents a step change in the existing infrastructure to facilitate levels and type of traffic over and above the 1990 benchmark.
<b>Investment objective 5:</b>	To provide opportunity in the solution to future-proof further phased development at a later stage. Without unnecessarily adding cost to the proposed development that would only be of benefit if the runway were extended to 1,100m and widened to 30m.
<b>Investment objective 6:</b>	To ensure that the preferred option is supported and provides benefit to key stakeholders including the Alderney Community.

## **Review and Appraisal of the Long List of Options**

- 5.2 At the SOC stage, a long list of Options were identified and evaluated and a short list selected. These have now been revisited and updated to reflect work undertaken to improve the condition of the grass runways; the further deterioration of the paved runway; the resolutions of the States of Deliberation

on 10<sup>th</sup> December 2014; and the further detailed analysis commissioned in 2016/2017.

- 5.3 A series of four workshops were held with key stakeholders in May 2016, the 30 delegates included technical managers at Guernsey Airport, States of Alderney politicians and civil servants, as well as representatives from the Alderney Chamber of Commerce, Aurigny Airlines and private pilots. This resulted in an agreed set of Investment Objectives outlined above. It also included an update of the options and evaluation of the long and short listed options.

### The Long List of Options

- 5.4 The long list of options has been refined since the initial Mott MacDonald Stage 1 Report (May 2012) which contributed to development of the SOC and the 2014 States Policy Letter. The refined list has been reviewed by stakeholders in a series of four consultation workshops with the long list and short list updated during May 2016.

**Table 2: Long List Options**

Options for Scoping	Finding
0 - Do nothing	Incompatible with the requirement to retain the airport as an essential lifeline link for Alderney. This would not satisfy regulatory requirements. <b>Option rejected at an early stage.</b>
1 - Do Minimal: widen runway to 23m	This option is in the medium term (5 years) and is incompatible with requirement to retain essential lifeline link for Alderney. It would not meet the business need over the longer term and would require year on year repairs to the asphalt and therefore does not represent value for money. This option would be at risk of not meeting regulatory requirements <sup>4</sup> . No support for this option at workshops. <b>Option rejected.</b>
2 - Basic Resurfacing: existing pavements no improvement to lighting	Meets full requirements for pavement rehabilitation (re-lifeing) but Airport Ground Lighting (AGL) is also aged and in need of replacement. Little support for this option at workshops. <b>Option Rejected.</b>

<sup>4</sup> When considering approval of substantive maintenance programmes, Aviation Regulators may insist the opportunity is taken to either resolve or substantively improve other existing non-compliances. There is a strong probability that the Regulators would require the standards identified in either Option 2 or Option 3 to be implemented anyway as minimum 'baseline' investment.

3 - Basic Resurfacing plus enhancements, including lighting.	Meets full requirements for pavement and Airport Ground Lighting (AGL) rehabilitation. Runway centreline included to reduce the number of 'go arounds' due to missed approaches. Positive drainage improvements to the main runway incorporated, in order to address drainage problems at the intersection with the two grass runways. Minimal maintenance for the next 10 years. This option has lower capital cost than Option 5. Good support for this option from all parties other than States of Alderney, who rejected it (May 2016). Note that following the York Report, Alderney's view subsequently changed to supporting this option (April 2017) - see paragraph 11.4. <b>Option Shortlisted</b>
4 - Option 3 Plus Pave the grass Crosswind Runway 03/21	As Option 3, plus a short paved runway for those wind conditions that prevent use of RWY 08-26. Other than a few General Aviation (private) pilots, who championed this option, there was limited support, probably because there are very few occasions on which it would be used by commercial aircraft. <b>Option Rejected</b>
5 - Extend the existing Runway to 1100m (Single phase extension)	Meets full requirements for pavement and AGL rehabilitation and increases the length to 1100m, width to 30m and strength of the runway to a Pavement Classification Number <sup>5</sup> (PCN) 17 regulatory standard, to allow 42-50 seater aircraft to operate. Runway centreline lighting included to reduce the number of 'go arounds' due to missed approaches. Positive drainage incorporated to protect the two grass runways. Improvements to terminal needed for this option. <b>Option Shortlisted.</b>
6 - Option 3 with more significant improvement to enable extension to 1100m at a later stage (Two-phase extension)	A phased approach that provides the full benefits of option 3 in phase 1 and option 5 in phase 2. Phase 2 is generated by the demand from commercial airlines to use 42-50 seater aircraft on a regular timetable, should these demand conditions be in place. Improvements to terminal needed for this option.  A high level of support other than from States of Alderney. <b>Option Shortlisted</b>

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<sup>5</sup> Pavement Classification Number (PCN) is a regulatory standard for determining the strength of runways, taxiways and aprons.

## Evaluating the Short List of Options

- 5.5 Three options from the long list went forward for more detailed consideration and evaluation in the short list. The details of the shortlisted options are provided here for clarity, as there are significant additional works that are entailed with the extension of the runway and these and their reasons are explained in the following table:

**Table 3: A Description of the Shortlisted Options**

**Option 3 - Resurfacing plus enhancements, including lighting. £11.63m**

**The preferred option.** This option entails the reconstruction of all paved surfaces at Alderney Airport, including the paved runway 08/26, taxiway and apron. This includes re-widening the runway from its current 18m to 23m which will improve the cross wind capability.

Operational enhancements include the Airport Ground Lighting (AGL) centreline lighting, replacing the existing approach lights, upgrading the AGL system to LED light fittings and installation of a dedicated runway drainage system and outfall. Positive drainage will further protect the two grass runways, to avoid flooding at their intersection with the asphalt.

These all contribute to providing greater resilience to the effect of weather and improve operational safety and performance. Runway centreline lighting will help to reduce the number of 'go arounds' due to missed approaches (a desirable safety measure) and provide greater visual reference to pilots.

This option assumes that the commercial aircraft using this facility would be the Dornier 228 or similar type and weight of aircraft with similar passenger capacity as currently (i.e. the status quo). That aircraft type and frequency has been used to determine proposals for the design, specifically the pavement strength.

Option 3 entails carrying out the works in a manner which would not preclude the cost-effective construction of a runway extension at a later date. It does not incorporate unnecessary cost for works that could be deferred until such time as might be deemed appropriate for a runway extension to be developed in the future (e.g. strengthening the runway to PCN 17 standards).

**Option 5 Extend the existing Runway to 1100m (Single phase extension) £19.77m**

Includes **all of Option 3**, plus an extension to the runway to the east. This option meets the full requirements for pavement and AGL rehabilitation and increases the length of the runway to 1100m from its current 877 metres length and the width to 30m. Strengthening of the runway to PCN 17 standard would also be required to allow 42-50 seater aircraft to operate. This option would allow larger aircraft to operate in Alderney, such as the ATR 42

A new set of approach lighting would be required at each end of the runway and re-routing of roads around the runway extension. The regulatory requirements to meet the needs of larger aircraft entail additional safety, security and amenity measures. A full Runway End Safety Area (RESA) would be needed to accommodate larger aircraft. Additional facilities would also be needed at the airport to accommodate enhanced security measures, baggage screening and passenger handling. A high level of support for this option was received from both States of Alderney and Airport Operational staff.

**Option 6 – Delivery the same as Option 3 with additional enhancements to enable extension to 1100m with less disruption at some point at a later stage (Includes costs for the extension as a Two-phase approach) £26.35m**

A phased approach that provides the full benefits of option 3 in phase 1 and option 5 in phase 2. Phase 2 would be instigated if demand was generated from commercial airlines to use 42-50 seater aircraft on a regular timetable (should these demand conditions be in place). This option received a high level of support other than from States of Alderney originally. This option is the most costly of all and currently the evidence does not support the benefit of strengthening the runway to PCN17 standard during phase 1, at a cost of £2.5m.

**The Benchmark**

**Option 2 – Do Minimum £3.48m**

This option provides the benchmark to assess value for money of the shortlisted options. This option could provide a limited extension to the life of the existing pavements (around 5 years). It provides a minimum level of investment to re-widen the runway to 23m, patch repair and carry out routine planned and reactive maintenance sufficient to keep the runway safe to facilitate operations. In the medium term, the inherent structure is in need of fundamental refurbishment. The creation of multiple joints of patch repair would create extensive maintenance issues in the future which would incur mobilisation costs at regular intervals, which would not represent best value for money.

## Stakeholder Workshop Scoring Results

- 5.6 The Shortlisted options were then scored in comparison to the 'Do Minimal' Option, according to the investment objectives by stakeholders. During consultation in May 2016, an agreed weighting was applied to each of the objectives/factors. The results are shown in the following table:

**Table 4: Stakeholder workshop vote results**

Option Reference:	Weighting	Option 1	Option 3	Option 5	Option 6
<b>Investment Objectives</b>					
Allow for enhanced capacity over 25 years	<b>5</b>	155	245	565	370
Allow for passenger and aircraft fleet demands over 25 years	<b>4</b>	140	252	444	316
Compliant with standards	<b>3</b>	135	255	333	261
Future-proof future phased development	<b>2</b>	58	88	158	200
Fit for purpose airfield – medium/long term	<b>1</b>	43	75	104	106
<b>Critical Success Factors</b>					
Business Need	<b>7</b>	224	385	644	434
Strategic Fit	<b>6</b>	192	324	660	420
Achievability	<b>5</b>	455	485	515	515
Affordability	<b>5</b>	43	75	107	84
Benefits Optimisation	<b>3</b>	108	177	312	219
VFM	<b>2</b>	135	255	383	261
Supply side capacity and capability	<b>1</b>	92	102	104	106
<b>Total</b>		<b>1780</b>	<b>2718</b>	<b>4329</b>	<b>3292</b>

## **Results of the Short Listing Appraisal**

- 5.7 The results of these workshops evidenced that consultees had a clear preference toward a runway extension. This was despite the States Resolution of 2014 which supported the rehabilitation of the runway to the existing length (the now revised option 3), rather than extension (the now revised option 5). Options 3, 5 and 6 all scored higher than the 'Do minimum' option.
- 5.8 Some of the main drivers or assumptions that led to the desire for an extended runway were principally to accommodate larger aircraft on the grounds that these aircraft may be more cost effective for airlines to operate in Alderney.
- 5.9 There was also an assumption that larger aircraft could in turn lead to cheaper airfares for passengers and that could have a positive impact of boosting the economy and tourism for Alderney.
- 5.10 Also, at the time the Workshops were being held, the Dornier 228s were being phased in to replace the Trislander fleet. There were heightened feelings regarding a degradation in service at that time, some of which were associated with short term operational issues with this transition to the new aircraft, compounded by weather and maintenance issues with the older aircraft. It may have been assumed that larger aircraft would also lead to better operational reliability.
- 5.11 The above assumptions are at the core of the decision between the short listed options and they also have a significant cost implication. The cost differential between the different options is substantial with Options 5 and 6 being approximately £8.1m and £14.7m (this excludes the inclusion of an additional +£2.6m of additional security requirements in and around the terminal which would be triggered through the use of larger aircraft) more expensive respectively, when compared with Option 3, which has an estimated cost of circa £11.6m.
- 5.12 Further consultation and discussion was undertaken at Board level and with the States of Alderney concerning the results. It was agreed that, in order to validate the findings and the assumptions of the stakeholder workshops, an extensive study into the viability of a runway extension was then commissioned in late 2016. York Aviation completed their study in January 2017, see **Appendix 1: An Extended Runway for Alderney – Economic and Financial Analyses**.

## **Independent Review of the Option to Extend the Runway for Alderney**

- 5.13 The York Aviation report (see Appendix 1) aimed to test and validate the potential benefits in a runway extension at Alderney Airport, compared to a baseline requirement to maintain and recondition the existing infrastructure at



the existing runway length. The report contained significant research which showed conclusively why Option 3 would clearly be the most advantageous solution, in terms of economic and financial benefits, compared to Options 5 or 6. It demonstrated that the market is currently not large enough to warrant the use of larger aircraft.

- 5.14 At its meeting of the 4<sup>th</sup> April 2017, the Policy & Finance Committee, States of Alderney considered the York Aviation report and by a significant majority, confirmed its agreement to proceed with Option 3, to rehabilitate the paved runway to the present 877m, with the proviso this scheme does not prejudice the ability to extend to 1100m should conditions change in the future.
- 5.15 The details of the York Aviation Report demonstrated that the economic growth assumptions on which the favoured runway extension were based (i.e. Options 5 and 6) were largely unfounded. They concluded in their report that introduction of larger aircraft before passenger growth was in evidence, would be more likely to increase the costs of operating the routes to/from Alderney than to reduce them, leading to higher operating losses for the airline concerned and potentially higher costs of subsidy, even on the basis of reduced frequencies of service and that this would result in no reduction in air fares.
- 5.16 The scope for larger aircraft to deliver lower costs than the current operation which could be passed on to passengers, would not arise before a threshold of c.82,000 annual air passengers across two main routes, a level of demand not seen since 1995, requiring a population greater than 2,500 and tourist air passengers above 25,500 per annum (or equivalent combination) to support the level of air passenger demand. Even then, the routes would still be loss making and require subsidy.
- 5.17 The case for extending the runway now would only be economically justified on the most optimistic assumptions over the deliverability of population and tourism growth directly related to the extension of the runway and if construction of all the required infrastructure improvements to then support that operation could be delivered at the lowest possible cost.
- 5.18 The report also found that the conditions were unlikely to be met given the higher cost of operating larger aircraft and the effects on the frequency of service offered. This would reduce not increase economic welfare. Economic growth following a runway extension would be unlikely, given the higher operating costs of larger aircraft, leading to lower frequencies of service and no potential to reduce airfares.
- 5.19 The report recommended that if Option 3 was approved, then the design should be carried out in manner that would not preclude the cost effective construction

of a runway extension at a later date, thus providing future proofing for any change in circumstance, however unlikely.

- 5.20 The report also recognised the need for improvements (at that time) in the reliability and peak period capacity of air services, but noted that the recent shortcomings in the reliability were largely attributable to the difficulties in transition from the Trislander aircraft to the replacement Dornier 228 fleet, which were likely to improve. In addition, further improvements could be achieved through a Public Service Obligation contract (see section 8.0).
- 5.21 Based on the York Aviation Report, the Project Board reviewed the shortlisted options and concluded that Option 3 provides the best value for money and is the 'best fit' for the investment objectives and critical success factors.

**Table 5: Benefit Assessment of Option 3 Following York Aviation Report Findings**

Investment Objectives & Critical Success Factors	How well does Option 3 meet this criteria?
Allow for enhanced capacity over 25 years	It will allow for future runway extension, should the environment and economic growth provide the right circumstances for this (i.e. exceeding the highest levels of passenger growth as experienced in 1995).
Allow for passenger and aircraft fleet demands over 25 years	It satisfies this requirement by providing for sufficient additional capacity based on realistic rather than optimistic growth assumptions.
Compliant with standards	It addresses all regulatory concerns and is compliant with standards required to operate the Dornier 228 and similar type aircraft.
Future-proof future phased development	It allows for future extension but does not incorporate unnecessary cost for additional strengthening works (to accommodate larger aircraft) that could be deferred until such time as might be deemed appropriate
Fit for purpose airfield – medium/long term	It provides a fit for purpose airfield to support the existing services (same or similar type of aircraft) and allows for passenger growth. It allows for Medivac evacuation via stretcher on the Dornier 228 and at night, by helicopter.
Business Need	This option is proven to deliver the business need of the airlines, General Airport (private) operators and the Airport, including satisfying the Public Service Obligations (PSO) in the medium term.
Strategic Fit	As there is a weak correlation between airfield extension and economic growth, this option meets the requirements and is likely to provide <i>better</i> economic

	welfare to the Alderney community than the potential consequences of runway extension.
Achievability	All options are relatively complex construction projects in a small island setting, and this is arguably the least complex to deliver of the shortlisted options.
Affordability	This option is the most affordable of all the shortlisted options.
VFM & Benefits Optimisation	This option provides the most cost effective investment whilst achieving enhanced benefits to the status quo. It provides for enhanced operational performance and safety for aircraft, meeting regulatory standards.
Supply side capacity and capability	There are a number of off-island contractors that could provide the project, design and construction services required.

**It is for these reasons that Option 3 is being recommended as the preferred solution.**

### **Cost Benefit Analysis**

- 5.22 The York Aviation report (Appendix 1) included economic appraisals and hypothetical economic evaluations. These included benefits such as additional fare revenue and negative ‘benefits’ such as waiting time costs (due to reduced service frequency). A hypothetical set of economic costs appraisals were considered by the York Aviation report using Net Present Cost, which pointed to some options having negative economic effects.
- 5.23 A simpler cost/benefit assessment was subsequently undertaken by the project team. The investment objectives and critical success factors for the project entail qualitative/indirect benefits in economic terms, in order to maintain the essential requirement of a ‘lifeline’ airport for Alderney, plus non-quantifiable/indirect benefits for the overall island economy.
- 5.24 Engineering advice and indicative costs on the various proposed options and schemes have previously been provided by Mott MacDonald and TPS Consult, throughout the evolution of the options and specification. During Spring 2018, RPS, a specialist pavement consultant, was commissioned to conduct a final review of the engineering and cost estimates for the Outline Business Case. The costs estimates summarised in this Policy Letter reflect the detailed financial appraisal of the options, which meet the recommendations of the Project Assurance Review.

- 5.25 Costs estimates were provided for the capital costs for design and construction and were assessed for comparison of all the options. The costs relate to the main capital expenditure for each option and do not include any other consequential capital costs or operations costs, such as the need for security and terminal upgrades and operational costs, should the runway be extended, for example.
- 5.26 **A further £2.3m capital costs would need to be included for both Options 5 and Option 6 (phase 2), as a provisional sum for additional security requirements.** Regulatory requirements stipulate additional security infrastructure for facilities receiving larger aircraft, such as the ATR42. This provisional sum allows for full screening of passengers, and necessary terminal infrastructure to support these services.
- 5.27 The main capital expenditure costs for the three short listed options, compared to the 'Do Minimum' Benchmark, have been updated and are summarised in table 6 below.
- 5.28 Risks and contingencies have been allowed within two budget headings. The 'on-island costs' reflect the additional costs arising from factors due to the Alderney location and are based on estimates carried out by RPS. The 'risk, contingency and insurance' budget heading reflects recommended allowances for such projects. These estimates are based on experience, especially that gained by RPS in the Guernsey Airport Pavements Project.

**Table 6: Capital Costs for each of the Shortlisted Options**

<b>Option 1 – Do Minimal Widen to 23m</b>	
<b>Total</b>	<b>£3,484,500</b>
<b>Option 3 – Intermediate Project Resurfacing plus enhancements, including lighting</b>	
<b>Total</b>	<b>£11,626,700</b>
<b>Option 5 – Maximum Project Extend to 1100m (in single-phase project)</b>	
<b>Total</b>	<b>£19,765,200<sup>6</sup></b>
<b>Option 6 – Phased Maximum Project Extend to 1100m (implemented over two phases)</b>	
<b>Total</b>	<b>£26,352,600<sup>6</sup></b>

<sup>6</sup> Option 5 (£19.7m) and Option 6 (£26.3m) do not include provision for an enhanced aviation security at Alderney Airport which is triggered by the use of larger aircraft. This is estimated at an additional £2.3m.

Capital cost estimates are provided in detail within the Outline Business Case<sup>7</sup>.

### Summary of Option Appraisal and Overall Conclusion

- 5.29 The conclusion from the assessment of the shortlisted Options following consultation with key stakeholders and the subsequent detailed York Aviation report, is that Option 3 remains the most advantageous and is therefore recommended to go forward as the 'preferred option' for the design and procurement stage.
- 5.30 Option 3, the refurbishment of the existing runway length, has a lower capital cost (in the order of £8.1m lower costs) than Option 5 (runway extension now)<sup>6</sup>. Given that the economic and financial analyses do not recommend runway extension, Option 3 is the best solution to meet the requirements for Strategic Fit, Benefits Optimisation and Affordability. Option 3 can be carried out in a manner that would not preclude the construction of a runway extension at a later date.
- 5.31 Option 5 (Extension immediately to 1100m runway length), involving extension to the runway and associated works to accommodate larger aircraft has a higher capital cost and does not compare favourably to Option 3. The detailed analysis in the York Aviation report (Appendix 1) does not provide an economic case for extending the runway now, given the higher costs of operating larger aircraft and the consequential effects on the frequency of service offered. It would require new investment in the Terminal facilities, additional to the runway infrastructure cost.
- 5.32 Option 6 (Refurbishment at existing runway length, with provision for future extension to 1100m runway length and upgrade to PCN to 17 strength when justified by future traffic growth) has a higher capital cost than Options 3 and 5. However, it would provide a flexible way forward beyond Option 3 as and when future business development may justify the additional investment in development of the airport. Option 6 phase 1 and Option 3 costs are largely the same, as the strengthening of the runway to PCN 17 would not be implemented until Phase 2 of Option 6. Indeed, Option 6 – Phase 1 has a slightly lower cost estimate than Option 3, as works planned under Option 3 to replace the eastern approach lights would be deferred under Option 6 until Phase 2. Under Option 6, the replacement of these lights could only be undertaken once the extension to the runway had been built and once their final position had been confirmed.

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<sup>7</sup> Details of the Capital Costs per Option are provided in the States of Guernsey's Members Room.

## **6 Next Steps – Design, Approvals and Procurement**

- 6.1 The works will be delivered through a conventional contract route, comprising a client design phase followed by a construction contract, to be awarded to an experienced airfield contractor.
- 6.2 Subject to approval of the preferred option, it is the intention to procure a specialist design consultant, to develop a detailed design for an approval ‘in principle’ by the Office of the Director of Civil Aviation. This will be to ensure the design is compliant with the relevant regulatory requirements before formal tender for the contractor to construct the solution. This is set out in the OBC Project Procurement Strategy with the objective of minimising additional and unnecessary redesign costs. This was a principal established in the Guernsey Airport Pavements Project, which reduced the risks of tendering in the case of a complex project.
- 6.3 Option 3 will require a simple planning application, for the site construction compound. However, other options involving runway extension would require a more detailed planning approval process, involving at least an additional 9 months to the process.
- 6.4 To bring the project through these key stages will require specialist skills, supported by Client Project Management resources on Island, with Airport Management staff oversight. These will be provided for within the Design, Approvals and Procurement phase of the project (see paragraph 7.2 below).

## **7 Funding of the Rehabilitation of the Alderney Runway Pavements**

### **Short term Funding Arrangements**

- 7.1 The States are asked to approve delegated authority to direct the Policy & Resources Committee to release expenditure for the development of the proposals, through the preparation and implementation of the procurement stage. This will enable the development of the ‘Design and Specification Approvals Stage’ of the project up to tender of the main contract for construction of the works. The costs will be funded by the Capital Reserve.
- 7.2 The estimated costs to carry out design, approvals and procurement prior to contracting for construction is estimated to be £558k. These are additional costs to the construction costs identified for each of the options. Table 8 below, provides a summary of these costs. The States are asked to approved delegated authority and direct the Policy & Resources Committee to release expenditure for this work, provided they do not exceed £558k.

**Table 7 Design, Specification Approval and Procurement Stage Funding**

	<b>2019</b>
Client Project Manager	£130k
Design Consultant	£180k
Topographical and Services Site Survey Ground Investigation	£ 50k
Regulatory Authority Approval Fees	£ 10k
Environmental Impact Assessment	£ 70k
Contingency	£ 20k
<b>Total Future Costs</b>	<b>£460k</b>
Plus Consultants Fees incurred 2014 – 2018	£ 98k
<b>Grand Total</b>	<b>£558k</b>

### **Longer Term Funding**

- 7.3 Following the completion of the design and necessary approvals a procurement process will be undertaken seeking to contract with pavement construction specialists, to undertake the pavement rehabilitation and associated works.
- 7.4 At this stage of the project, the anticipated capital costs of Option 3 are expected to be in the region of £11.6m, with an additional sum of £98k already incurred in consultant's fees in advancing the project to its current stage and future design and professional fees estimated at £460k prior to tender for construction. The Build stage costs will require further financial assessment and a further decision making process before funding can be released and contracts for construction signed (estimated to be during Quarter 3 or Quarter 4 of 2019). The States are asked to approve delegated authority to direct the Policy & Resources Committee to release expenditure for the construction works providing they do not exceed £12.2m. The capital costs will be funded by the Capital Reserve allocation for this project.
- 7.5 The costs have been set out in the OBC and have been subject to a Project Assurance Review. The estimated costs allow for a significant element of unknown or unquantifiable risk at this early stage of a complex engineering project.

### **Affordability**

- 7.6 The capital costs for construction of Option 3 estimated at £11.6m will be met by a capital allocation from the States of Guernsey Capital Reserve. The total costs including the Design, Specification Approval and Professional Fees as described in 7.4, have an inclusive capital expenditure estimated not to exceed £12.2m. The cost based on the proposed solution, represents the most

advantageous option, which provides an essential lifeline to the residents of Alderney.

## **8.0 Public Service Obligation**

- 8.1 The States of Alderney, the States of Guernsey and Aurigny, currently have in place a Memorandum of Understanding, which sets out targets for the performance of the air services. This agreement relies on 'best endeavours' and therefore lacks the ability to enforce any provisions for failure to perform, which would be included under a formal Public Service Obligation (PSO) contract. A PSO has formed part of the recommendations of the Frontier Economic and York Aviation reports.
- 8.2 The Committee *for* Economic Development published the Invitation to Tender (ITT) for the Alderney Public Service Obligations (PSOs) on 11<sup>th</sup> October; the submission deadline for bids is 6<sup>th</sup> December. It is not yet clear how many operators may choose to bid for the contract. Whilst a matter for the Board of Directors of Aurigny, it is currently understood that Aurigny may express interest in tendering.
- 8.3 The new PSO framework is likely to be awarded early in 2019, for a 4 year period from 2019 to 2023 (which straddles the expected timeframe for the pavement rehabilitation work) and there is a strong appetite not to defer the PSO contract. Therefore, there is a strong likelihood that the first iteration of a PSO contract would be in place before any works start on the runway. To this end, the PSO will make it clear works will be undertaken during the life of the contract, but that as a minimum (if approved) operators could expect a restoration of the full width of the runway to 23 metres, which would reduce the number of disruptions caused through cross winds.
- 8.4 Whilst no decision on a preferred scheme will be taken by the time bids for the PSO contract close, potential bidders will be made aware that the preferred runway project scheme will not by default include an option for a runway extension and it is therefore likely that the first PSO would include bids that involve aircraft capable of operating on the existing runway length of 877 metres (i.e. either a Dornier 228 fleet or similar (19 seater) aircraft type).
- 8.5 The PSO procurement process may influence the strategic direction of this project and does not limit the consideration of alternative options at or before the tendering stage of Option 3. This would be a consideration for the Final Business Case, in due course.
- 8.6 The York Aviation report addresses the possible perception that an extended runway may encourage more bidders with larger aircraft to compete for the Alderney air services PSO contract. The research in that report identified that



extending the runway before demand warrants is unlikely to increase the number of bidders for a PSO, as it is unlikely that larger aircraft could match operating costs of smaller aircraft at the current demand levels. The report also identified that trying to save costs through reducing the frequency of service with larger aircraft would be detrimental to the economic welfare of Alderney.

## 9.0 Ferry Alternatives

- 9.1 In discussion with the Policy and Resources Committee, the States' Trading Supervisory Board has been asked to consider whether the investment at Alderney Airport could be avoided through an alternative ferry public transport offering. **However, the States of Guernsey is under a legal obligation to maintain the airport, not provide a ferry service, so this could only be an option in the future if the obligations upon the States of Guernsey are so altered. For this reason alone, leaving aside problems of feasibility in bad weather, a ferry service is not a viable option to discharge the obligations upon the States of Guernsey.**
- 9.2 In addition, no commercial operator of ferries could provide the level of capacity required without a significant subsidy and significant investment in the harbour infrastructure. In order to operate a year-round service in the weather and sea conditions that the island experiences, any vessel would need to be of a similar size to those operated by Condor Ferries. In order to accommodate this larger vessel type, the facilities at Alderney's Braye Harbour would require extensive investment, including larger berths, a Ro-Ro ramp, a passenger terminal and security screening area, to enable the island to accept national and international sailings and deal with a large number of people at any one time. The current facilities are only just adequate for the small commercial traffic the island receives, with tidal constraints and the number of berths available.
- 9.3 Previous attempts by the States of Alderney to encourage sea connectivity have indicated that neither an Alderney to Guernsey ferry nor a UK to Alderney ferry operation would be financially and economically viable. The commercial tender undertaken by the States of Guernsey and States of Jersey during late 2017/early 2018 found there was no current operators who would find a regular year-round Guernsey to Alderney ferry service viable without a significant public subsidy.
- 9.4 Between early July and 30<sup>th</sup> September, a subsidised 12-seater ferry service has been trialled, with much lower fares than air fares. This service operated twice daily connections between Guernsey and Alderney. Whilst this has proved to be a successful additional service in the peak summer months, on the occasions when demand for air services can outstrip the supply, this is not considered to be a year-round alternative to air.

- 9.5 In July 2018, the States of Guernsey approved the Committee *for* Economic Development's policy letter *Review of Air Transport Licensing*<sup>8</sup>. The air transport licensing framework set out in that policy letter came into effect in September 2018. The new framework defines lifeline routes as **"routes that are deemed to be essential for economic and/or social reasons; and which would not be sustainable without some degree of government intervention and/or ongoing financial support. They should therefore remain subject to air transport licensing, in order to ensure that the air service provided meets the needs of the island that they serve."**
- 9.6 **The Guernsey-Alderney route was designated as a lifeline route. In short, the States of Deliberation confirmed that the air route was essential in order to enable social and economic wellbeing in Alderney.** This includes health referrals, education, essential public services, business connections, mail, medevac, and ongoing air links to other UK destinations.
- 9.7 It seems highly probable that any significant investment in ferry services and harbour infrastructure would fail to realise the capacity required for social and economic wellbeing in Alderney, which is already provided through air services deemed by the States of Guernsey's Resolutions as essential.
- 10 **Timescale and Implementation Plan for the Preferred Way Forward**
- 10.1 It is likely that the rehabilitation project construction will be completed by the end of 2021, following the necessary procurement processes, regulatory and political approval timescales. In the short term (to 2021) it will be necessary to continue regular maintenance and to patch and repair the runway as required, to ensure it meets with regulatory standards.
- 10.2 The Alderney Airport Rehabilitation Project to deliver the medium/long term proposals, has the following key milestones and outline target dates for delivery of Option 3:

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<sup>8</sup> 18th July 2018, Billet XIX, P.2018/62

**Table 8: Key Milestones**

<b>Option 3 – Preferred Option Outline Plan</b>		
<b>Key Milestone</b>	<b>Completion Date</b>	
Finalise OBC	September	<b>2018</b>
States Decision on Policy Letter	January	<b>2019</b>
Appointment of Design Consultant & Project Manager	Q1	
CAA/ EASA Approval of design	Q2	
Issue Construction Tender	Q2	
Appoint Preferred Bidder	Q4	
Value Engineering and Environmental Impact Assessment	Q4	
Planning Application for Site Construction Compounds	Q1	<b>2020</b>
Pre-Construction Conditions Discharged	Q2	
Contractor Mobilisation	Q2	
Construction Completion	Q2	<b>2021</b>

- 10.3 There are a number of key milestones where there are risks that the project will need to manage and mitigate and at worst may not be able to proceed to the next stage, if the requisite approvals are not possible.

## **11 Consultation**

- 11.1 There have been a number of presentations and briefings to stakeholders at key stages of the project, including at the stage of shortlisting of options (in May 2016). This has been with the objective of assisting with gaining agreement on the preferred option and reinforcing the importance of Alderney Airport as a lifeline for the island.
- 11.2 The final identification of the ‘preferred option’ followed consultation with key stakeholders regarding the findings of the York Aviation report. This included input from the States of Alderney following its debate of the report.
- 11.3 The States of Alderney are updated regularly on the project. The Project Board has included within its membership an Alderney senior civil servant since June 2016, who has been fully engaged and has input into the development of the proposed scheme.

- 11.4 At its meeting of the 4<sup>th</sup> April 2017, the Policy & Finance Committee, States of Alderney considered the York Aviation report and by a significant majority, confirmed its agreement to proceed with Option 3. The Chairman wrote that his Committee

“...by a significant majority confirmed its agreement to proceed with Option 3 to rehabilitate the present 880m airstrip including restoration of the width (fully paved) to 23m...”.

- 11.5 On 11<sup>th</sup> September 2018 the General Manager, Guernsey Ports, provided an update on the progress with the Outline Business Case to the States of Alderney’s Policy & Finance Committee, and has input updates to the Alderney Liaison Group on regular intervals.
- 11.6 A Project Assurance Review has been undertaken, to review the OBC (including the development of the short list of options and preferred option) and to provide assurance to Treasury and the Project Team at this key Gateway to the project. The Business Case Review of the Alderney Project (OBC) report (August 2017) provided a number of recommendations which have been fully discharged.
- 11.7 The OBC Business Case was considered and approved by the STSB on the 4th October 2018.
- 11.8 The Law Officers of the Crown have been consulted on this Policy Letter.

## **12 Conclusions**

- 12.1 In view of the current condition of the pavements at Alderney Airport, and in line with legislative and regulatory requirements, work on the preferred option 3, including procurement for the Client Design Consultant and design stage of this project needs to commence immediately.
- 12.2 This option will rehabilitate the existing runway and associated pavements, re-widen the runway and improve the approach and centre line lighting as well as drainage enhancements. This ‘preferred option’ will be subject to procurement for a detailed design solution, prior to commencement of tender for construction.

### **13 Compliance with Rule 4**

- 13.1 In accordance with Rule 4(1), the Propositions have been submitted to Her Majesty's Procureur for advice on any legal or constitutional implications. She has advised that there is no reason in law why the Propositions should not be put into effect.
- 13.2 In accordance with Rule 4(4) of the Rules of Procedure of the States of Deliberation and their Committees, it is confirmed that the propositions above have the unanimous support of the States' Trading Supervisory Board.
- 13.3 In accordance with Rule 4 (5), the Propositions relate to the duties of the States Trading Supervisory Board to ensure the efficient management, operation and maintenance of any States' unincorporated trading concerns and commercial interests which the States have resolved to include in the mandate of the Board, which includes Alderney Airport.
- 13.4 The preparation and agreement of the propositions and content of the Policy Letter has involved consultation with the States of Alderney, the Committee *for* Economic Development and the Committee *for the* Environment & Infrastructure who are supportive of the propositions and Policy Letter (see Appendix 3) and the Policy & Resources Committee who have also been consulted.

Yours faithfully

#### **States' Trading Supervisory Board**

P T R Ferbrache

President, STSB

J C S F Smithies

Vice President, STSB

J Kuttelwascher  
Member, STSB

S J Falla MBE

J C Hollis

Non-States Members, STSB



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**STATES OF GUERNSEY & STATES OF ALDERNEY**

**AN EXTENDED RUNWAY FOR ALDERNEY  
ECONOMIC AND FINANCIAL ANALYSES**

**FINAL REPORT**

**JANUARY 2017**

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**York Aviation**

**Originated by: Louise Congdon/Richard Connelly**

**Dated: 7<sup>th</sup> December 2016**

**Finalised: 16<sup>th</sup> January 2017**

**Reviewed by: James Brass**

**Dated: 8<sup>th</sup> December 2016**

# **STATES OF GUERNSEY & STATES OF ALDERNEY**

## **AN EXTENDED RUNWAY FOR ALDERNEY ECONOMIC AND FINANCIAL ANALYSES**

### **FINAL REPORT**

**JANUARY 2017**

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## EXECUTIVE SUMMARY

1. York Aviation was commissioned by the States of Guernsey and the States of Alderney to undertake an economic and financial feasibility study to test and validate the potential benefits of investment in a runway extension at Alderney Airport compared against a baseline reconditioning of existing infrastructure at its existing length through resurfacing, widening and improving the drainage and lighting.
2. The incremental cost of extending the runway to allow larger aircraft to be operated is estimated in the range £11.49 to £19.05 million, once allowance is made for the additional costs of improving the terminal and enhancing security arrangements to permit larger aircraft to be operated. The wide range of cost is largely related to the assumptions made about the incremental cost of specialist runway construction works on Alderney, having regard to the need to import specialist labour and materials. We do not consider it prudent to assume that the project could be delivered at the lower end of the range. Based on updated information received from the engineering consultants, TPS, the baseline refurbishment works do not need to be enhanced now to facilitate a decision to extend the runway at some date in the future, albeit there would be additional costs to be incurred in future if the works are not undertaken concurrently.
3. Through detailed consultations with stakeholders on Alderney, we identified that there was a clear need for improvements to the reliability and peak period capacity of the air services compared to the recent service delivery and that these service improvements are essential in order to prevent further economic damage due to transport difficulties. However, the recent shortcomings in the reliability of the service are largely as a consequence of the difficulties experienced by Aurigny in transitioning from a Trislander fleet to a new fleet of Dornier228 aircraft, which will result in some capacity improvements once the transition is complete and reliability reinstated. The problems are largely unconnected to the length of the runway.
4. In order to test whether there is an economic case for extending the runway, the key consideration is whether a longer runway would enhance reliability and:
  - deliver lower air fares
  - deliver more seat capacity
  - deliver higher frequency
  - lower the cost of subsidies
  - enable the operation of new routes
  - translate to population and tourism growth

These form the key hurdles which the development of the runway extension would need to pass. We considered these issues under two broad headings; the effect on the pattern of air services and population and tourism growth.



### **Effect on the Pattern of Air Services**

5. Our analysis of aircraft operating costs shows that, currently the market is simply not large enough to warrant the use of larger aircraft. If a longer runway did enable airlines to introduce larger aircraft, this would be expected to result in reduced frequencies of service to better match capacity to demand and be more likely to increase the costs of operating the routes to/from Alderney than to reduce them. There would be no scope to reduce air fares and the introduction of larger aircraft earlier than warranted by the market would result in higher operating losses for the airline concerned and potentially higher costs of subsidy. Our analysis suggests that, even at lower frequencies of service, there would be no scope for reduced operating costs to be passed onto passengers through lower fares until the total number of passengers using the routes to Guernsey and Southampton exceed c.82,000 annual air passengers, a level of demand not seen since 1995. This would require other economic factors to be addressed to deliver a population greater than 2,500 and tourist air passengers above 25,500 per annum. Even then, the routes would still be loss making and require subsidy.
6. Whilst an extended runway would offer airlines some greater flexibility in terms of using larger aircraft to meet specific short term peaks in demand and/or recover from delays and cancellations, such ad hoc operations are unlikely on their own to justify the costs involved in extending the runway. Refurbishment of the existing runway, including an improved surface and drainage, improved lighting and reinstated usable width, will improve the operational performance in any event, so contributing to improving reliability and provide a platform for an improvement in the quality of service based on a fully functioning fleet of Dornier228 aircraft.

### **Population and Tourism Growth**

7. As the operation of larger aircraft, facilitated by a longer runway, would almost certainly lead to lower frequencies of service and with no prospect of lower air fares for the foreseeable future, it is difficult to see how any population or tourism growth on Alderney could be causally linked to extending the runway. Our analysis, on a conventional transport economic basis, demonstrates that economic welfare would be reduced, not increased, by facilitating the operation of larger aircraft in the short to medium term. Using conventional transport appraisal techniques, extending the runway would not deliver an economic return based on the target rate of return of 4.4% and would, in practice, have negative economic effects due to the expected reduced frequencies of service.
8. The States of Alderney and the Steering Group asked us to consider the circumstances whereby the extension of the runway might be justified if the wider benefits from increases in population or tourism could be directly attributed to its provision. For the reasons outlined above, our analysis suggests that it is not realistic to assume such causality due to the likelihood of reduced frequency of operations for the foreseeable future. Nonetheless, looked at in this way, the conditions under which extending the runway might deliver a return of 4.4% over 20 years would be if:



- it can be delivered at the lowest realistic cost (less than c.£13 million);
- there is no consequential expenditure required to upgrade the terminal and security infrastructure to enable larger aircraft to be handled (or the costs are included within the capital cost ceiling above); and
- assuming that the an increase in population of c.140 additional permanent residents over 10 years, and an increase in annual tourist visitors of c.1,100 over the same time period can be directly and solely attributable to the provision of a longer runway, i.e. without additional expenditure on such as high speed broadband, the electricity supply or improved tourist facilities.

Our analysis demonstrates the extremely low probability of any of these conditions being met in the foreseeable future.

9. Our recommendations are, hence, that:

- the case for extending the runway now would only be economically justified on the most optimistic assumptions about deliverability of population and tourism growth directly related to the extension of the runway and if construction of all of the required infrastructure improvements necessary to support the operation could be delivered at the lowest possible cost;
- these conditions are unlikely to be met given the higher costs of operating larger aircraft and the consequential effects on the frequency of service offered;
- the case for a runway extension should be kept under review and that the Option 3 works should be carried out in a manner which would not preclude the cost effective construction of a runway extension at a later date;
- all possible steps are taken to improve the reliability and capacity offered by the existing air services based on 19 seat aircraft to provide a platform for improving economic performance and delivering passenger growth.

10. In the light of the concerns about service reliability and resilience, it appears to us important that the refurbishment works (Option 3) are undertaken as soon as possible lest further delay, whilst the provision of an extended runway is deliberated, leads to the more occasions when the runway is not operationally fit for aircraft to land, resulting in further economic damage. We also recommend that consideration is given, as a matter of priority, to the imposition of a PSO on the routes serving Alderney in order to strengthen the incentives on the airline to deliver a robust, appropriate and resilient service.





## 1 INTRODUCTION AND BACKGROUND

- 1.1 In early August 2016, York Aviation was commissioned by the States of Guernsey and the States of Alderney to undertake an economic and financial feasibility study to test and validate the potential benefits of investment in a runway extension at Alderney Airport compared to a baseline reconditioning of existing infrastructure. The output of this work will be an input to the Outline Business Case (OBC) for investment, for which two of the key issues are affordability and value for money.
- 1.2 Seven options for improving the runway and airfield infrastructure at Alderney Airport have been developed by design consultants TPS, with options including works to one or more of the grass runways as well as works to the main runway. The range of options identified is:
- **Option 0:** Do nothing;
  - **Option 1:** Do minimal through patching and repair works, including widening the main runway to 23 metres, with an estimated life of up to 5 years;
  - **Option 2:** Reconstruct all paved surfaces at the airport and extend the main runway width to 23 metres;
  - **Option 3:** As Option 2 but with enhancements to improve runway lighting and more efficient drainage;
  - **Option 4:** As Option 3 but also to hard surface and extend the short grass runway to improve cross-wind capability;
  - **Option 5:** Extension of asphalt<sup>1</sup> runway to 1,100 metres from its existing 877 metres, with the width extended to 30 metres to accommodate larger GA and commercial aircraft;
  - **Option 6:** A hybrid scheme which delivers Option 3 with certain additional enhancements to the design to enable and minimise the costs and disruption of construction of a runway extension at a later date.
- 1.3 We understand that Option 0 was rejected early in the process as this would place the maintenance of air services to/from Alderney at severe risk due to the deterioration of the existing runway pavement.

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<sup>1</sup> We were also asked to take account of the possibility of concrete construction at a lower cost but we understand from TPS that such construction is not likely to be a viable solution.



- 1.4 Our terms of reference (set out in **Appendix A**) require us to assess whether there is a prima facie economic case for an extension of Alderney's runway to 1,100 metres either now (Option 5) or as part of a phased approach (Option 6) against a baseline case of Option 3, comprising the reconstruction of the paved surfaces at the Airport, including widening the paved runway to 23 metres, to provide greater cross wind resilience, but without lengthening the runway<sup>2</sup>. In the first instance, we are required to assess the case for an extended runway and, if a case exists, whether there is an economic argument in favour of completion of the works in a single immediate phase (Option 5) or safeguarded for implementation at a later date (Option 6). We have relied on cost estimates prepared by TPS, taking into account reasonable sensitivity tests. This is described further in **Section 4**.
- 1.5 The aim of our study is to identify which option is likely to deliver an optimum balance between cost and the broader benefit to the economy of Alderney and the Bailiwick as a whole. We understand that this is part of a wider initiative to improve the quality of air services serving Alderney, including the possibility of imposing a Public Service Obligation (PSO) on the existing routes to Guernsey and Southampton in order to ensure that an appropriate quality of service is provided at competitive fare levels with a view to stimulating greater use of the services for economic gain. Hence, ensuring that the Airport has the correct runway infrastructure to support these wider objectives is key. The study will examine the costs and benefits of the 3 identified options, having regard in particular to the potential wider economic benefits from allowing a greater range of aircraft types to serve Alderney.
- 1.6 A critical issue, therefore, is to consider the likelihood of airlines deploying larger aircraft on the routes now or in the short to medium term and whether the ability to operate larger aircraft would result in an improved quality of air service and/or at a lower cost. In particular, this requires consideration of each of the three identified options against:
- the potential for lower operating costs, on a seat-km basis, with larger aircraft which, if passed through to air fares, could result in higher demand, with consequential economic benefits;
  - the risk that the use of larger aircraft could result in lower frequencies of services with detrimental effects on patronage;
  - potential future changes in airline operating models and infrastructure requirements;
  - the opening up of the market to airlines other than Aurigny, operating different types of aircraft and/or with different operating models, and which might enter the market competitively or compete to operate a PSO (potentially lowering the effective cost of any subsidy) if a longer runway was available;
  - the extent to which a longer runway might open up the potential for additional routes and/or growth in passenger numbers.

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<sup>2</sup> Consideration of the other options was excluded from our Terms of Reference.



- 1.7 Hence, a key requirement for our analysis was to develop scenarios of future growth with the different runway options in order to inform our economic assessment, taking into account the inherent uncertainties in developing such projections. This has required the assessment of the way in which the economic and social needs of Alderney can best be met through air service provision. It was, hence, recognised at the Inception Meeting that the question of the appropriate runway length could not be determined in isolation from the broader question of how to best secure the optimum service air service for Alderney in terms of the delivery of routes, frequencies of service and air fares. Understanding what level of service is likely to be delivered with each of the options is fundamental to the economic assessment.
- 1.8 Overall, the study objective is to assess whether an extended runway would deliver sufficient wider social and economic benefits to the economy over the life of the investment, specifically in stemming further economic losses on Alderney, so as to justify the incremental cost compared to Option 3 refurbishment. This requires the scope of the potential benefits and risks under each option to be clearly set out and quantified as far as possible, so as to form an effective weighted cost benefit appraisal, with the probability of benefits and risks clearly set out. In so doing, we have been required to give consideration to the strategic importance to the Alderney economy of air connectivity, including in relation to stemming population losses, sustaining and developing businesses on the island and growing tourism. Our assessment is required to take into account both direct and indirect effects, including the implications for the wider economy having regard to appropriate multiplier effects.
- 1.9 We have also considered how the development might be funded, taking into account the capital required and the alternatives available. As part of this, we have also taken account of the scope for charges to use the Airport to rise to fund all or part of the development costs and any consequential implications for growth in the air travel market if the costs are passed through to passengers.
- 1.10 The remainder of the Report is structured as follows:
- **Section 2** – we explore the economic context of Alderney;
  - **Section 3** – we examine the current and historic use of air services to/from the island;
  - **Section 4** – we set out the options and their costs, including other costs associated with handling larger aircraft;
  - **Section 5** – we set out the potential pattern of air services under the three runway options and the implications for levels of demand;
  - **Section 6** – we set out our assessment of the costs and benefits of the options;
  - **Section 7** – we set out our analysis of the financing options;
  - **Section 8** - we present the conclusions of our analysis.





## 2 ECONOMIC CONTEXT

- 2.1 Alderney is a very small island, with a population currently of just over 2,000 people<sup>3</sup>, resulting in a very 'thin' market for air services, notwithstanding the tourist influx in summer. This has implications for the level of air services which can realistically be provided, even on a subsidised basis. In this section, we set out our understanding of the current state of the economy and the emerging economic strategy to deliver growth.

### Economic Issues

- 2.2 In their review of the Alderney Economy in 2014<sup>4</sup>, Frontier Economics noted an overarching trend of decline in both population and economic activity. These trends were expected to continue unless action was taken to reverse these trends. Key findings and recommendations from the Frontier Economics review were grouped around four key themes:

- ➔ *Economic and population decline* – population decline was forecast to continue unless policy action is taken to reverse it, with particular attention focussed on the need to attract more young people to live and work on Alderney.
- ➔ *Economic drivers* - the main economic drivers on Alderney were seen as public administration, business services, finance, eGaming, tourism and energy.
- ➔ *Potential for economic recovery* – although signs were identified of recovery in a number of sectors, driven in part by resumed economic growth in the UK and in part by a number of initiatives already underway, caution was expressed that this may simply be cyclical change rather than an indication that there is sustainable structural change in the Alderney economy.
- ➔ *Economic opportunities* - scope for change was identified building on exploiting one or two of a number of identified economic opportunities, particularly around tourism, business services, renewable energy and drawing on Alderney's recognised global strengths in regulation.

- 2.3 A number of recommendations were made, including:

- ➔ establishing an economic development strategy in Alderney based on more robust economic data;
- ➔ increasing resources to market Alderney to tourists and improve tourism data as part of a dedicated tourism strategy;
- ➔ marketing the ease of relocation to Alderney to businesses and individuals;

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<sup>3</sup> Alderney Electronic Census Report, 31st March 2015, Population snapshots and trends.

<sup>4</sup> Alderney Economic Development Study, Frontier Economics, Draft Final Report, August 2014.



- exploring the scope for targeted tax incentives to attract business to Alderney;
- seeking opportunities to improve ICT connectivity (e.g. to enable eGaming servers on-island) besides the possible FAB interconnector;
- seeking to exploit any opportunities from UK and EU regulatory reform in the eGaming sector and using licensing fees generated to fund intangible capital investments;
- identifying how best to interconnect Alderney with electricity supply from France before 2020;
- exploring options to improve ferry connections.

### ***Airport Issues***

- 2.4 Issues around the Airport were considered separately in the Frontier Economics Report. In the first instance, there was a clear recommendation of the need to improve current facilities so that they are in line with regulatory standards and to reduce risks around weather- and infrastructure-related reliability. This basic requirement is covered by all options under consideration in this study.
- 2.5 The need for a longer runway to support the economic strategy was also discussed in the Report. Frontier Economics noted that the replacement of the Trislander fleet with Dornier aircraft did not appear to represent a significant threat to frequency, and would improve the quality and reliability of the service. They also stated that they did not consider the Southampton route to be at risk. Frontier Economics went on to note that the current facilities and runway length at the Airport provide the scope for significant passenger growth but that a longer runway, allowing larger planes to land, would tend to lead to a reduced frequency of service in the absence of significant market growth and entry by other airlines/new routes. Frequency of service was noted as important for business, tourist and residential travel to and from Alderney. Price was also recognised as an issue for air travel but Frontier Economics noted that, without a proven increase in demand, the larger aircraft facilitated by a longer runway may suffer low load factors, such that the cost per served passenger is no lower than currently.
- 2.6 Frontier Economics key recommendations regarding Alderney airport were for:
- the funding of the improvements to ensure regulatory compliance but that they were not persuaded, on the basis of evidence they had gathered, that an extended runway at Alderney airport is critical to unlocking economic potential in the sectors identified;
  - more detailed consideration of implementing a PSO for the Alderney routes to ensure that fares and frequencies reflect Alderney's economic needs;
  - further analysis of the extent of unmet demand on existing and new routes, with a view to re-examining the case for extending the runway in the future;



→ any immediate improvements to the runway should not preclude its future extension.

- 2.7 In this study, we have set out to explore further the linkage between the runway length at the Airport and delivering the key economic recommendations.

### **Population Trends**

- 2.8 A key issue identified by Frontier Economics is the reduction in population on Alderney and many of the recommended actions are aimed at reversing that decline through stimulating new economic activity.
- 2.9 The latest e-Census Report<sup>5</sup> indicates a resident population as at 31<sup>st</sup> March 2015 of 2,020 based on those living on the island for more than half of the year and/or working on the island. It is believed that this data excludes second home owners. Population data is given in this report for the period since 2007<sup>6</sup>, as set out in **Table 2.1** below.

Table 2.1: Alderney Population 2007-2015								
2007	2008	2009	2010	2011	2012	2013	2014	2015
2,216	2,219	2,174	2,142	2,059	2,037	2,027	2,008	2,020
Source: Alderney e-Census								

- 2.10 Prior to 2015, population data was collected using a conventional 10-yearly census approach and historic data is set out in the Report on the Alderney 2001 Census<sup>7</sup>. Detailed figures are given at 10-yearly intervals from 1951. The historic trend is illustrated in **Figure 2.1**. What appears evident from the data is that the post-war peak in the recorded Alderney resident population was 2,294 in 2001, albeit it is unclear whether this may have included some second home owners. The decline in population since then appears, based on the data, to have been of the order of 12%, although in overall terms, population has been in the band 2,000 – 2,300 since 1981, albeit with year to year fluctuations in recorded population.

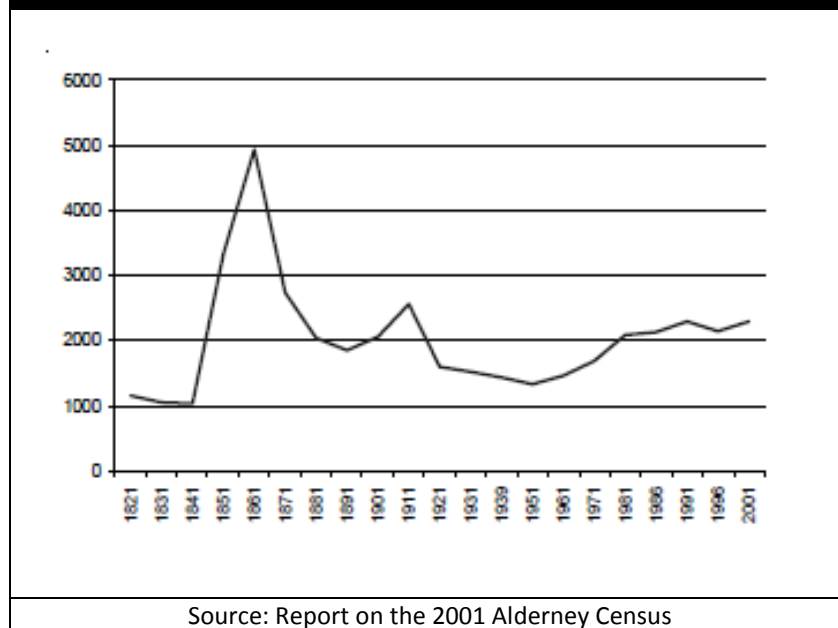
<sup>5</sup> States of Guernsey Policy Council, States of Alderney, Alderney Electronic Census Report, 31<sup>st</sup> March 2015.

<sup>6</sup> Information for earlier years is derived from social security records and some adjustments were made to reconcile to the e-Census approach from March 2014.

<sup>7</sup> <https://gov.gg/CHttpHandler.ashx?id=5510&p=0>. It is less clear whether this earlier data did include second home owners.



Figure 2.1: Historic Population on Alderney



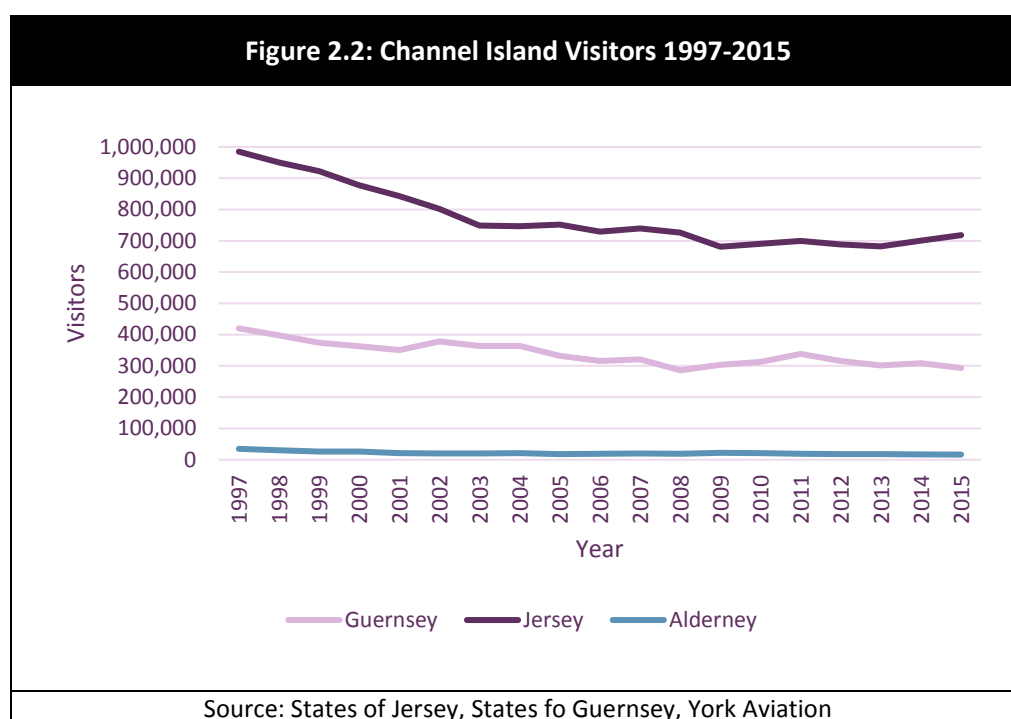
- 2.11 The previous peak in population was c.2,500 in 1911 and the population had already declined substantially before the German invasion and this probably coincided with the peak of quarrying activity on Alderney. Prior to that, the population had briefly reached c.5,000 during the fortification of the island in the 1850s due to the temporary influx of construction workers.
- 2.12 A key consideration for this study is the extent to which the population decline reflects air service issues or is reflective of other issues such as the lack of fast broadband, electricity costs (reportedly most expensive in the world<sup>8</sup>), planning restrictions on new building or broader economic and social issues affecting island economies. This will be considered further in the next section in the context of the relatively recent manifestation of the air service issues compared to the medium term trend of population decline. Historic data would also suggest that recent/current levels of population, at over 2,000, are the highest which have been sustained for any length of time over the longer term in the history of Alderney.

<sup>8</sup> <http://www.bbc.co.uk/news/world-europe-guernsey-23432398>.

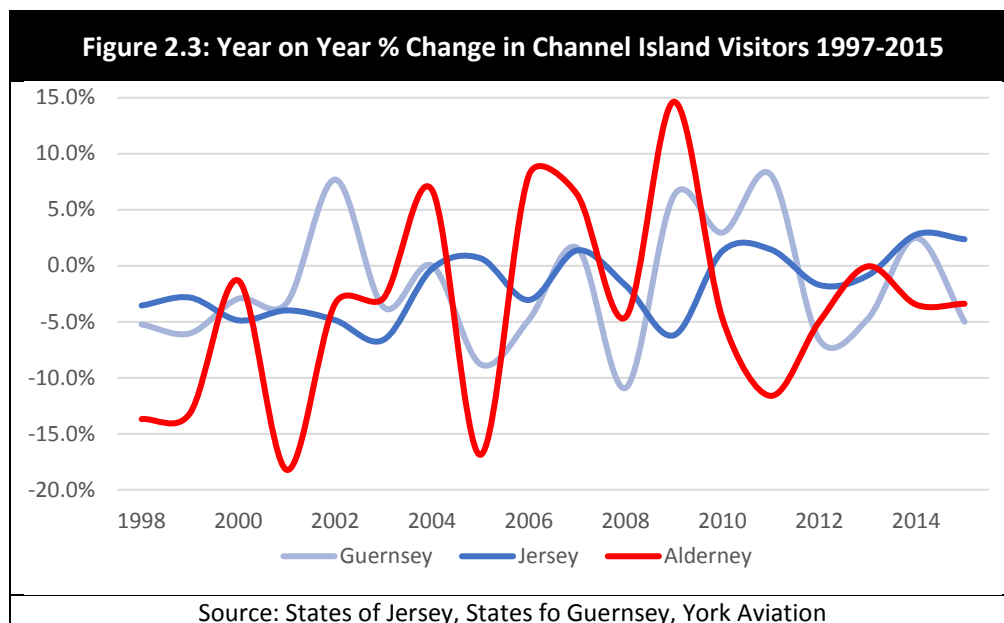


### Tourism Trends

- 2.13 Although the States do not keep detailed data on the number of visitors to the island, we understand from consultations and available data, that there has been a long term decline in tourism to Alderney, consistent with patterns seen across all of the Channel Islands. The recorded decline in visitors to Guernsey and Jersey may also have impacted on the number of day trip visitors to Alderney from these islands. We have estimated inbound visitor numbers as explained in **Section 3**, and these form the basis of comparison with the other Channel Islands in **Figure 2.2**.



- 2.14 Over the period from 1997, we estimate that visitor numbers have fallen by 53% to Alderney, compared to 30% on Guernsey, and 27% on Jersey, although the latter had also fallen by 30% to 2013, before recent up turns. Declines accelerated in the early 2000s as a result of structural changes to tourism more generally, driven to a large extent by the low fares carriers. The pattern of year on year changes is shown in **Figure 2.3**. The biggest declines were in the late 1990s and early 2000s, suggesting that these cannot be ascribed to the quality of the air service offer.



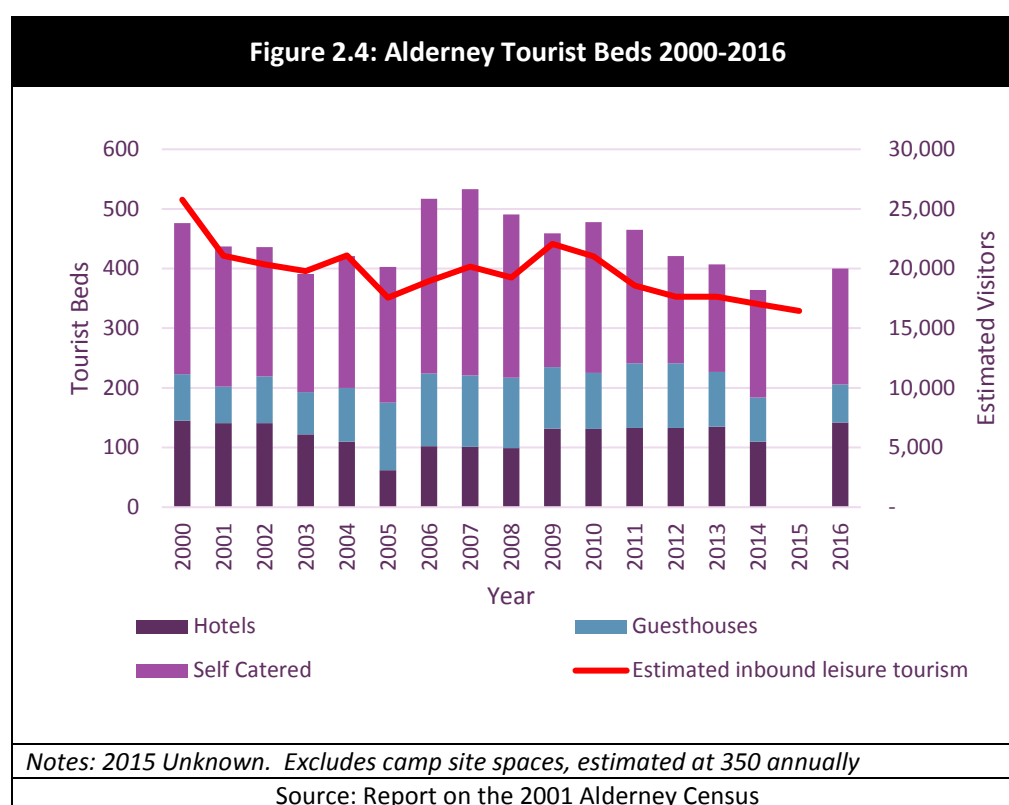
2.15 Among the structural changes which took place were:

- increased travel to Europe as the cost of air fares reduced significantly and could not be matched on UK regional routes;
- growth of the short break market, with moves away from conventional week-long holidays towards multiple short trips throughout the year;
- decision making driven by where cheap air fares are available to, rather than the actual destination, with travellers choosing to focus their spend on higher quality hotels and restaurants on arrival;
- a move away from repeat visits annually, as the number of routes increased significantly from across the UK;
- growth in independent travel, with tourists moving away from inclusive tour package holidays towards independent travel arrangements (flights and hotel separately).

2.16 Historically, the product offered by the Channel Islands had largely been focused on repeat visitors from the UK, making longer stays of one to two weeks. Consequently, the product offered has become out of line with the changes over the period since the early 2000s. All three of the key Channel Islands have made changes to their products, with Jersey and Guernsey in particular seeking to develop products better aligned to the broad changes in travel patterns. However, even given these improvements, it is unlikely that either island would be able to restore visitor numbers to historic highs. The same is almost certainly true for Alderney, despite targeted growth for the island, such as in niche markets for example wildlife related visitors.



- 2.17 Running in parallel to the changes in tourist preferences and decision choices has been a decline in the bed stock on Alderney, as can be seen in **Figure 2.4**. There is some lag between the decline in visitor numbers and the decline in available bed spaces. Anecdotally, we understand from consultees that as tourism declined and bed occupancy levels fell, this was the point at which some accommodation dropped from the market, suggesting that bed spaces have followed demand, rather than the other way around. It could, therefore, be expected that if demand did appear to increase, it is likely that there would be an equivalent increase in bed spaces in the market. However, the key point is not so much the number of beds but in the nature of the offer, with short break consumers requiring a different product, e.g. spa facilities, high quality dining etc.



- 2.18 Although the bed spaces shown above are based on those officially registered with the States, we understand that there remains an unofficial market for rooms, often where former guest accommodation has retained the ability to offer stays to previous visitors who book directly. This may mean that the decline in available space has not been as dramatic over the last few years as official data suggests. However, we understand that, in reality, most of this bed space is only available during Alderney week and, as it is not advertised or visible to non-repeat travellers, such accommodation is unlikely to be seen as a way to drive forward growth in tourism. Equally, lack of bed spaces currently is unlikely to be a reason for low tourist numbers.



- 2.19 During consultations, we were made aware that there was a perception that some hotels had suffered from lost bed nights and revenue during 2016 due to unreliability and capacity constraints to and from the island. We discussed this with the Braye Beach Hotel and were told that the issues mainly related to the high number of cancellations in the early part of the summer, which we consider further in Section 3. However, it was acknowledged that, by August, service reliability had improved to more normal levels. In considering availability, it was highlighted that many inbound visitors book well in advance, so availability of seat capacity had not been a significant issue overall for their tourist visitors. The relatively high costs of air fares were viewed as being unattractive in expanding the market but, in part, this reflected the contract arrangements between Aurigny and Braye Beech, which did not provide the lowest possible fares. Hence, the hotel decided to suspend its block booking agreement with the airline in favour of allowing individual customers to avail of the lowest air fares in the market through advance booking.

### **Emerging Economic Strategy**

- 2.20 Following on from the Frontier Economics Report, an economic development plan is being developed with the aim of securing growth of the economy. A key part of the economic strategy is a target to see the permanent population on the island increase to 3,000, on the basis that this is believed to represent a sustainable population having regard to housing stock and other infrastructure and of sufficient scale as to be self sustaining. In the light of the historic population trends, this is an ambitious target as it would represent a level of permanent population on the islands not seen since the fortification works in the mid 19<sup>th</sup> century and substantially higher than achieved at any time in the period since the German invasion.
- 2.21 A number of actions have been identified towards achieving this aim:
- Improving Transport, including:
    - improving the Airport and securing better services from Aurigny and/or through a PSO;
    - reinstatement of the 'Bumblebee' ferry from Guernsey;
    - improvement of the freight service through re-tender;
  - Improve digital connectivity, including:
    - Provide fit for purpose broadband across the island to support technology dependent business;
  - Modifications to the financial relationship with Guernsey;
  - Development and implementation of a tourism strategy;
  - Encouraging the re-location of high net worth individuals to Alderney;
  - Exploiting regulatory opportunities to develop new digital businesses;





- Facilitating growth in maritime industries;
- Developing apprenticeships and entrepreneurship.

### ***Transport Policy***

- 2.22 To accompany the Economic Development Plan, a Transport Policy is being developed. The draft Policy notes that the population is in decline and that this can only be halted by making Alderney a more attractive place to do business which requires, amongst other things, improving transport links. New businesses will bring in new residents, who will spend money in the local economy and who will pay local taxes, fees and charges so generating revenues for the Bailiwick.
- 2.23 The draft states that *“In order to bring about the economic development that we all desire, significant investments are now needed, particularly at our airport. While improved air-links will not guarantee economic development, we believe that, without them, there cannot be the development we all now need.”*
- 2.24 The draft Policy goes on to discuss the historic performance of the air service, noting that:
- the number of air passengers and visitor numbers have been in decline since 1990;
  - the cost of getting to and from our island is high when compared to the costs of travelling to other European destinations, which is attributed in the draft Policy to:
    - the small aircraft traditionally operating in and out of our island having high costs per seat-mile;
    - traffic volumes varying considerably by season and by days of the week;
    - lack of competition to Aurigny and the airline’s financial challenges within the public ownership regime;
    - the state of the Airport, including the length and width of the runway limiting potential operators.
- 2.25 Nonetheless, it was noted that there were key questions which needed to be addressed before it could be determined which runway rehabilitation option should be adopted:
- are the additional costs in constructing a longer runway likely to lead to a sufficient reductions in fares if larger aircraft fly in?
  - given the thin market, would Alderney be happy to trade a small reduction in the frequency of flights for cheaper air fares?

These are questions that we set out to address in this study.



- 2.26 The draft Policy also envisages the States of Alderney taking control of the operation of the Airport (albeit a commercial operator might be appointed), as well as assuming responsibility for establishing a PSO for the delivery of the air services to the required standard. We understand that the terms by which such a transfer of responsibility would be achieved are under discussion between the States of Alderney and the States of Guernsey as part of the broader discussions about the financial relationship.

### **Stakeholder Views**

- 2.27 A number of stakeholders identified by the States of Alderney were consulted either face to face in August 2016 or through telephone calls. A list of stakeholders consulted is attached at **Appendix B**.
- 2.28 Throughout the consultations, there were a number of common themes and a number of common views, although some consultees had differing views across a broad spectrum of issues in relation to the air service offer and the need, or otherwise, for a runway extension. It is notable that more consultees wanted to focus on the short term air service problems than on the long term relationship between air service provision and economic regeneration. There were, nonetheless, strongly held views on the current air service offer and its perceived deficiencies in terms of providing the service required by Alderney.
- 2.29 Virtually all consultees highlighted the significant reliance of the island on air services, being the only means of accessing Alderney, without the alternative of a regular ferry service as seen to other islands such as Guernsey, Jersey and the Isle of Man. Overall, consultees considered that the economic and social wellbeing of the island is completely reliant on good air links. However, whilst some consultees felt that air services were the number one issue in trying to regrow the population and increase business on the island, this was not a universally held view. Other material factors affecting the potential to grow the population were identified, including the need for greater broadband speed and reliability, improved electricity supplies, improved healthcare and education services, and relaxation of planning controls. There was also a focus on 'lifestyle' as an attractor of new residents, with stakeholders identifying the potential for Alderney to be attractive to those in creative industries, such as artists or those working in the IT sector, for which homeworking would be an option. However, whilst quality air transport access was seen as an important part of this 'lifestyle' vision, there is also a pre-requisite for high speed broadband and other basic infrastructure improvements before such people could be attracted to live on Alderney.



- 2.30 Whilst consultees held the view that the island was unattractive for businesses looking to relocate due to the current quality of air services, practical examples were also given of businesses that could not be attracted to the island because of the other identified issues, including in the eGaming industry, where a number of facilities have been established on Guernsey, though regulated by Alderney, because of the reliability of the broadband and electricity there. Indeed, in some cases, the power grid was highlighted as the number one issue, rather than air service provision at present. Nonetheless, some consultees highlighted that, as their businesses are split between Alderney and Guernsey, they are more inclined to grow the Guernsey element because of the greater air service reliability from the latter.
- 2.31 Based on these examples, it is clear that a number of criteria need to be met to allow for the growth of the population and, therefore, not all economic benefits from population growth could realistically be ascribed to improved air services. This goes to the heart of whether the quality of the air service offer is either a necessary or a sufficient condition to secure population growth and how the benefits of population growth can be attributed in our appraisal.
- 2.32 Consultees recognised the decline in both visitor numbers and hotel bed spaces and, in some cases, highlighted a perceived circularity between the air service offer and tourism offer of the island. Some consultees pointed toward a more general shift in travel patterns, away from traditional destinations such as Alderney, mirroring what has been seen across Jersey, Guernsey and the Isle of Man over the last 20 years. On the whole, however, consultees believed that improved air services would encourage more visitors to the island, which would itself halt the decline in bed spaces as islanders would look to capitalise on any increase in demand. Some consultees pointed to a perceived vicious circle of declining bed stock because of lower demand, which in itself meant that there were then insufficient bed spaces when demand was higher, resulting potentially in some visitors being turned away. Consultees highlighted, in particular, that there was insufficient air service capacity to enable all visitor demand during Alderney Week. However, it was noted that, to some degree, this demand is often driven by second home owners and their family/guests rather than visitors requiring more conventional holiday accommodation. Overall, it was clear that the lack of a clear tourism strategy and uncertainty over how Alderney's product offer fits within the current tourism market was a key factor in the decline in tourist numbers, regardless of the air service offer. The lack of capacity is largely, but not entirely, specific to Alderney week and concerns have been exacerbated by recent reliability issues.
- 2.33 What is clear from the consultations is that the current air service provision is not meeting the needs of the economy or residents of the Alderney. All consultees highlighted increases in air fares, reduced seat availability for sale, reduced reliability, and an inability of the airline to clear any back log of delayed passengers within a reasonable period of time. The period over which this degradation has happened was viewed as between 18 months and 6 years depending on the consultee, though the majority pointed to the last 2-3 years as being the period over which real problems with the air service provision may have impacted on business and tourism.



2.34 Key points made by consultees in relation to air service availability were:

- ➔ Business users suffer from lack of availability as their booking window is often shorter, and flights are often sold out by the time they know they need to travel;
- ➔ Resident business users increasingly now travel a day or more ahead in order to ensure users reach their destination, adding cost to their journeys in order to stay in hotels and reducing productivity overall;
- ➔ Business visitors may be reluctant to travel to Alderney as flight timings are not convenient and can lead to a loss of productive working time. The problems are compounded by the risk of flight cancellation. Flight connections to other services are not optimised.
- ➔ Not being able to efficiently get on and off the island is a key bottleneck in trying to attract business growth on Alderney;
- ➔ There is no flexibility to cope with the peaks and, even outside of the peak periods, there remains a shortage of seats at times. However, it was acknowledged that it is difficult to fill flights during the winter months.

As a consequence of these problems, some businesses have taken to meeting their customers on Guernsey so as to bring people to the Channel Islands, but remove the risk associated with the last hop to/from Alderney.

2.35 Consultees highlighted the problems caused by the high number of flight cancellations, although it was recognised that these were partly related to weather (with an acknowledgement that low cloud and fog has been unusually high in summer 2016). However, it was evident that there had been a substantial number of cancellations due to difficulties arising from the introduction of new aircraft, with their own unreliability issues, which were then exacerbated by insufficient crews qualified on each aircraft type (Dornier/Trislander) to allow short notice changes to the schedules. The Braye Beach Hotel indicated that it had suffered lost bed-nights as a result of cancellations and that, during the early part of the summer 2016, this was well beyond levels previously seen. However, it was acknowledged that moving into August the problems had eased but that, nonetheless, over the year as a whole the business had suffered.

2.36 Compared to previous years, consultees indicated that historically there had been sufficient suitable aircraft in the fleet to allow Aurigny (and previously Blue Islands as well) to put on extra flights and catch up with any back log in passengers arising from flight cancellations. This is no longer the case as the Trislander fleet has been retired as the aircraft are near the end of their operating life. The current fleet is more limited in scale, giving less flexibility to deal with unforeseen circumstances. Consultees suggested that, in some cases, this uncertainty suppresses demand further because those living on the island now travel less for fear of not being able to get back onto Alderney.



- 2.37 When we probed consultees on what a good air service offer would be like, the majority of consultees were adamant that frequency should not be compromised and must be maintained at current levels as a minimum. However, overall reliability and seat availability needed to be improved but without sacrificing the current frequency of service. Nonetheless, some consultees felt that lower frequencies could be accepted if it would improve reliability and ensure greater seat capacity at peak times. One consultee even suggested that a single daily service would be better if the reliability could be guaranteed. There appears to be a greater tolerance for reducing frequency on the Southampton route, but high frequencies of service to Guernsey were seen as vital to enable business, health and personal trips to best be managed, with short face-to-face meetings important for business users. Some consultees suggested that additional frequency may be the best way of delivering extra capacity overall, albeit ideally with a way of providing a further boost to seat capacity during peak periods such as through the use of larger aircraft off a longer runway for key weekends in the summer period.
- 2.38 It was highlighted that reliability issues go beyond capacity and cancellations, extending to aircraft weight restrictions on some of the Dornier fleet, often leading to passengers or bags being offloaded, and prohibitive weight restrictions applied to baggage that were inconsistent with the requirements of passengers leaving or visiting the island for any extended period of time. We understand, from discussions with Aurigny that these specific issues relate to the older Dornier aircraft and that the newer version (with another to be delivered) can operate unrestricted in all conditions over the relevant sector lengths from Alderney.
- 2.39 As with frequency, there were mixed views on air fares, although again there was an overarching agreement that fares had increased over the last few years and are currently too high. (Although this may simply be a product of the requirement imposed on Aurigny to behave more commercially.) Some consultees indicated a willingness to accept a premium for air services in recognition of the other 'lifestyle' benefits of living on an island. These consultees tended to identify that fares were ultimately less of an issue than reliability and availability, particularly for business users. Others, however, felt that high air fares disadvantaged some on the island, including critical key workers and made it a less attractive place to live, thus damaging the sustainability of the island. In most cases, it was felt that air fares were a deterrent to growing visitor demand and some felt that residents have been driven away by higher fares, making living on the island too expensive. Indeed, a combination of air fares and service quality were claimed by one consultee to be the biggest single reason for houses being up for sale on the island, although this comment covered second homes, as well as main residencies, as the island became harder and more costly to access for those seeking breaks in second homes at short notice.



- 2.40 In terms of the range of air services, most consultees were satisfied that links to Southampton and Guernsey were adequate for the Island's needs. The links and need for the Guernsey route are clear, satisfying both social and economic needs. Southampton was flagged as being the critical link to the UK, offering a great service for those accessing London due to the proximity of the rail station to the terminal at Southampton. Indeed, it was felt that Southampton was a better alternative for the island than direct flights to London. It is noted that flights to Guernsey do not offer good quality onward connections, with flight schedules not well timed in either direction to a number of destinations. In particular, the flight timings do not allow convenient travel to/from London Gatwick, which many islanders use to access leisure flights into Europe and beyond. Some consultees had aspirations for the range of air services to be expanded, with Jersey having the most support as there are business links, with some companies active across all of the Channel Islands, and the route had previously been served prior to 2006. It was felt by some that a direct link to Jersey could offer more connecting opportunities than Guernsey because of a greater range of airlines and destinations served. A number of users already use light aircraft to take them to Jersey so as to avoid long connections at Guernsey. Others suggested that Exeter and Cherbourg could offer new opportunities, with the latter felt to offer both business and tourism potential.
- 2.41 Consultees also raised concerns about the provision of Medevac services from Alderney, and the reliance on the current fleet of aircraft, which offered no actual medical facilities on board and required patients to be placed on stretchers on the floor. With health access being one of the key concerns previously highlighted, it was felt that this is not adequate and that it was an issue for some visitors to the island. There is a view among some stakeholders that access to the medevac aircraft based at Guernsey would provide a better service, but that the aircraft cannot land on the current runway length.
- 2.42 There were mixed views on the perception given to business travellers and tourists by the small aircraft that serve the Island. Overall, there is a feeling that the Trislanders, and their continued usage, do not give a good impression at all and that some travellers do not like the alternative Dornier aircraft either. Others, however, felt that the new Dornier aircraft gave the impression of just being a small airliner and did not present an image problem, being a significant improvement over the Trislanders.
- 2.43 In relation to an extended runway, consultees had mixed views on what it might offer. Key themes that were expressed by a number of consultees included:
- ➔ Larger aircraft could bring lower fares because of lower seat-mile costs;
  - ➔ Larger aircraft could be more reliable in stronger crosswinds;
  - ➔ An airline could operate smaller aircraft for most scheduled services, but then use large aircraft to cope with peak flights or to provide extra capacity to clear any back log arising from delays/cancellations.



- 2.44 However, other consultees expressed the view that it would be better to improve the current air service and get a return to growth in demand to prove the case for then extending the runway. A number of consultees recognised some tensions over what a runway extension could deliver, with a number acknowledging that, despite positive hopes, in reality there could be some frequency reduction and air fare benefits may be hard to deliver due to too many seats still being empty on most flights, even if demand could be increased.
- 2.45 A number of stakeholders felt that further niche opportunities could be facilitated by having an extended runway, in particular the ability to hold functions and conferences on the island requiring larger groups of visitors to be ferried in, so providing an opportunity to fill bed spaces outside of the peak season. It was envisaged that larger aircraft could be chartered in their entirety to bring groups to Alderney.
- 2.46 In addition to being able to handle the Guernsey based Medevac aircraft, it was highlighted that the runway extension may allow some additional corporate aircraft to use the island, making Alderney attractive to high net worth individuals as a place to be based for tax purposes, or to seek second homes. The scale of this was not quantified.

### **Conclusions on Economic Issues**

- 2.47 It is evident that there are strongly held views that the current air service offer is deficient and is a factor in the economic decline of Alderney. However, it is clear that there are other factors impacting on the ability to turn the economy around and attract more residents to live on Alderney. Key amongst these are high speed broadband and electricity supplies.
- 2.48 The aspiration to grow the population to 3,000 residents is very ambitious and its achievability needs to be seen in the context of the broader list of requirements set out in the emerging economic strategy. Similarly, increasing visitor numbers will require a coherent tourism strategy, addressing other aspects of the product as well as the air service offer.
- 2.49 Key questions for us to consider, therefore, are:
- ➔ whether improvements to the Airport by way of a longer runway would lead to improvements in the air connectivity offered to Alderney and at what cost?
  - ➔ the extent to which any improvements would represent either a necessary or a sufficient condition to deliver the desired improvement in economic performance and growth in population.

The answers to these questions are material to the level of benefit which can be ascribed to investment in the Airport infrastructure on its own, in isolation from the other required infrastructure improvements.

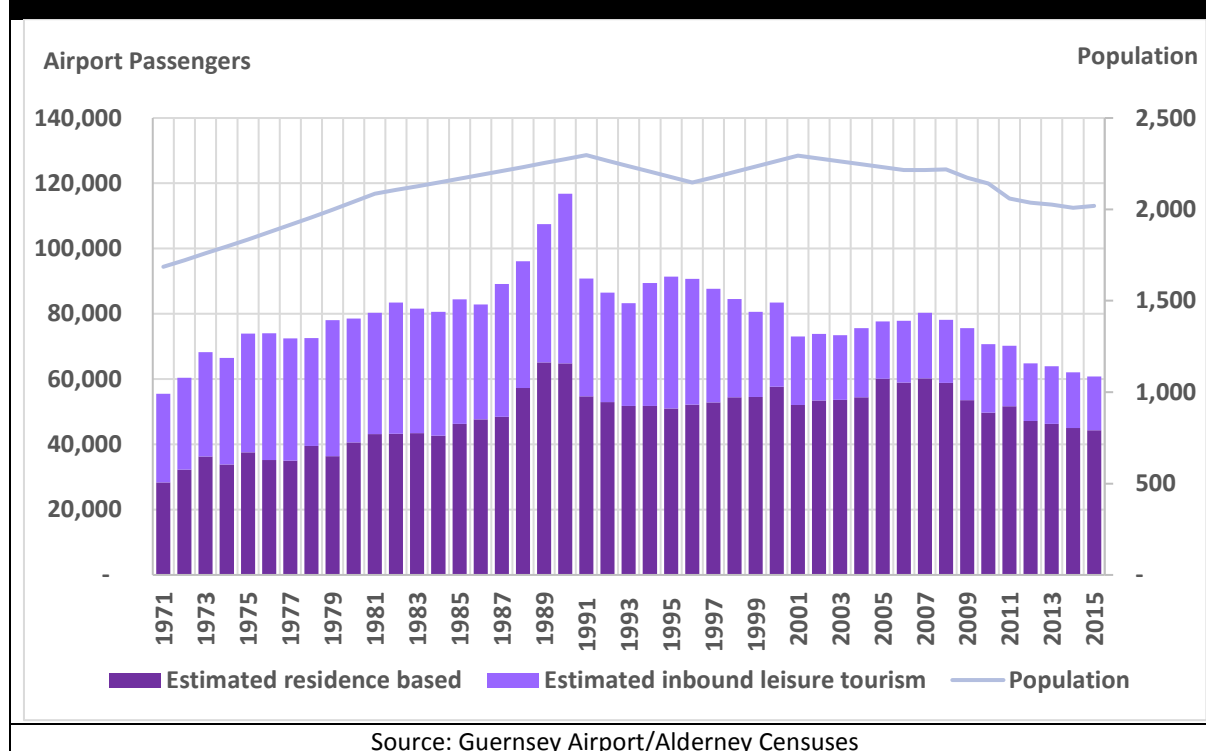


### 3 CURRENT AIR SERVICES

#### Historic Levels of Air Travel Demand

- 3.1 We have been provided with data on the passenger traffic using Alderney Airport since 1970 by Guernsey Airport. We have used this to analyse historic trends.
- 3.2 In the first instance, we have sought to understand how much of this traffic might be driven by the level of population and businesses based on Alderney, i.e. the sustainable year round level of demand, and how much represents the seasonal tourist flow. Our hypothesis is that levels of demand in the Winter period November to March represents the sustainable year round level of demand driven by largely population and business activity on Alderney, with additional demand in the summer representing inbound leisure tourism in the main. We have segmented the total airport traffic accordingly, taking the average of the winter months as a proxy for the year round 'residence based' demand. The results are illustrated in **Figure 3.1** along with population data.

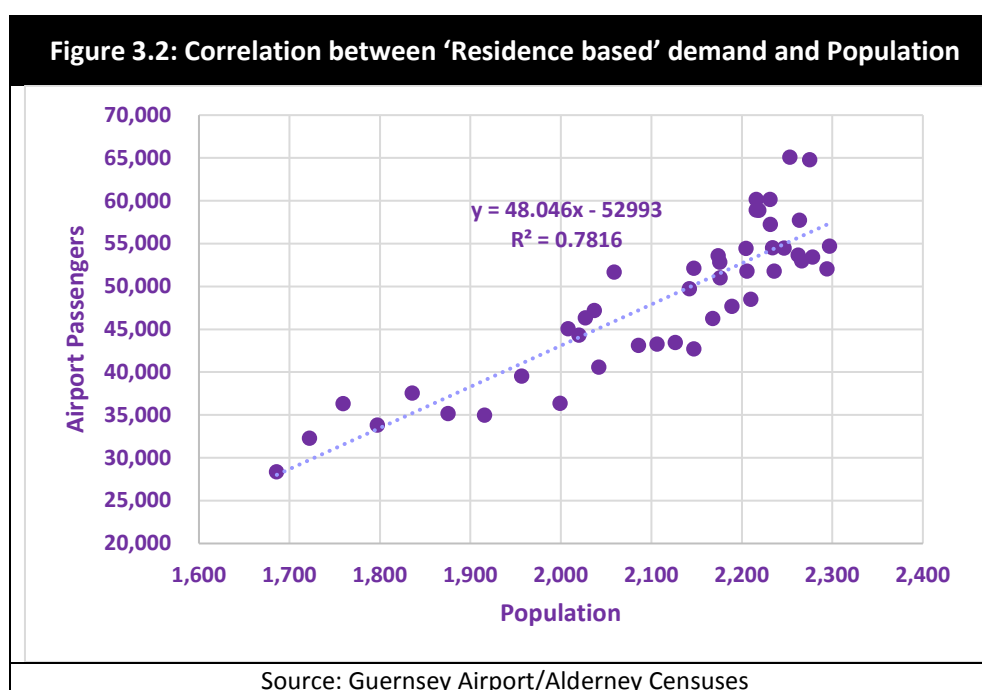
**Figure 3.1: Alderney Airport Passengers and Population 1971-2015**







- 3.3 Unsurprisingly, there is a relatively strong correlation between the level of ‘residence based’ demand and resident population. The correlation is illustrated in **Figure 3.2**. Whilst clearly, growth in population and business activity on Alderney leads to more passenger demand to use the air services on a year round basis, it is not possible to infer causality as between the air service offer and the likelihood of the population rising or falling for the reasons we identified in the last section. We explore the drivers further later in this section and in considering the viability and feasibility of air service options with and without a runway extension in **Section 5**.



- 3.4 Although some additional information is available on the types of passengers using the service in July/August 2016 based on the Alderney Travel Experience Survey<sup>9</sup>, this is not representative of year round travel patterns. During the survey period, the characteristics of passengers can be broken down between those inbound to Alderney and those resident and also by purpose. The results are summarised in **Table 3.1**.

**Table 3.1: Passenger Characteristic Summer 2016**

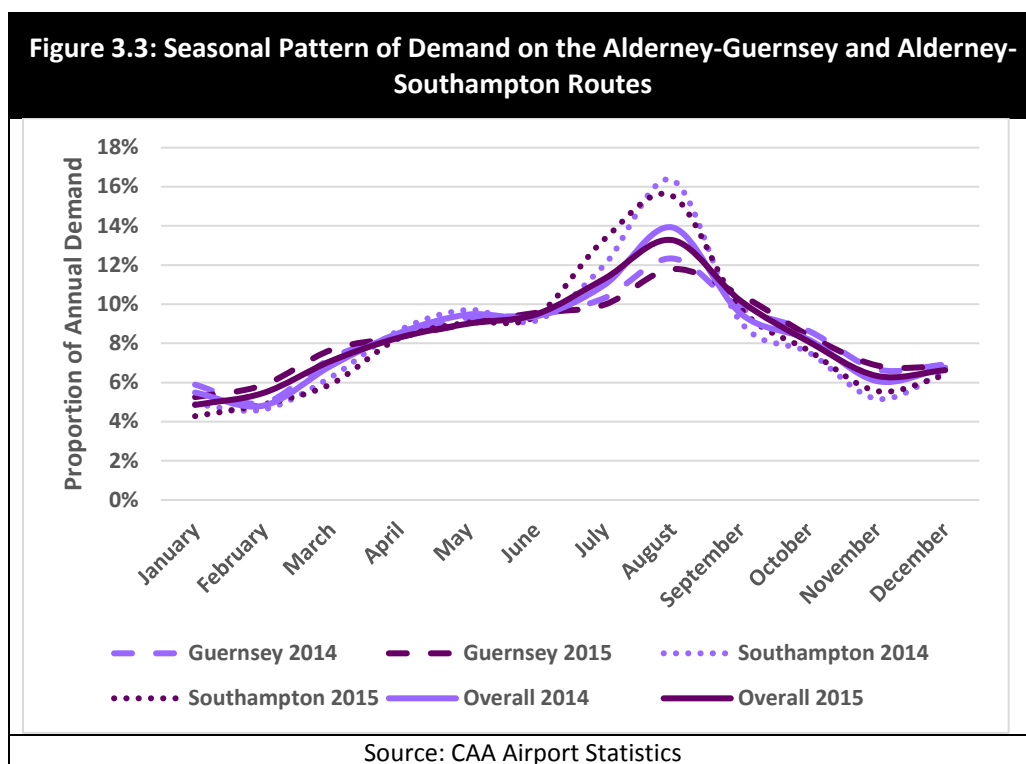
Inbound Leisure	Inbound Business	Resident Business	Resident Medical	Resident Leisure
61%	10%	3%	6%	19%

Source: Alderney Travel Experience Survey

<sup>9</sup> A self completion questionnaire handed out to passengers using the air services and the Bumblebee ferry between 1<sup>st</sup> July and 9<sup>th</sup> August 2016.



- 3.5 This data suggests that 71% of passengers during the summer peak period<sup>10</sup> were inbound to Alderney, of which 61% were leisure tourist visitors. Overall, 13% of the traffic during this period was travelling for business purposes. We understand from our consultation with Aurigny, discussed further below, that there were quite severe weather problems during this period which resulted in a high number of cancellations. Whilst this is unlikely to have impacted on inbound visitors pre-booked and committed to staying on the island during this time, it is likely to have deterred some last minute resident trips or day visitors where flights were cancelled at short notice and alternatives were limited. Overall, in July 2016, out of the 6,471 passengers using Alderney Airport, the survey would indicate that almost 4,000 of these were inbound leisure visitors.
- 3.6 Traffic to/from Alderney is highly seasonal, as illustrated in **Figure 3.3** showing the seasonal pattern in recent years. This highlights the concentration of demand in the seasonal peaks in July and August, which are even more prevalent on the Southampton route than the Guernsey route.



<sup>10</sup> The survey period included Alderney week with exceptionally high levels of inbound demand.



- 3.7 As is evident from Figure 3.1, inbound leisure visitors historically made up a much higher proportion of demand, with leisure tourism related trips reaching over 50% of total annual demand in the late 1970's falling to under 30% of the market in recent years (estimated 27% in 2015). A key consideration is the extent to which this is a function of the frequency, quality or price of the air service or reflective of other issues both local and generic to the British Islands.
- 3.8 It is likely that the seasonality was even greater in earlier years when the proportion of inbound leisure visitors was much higher. This will have presented even greater challenges for the operator of the air services in terms of operating additional flights to meet peak period demand whilst maintaining service on other routes, as airlines do not operate with large amounts of spare capacity available to be deployed on an ad hoc basis during the peak of the summer. Even at current demand levels, the extreme seasonal peak creates problems for Aurigny in matching aircraft capacity to demand and would create similar problems for any other airline that entered the market unless they were willing to switch aircraft capacity away from other profitable routes (operated commercially) during the height of the summer demand peak across the whole of the UK.

### Historic Patterns of Air Service

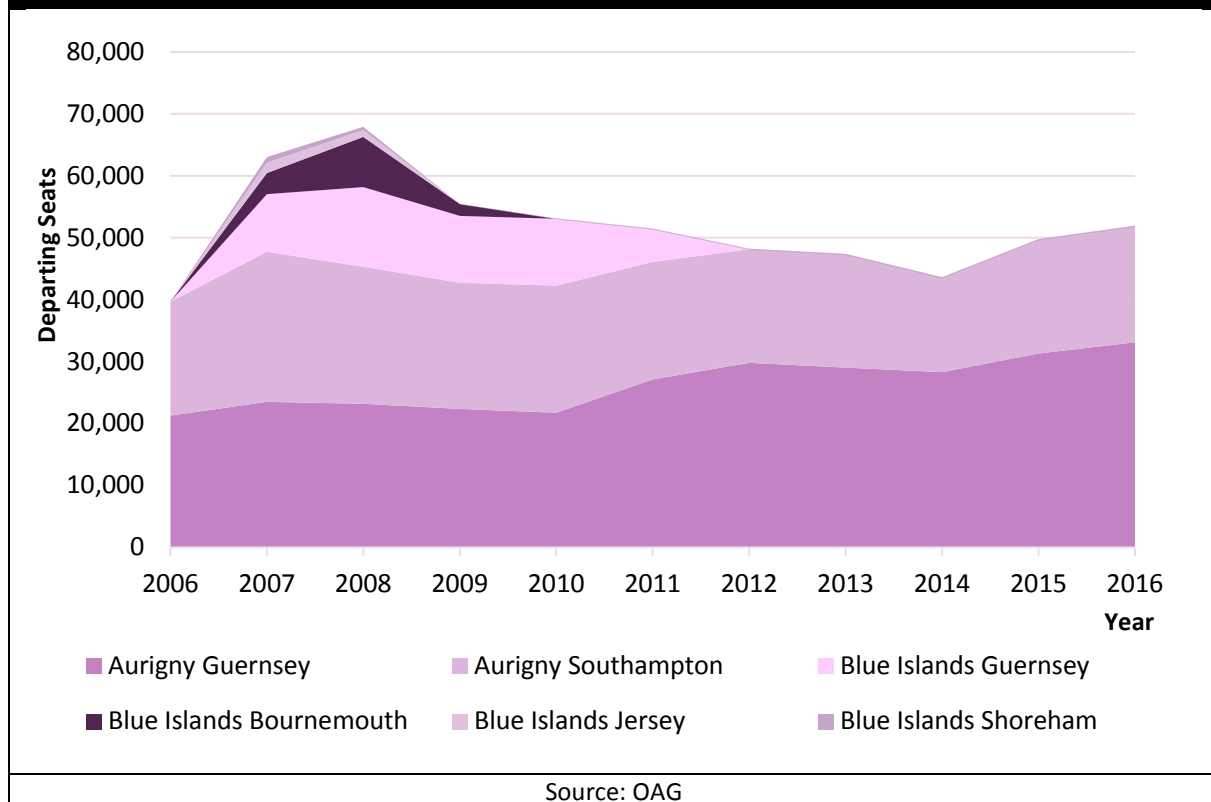
- 3.9 The dominant carrier serving Alderney over the last ten years has been Aurigny, though supplemented by Blue Islands<sup>11</sup> from 2007 to 2011. Throughout this period, the core routes have been those to Guernsey and Southampton, with the latter viewed as the key routing to London, taking advantage of short rail times directly from Southampton Airport. Blue Islands also operated on the Guernsey route, and supplemented this with flights to Jersey, Bournemouth and Shoreham, with the latter two points adding to the options for inbound tourism. The impact of services from Blue Islands can be seen in **Figure 3.4**. We are aware that a route to Jersey had operated previously, carrying over 15,000 passengers a year in the mid-1990s but demand levels had fallen away before the Blue Islands operation commenced, which may be connected to the fall in tourism to Jersey, limiting the pool of potential day trip visitors to Alderney.

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<sup>11</sup> Blue Islands took over the Rockhopper business but we refer to Blue Islands covering both operations.



Figure 3.4: Annual Scheduled Departing Seat Volumes by Carrier and Route



- 3.10 Although there was an initial drop in overall capacity to Guernsey following the suspension of services by Blue Islands, Aurigny has recently increased planned seat capacity on the this route in both 2015 and 2016. We recognise that Figure 3.4 does not reflect actual cancellations, aircraft changes (i.e. where smaller Trislanders have replaced Dorniers) or restrictions on bookable seats (for weather or weight considerations), which will have restricted actual departing seats to lower levels than shown. By 2016, the number of seats available on this route was scheduled to be at its highest since 2009.
- 3.11 Over the period from 2007, scheduled seat capacity to the UK has seen a decline, from a high of nearly 31,000 departing seats in 2008 to a low of 15,200 seats in 2014. However, scheduled seat capacity has increased steadily again, growing by 21% between 2014 and 2015, and then again by 2% in 2016, putting UK capacity back above levels seen in 2007. Once again, this data will not reflect cancellations, aircraft changes or bookable seat restrictions. However, it is also likely that any additional flights, added at short notice, will also not be included in this data.



- 3.12 Based on the aircraft sizes indicated within the OAG database, capacity to/from Alderney is scheduled to be at its highest level since 2011, at 102,000 two-way seats. We go on to consider this in the context of actual flown capacity below by reference to data provided by Aurigny and the Airport.
- 3.13 Due to the seasonal nature of demand, Aurigny plan seasonal schedules to reflect this as far as they are able. Typically, on the Guernsey route, during the winter the airline plans to operate 4-5 departures per day (weekday) from Alderney, increasing to 6-7 per day during the peak summer months. On the Southampton route, the typically winter (weekday) schedule has just 2 flights a day, increasing to 3-5 over the summer period. The planned schedule for summer 2016 saw peak schedules of 9 flights per day to/from Guernsey and 8 flights per day to/from Southampton.
- 3.14 However, even within these bounds, the carrier has some fleet flexibility to add additional services, either to provide a 'catch-up' service after weather delays or to increase capacity further at times of high demand. Reflecting this, to the end of August in 2016, the carrier peaked at 11 daily departures to Guernsey and 9 departures to Southampton.
- 3.15 Since 2010, passengers on both core routes have declined as can be seen in **Table 3.2**. Over the five years, the average annual decline has been 3.5% on Guernsey and 2.4% on Southampton, although the latter did rise slightly in 2013, before continuing to decline to a low of 24,000 passengers in 2015. This is despite the marginal increase in planned seat capacity in the year.

Table 3.2: Annual Passengers						
	2010	2011	2012	2013	2014	2015
Guernsey	42,800	42,400	38,900	36,700	36,900	35,800
Southampton	27,200	27,100	24,900	25,900	24,400	24,000
Source: CAA Statistics						

- 3.16 We recognise that services to Jersey, Bournemouth and Shoreham have previously been operated. However, in the last 10 years, the volumes of demand even for the Jersey route appear quite low, generating only a 21% load factor across 2007 and climbing to 47% in 2008 against a backdrop of significantly reduced capacity. This illustrates the difficulty in sustaining services on a viable basis for any airline. The fact that the airlines have not continued to operate these routes is a function of commercial viability, in the absence of subsidy, rather than constraints of aircraft type and runway length.



3.17 As highlighted by consultees, it is perceived that, despite the apparent increase in planned capacity noted above and the reduction in flown passenger numbers, seat and flight availability and reliability has dropped over the last 2-3 years or so. To test this, the Airport has provided data on actual movements flown and passengers on each aircraft. This data indicates the possible levels of seat restrictions arising from the factors outlined above. Given the variability in Aurigny's bookable seat numbers, we have applied two seat capacity factors to this data for comparison:

- First, assumed seating capacity in line with OAG<sup>12</sup>, to indicate the theoretical scheduled seat capacity for direct comparison; and
- Secondly, restricted seat capacity for individual aircraft registrations based on typical bookable seats/passengers carried by each.

3.18 Although some uncertainties remain, this analysis does provide a reasonable way of comparing actual to scheduled capacity as any variance should be systematic. **Table 3.3** shows the results.

Table 3.3: Ratio of Flown Capacities				
	2013	2014	2015	2016*
OAG Scheduled Capacity	94,650	87,090	99,396	71,128
Flown Capacity (OAG Equivalent Seat Capacities)	118%	125%	105%	92%
Flown Capacity (Most Likely Seat Capacities)	111%	118%	99%	85%
<i>Note: *Part year only Jan-Aug</i>				
Source: OAG, ACI Airport, York Aviation				

3.19 This does suggest that through 2013 and 2014, extra services or seats were delivered above those shown in the OAG database and that, by 2015, the carrier was not adding significant extra seats or flights beyond those typically bookable for each aircraft. Over the first 8 months of 2016, the difference has been more significant, with overall capacity falling well below that published by the carrier in OAG for the period. One of the reasons for this is that, within OAG, the carrier indicates that Dornier aircraft will operate the majority of services but, in fact, a large number have continued to be flown by the Trislanders (in part due to 'teething problems' with the Dornier operation considered later in this section), which leads to a shortfall against the apparent plan and almost certainly cancels out the increases in planned capacity in the last two years indicated in Figure 3.4.

<sup>12</sup> Online airline guide.



- 3.20 A similar analysis for movements shows that the carrier flew 104% of scheduled flights planned in 2013, increasing to 111% in 2014 before falling again to 107% in 2015 (though a higher ratio than 2013) before a further decline to 98% in the first 8 months of 2016. This is important because, whilst the capacities shown in Table 3.3 are impacted by the swap from Dorniers to Trislanders, the movement data points to not backfilling all seats and flights after cancellations as well.
- 3.21 The comparisons between scheduled capacity/flights and actual flown capacity/movements does seem to confirm that there are problems with the air service offer to the island at present. It would appear that unreliability of bookable seats (or usable seats where passengers are offloaded), cancelled flights and the lack of backfilling of all cancelled capacity generate levels of uncertainty in the air service as highlighted by consultees. We will explore these issues further below.
- 3.22 What the evidence shows is that the steps being taken by Aurigny to improve the service through the introduction of the Dorniers have not been effective to date. If anything, capacity and reliability have declined since 2014, up to which time there is evidence of the airline putting on extra flights to ensure that demand could be accommodated. However, these issues are related to the specific difficulties with the aircraft rather than to the specific issue of runway length.

### *Propensity to Fly*

- 3.23 Despite the recent declines in air service provision and usage, it must be recognised that there is a very high propensity to fly from Alderney, albeit that we recognise that this stems in part from a lack of an effective passenger ferry alternative. In 2015, there were 29.6 air passenger journeys per head of population on Alderney, significantly above that seen on other islands, as shown in **Table 3.4**. Although some of the comparators also have reasonable sea links, the difference remains significant, with Alderney close to double the next comparator, Jersey.

Table 3.4: Propensity to Fly Comparison by Total Air Passengers			
	2015 Air Passengers	2015 Population	Propensity to Fly
Alderney	59,843	2,020	29.6
Jersey	1,554,390	102,700	15.1
Tiree	9,856	653	15.1
Guernsey	891,616	63,001	14.2
Islay	29,346	3,228	9.1
Barra	10,658	1,174	9.1
Isle of Man	781,601	88,259	8.9
Stornoway	127,282	21,031	6.1
Source: CAA Statistics and Local and National Government Data			



- 3.24 The high propensity to fly indicates a market that is relatively mature, reflecting the fact that when residents need to leave the Island, they only have one practical option and, therefore notwithstanding current availability issues, they already chose air services. Such markets are typically difficult to stimulate, particularly for outbound travel by residents.

### **Recent Air Service Problems**

#### ***Change in Aircraft Type***

- 3.25 The introduction of the Dornier 228 aircraft to the fleet appears to have been a factor in recent declines in the quality and reliability of service provision for a number of reasons. Aurigny started by introducing two used aircraft (now currently 28 and 31 years old) and supplemented these with a third, brand new aircraft, in 2015. A second brand new version is on order for delivery in Spring 2017.
- 3.26 However, in introducing these aircraft, the carrier faced several issues which have caused difficulties with maintaining the Alderney flight schedule. These are:
- ➔ The older aircraft have had significant technical problems meaning that they were unable to operate the full schedule and, instead, services had to fall back on the reducing number of Trislander aircraft in the fleet with lower seating capacity;
  - ➔ The need to keep Trislanders operating some services has meant that Aurigny has been unable to complete pilot training for Dornier operations and, therefore, the pilot pool has been unable to switch between aircraft types as required, greatly reducing flexibility, particularly when aircraft type changes have been required at short notice. This problem appears to have been exacerbated by the new Dornier, which has a different pilot rating from the older versions;
  - ➔ In certain weather conditions, the two older Dornier aircraft, but particularly G-SAYE, have been unable to accommodate full loads of passengers and their baggage. This means that bookable seats appear to have been suppressed in some cases and, on other occasions, passengers and/or baggage have been offloaded. Furthermore, it appears that baggage weight restrictions are imposed on some flights due to these aircraft, which consultees highlight as a particular issue in terms of being able to take full baggage away on holiday off the island. This is likely, in part, to explain the differences seen above between published seat capacity and actual bookable seat capacity;
  - ➔ An aircraft handling incident at Alderney led to the new Dornier, and the only aircraft consistently capable of operating with unrestricted passenger/baggage loads as indicated in the schedule, being out of service for a prolonged period of repair.





- 3.27 Among the concerns of consultees is that, historically, Aurigny maintained a fleet of Trislanders which was large enough to allow them to, at short notice, add extra flights, both to cope with increases in bookings and also to deal with any backlogs in passengers arising from flight cancellations. To a large extent, the ability to achieve this was linked to the large fleet of Trislanders retained to provide the high-frequency flights between Guernsey and Jersey on weekdays. The fleet was not required to the same extent at weekends or during the peak August period and this allowed the carrier to more freely add capacity to Alderney when demand was typically highest during the peak season. The Jersey service is now operated solely by Blue Islands meaning that Aurigny no longer needs to retain this Trislander fleet and has been steadily retiring the older aircraft.
- 3.28 As a result of introducing the Dornier, and the problems with flight crew incompatibility, this flexibility to add additional services appears to have been lost to some degree, although within the MOU, considered below, there remains provision for increased flights to be added at the request (and cost) of the States of Alderney. In theory, three reliable aircraft would be adequate for the core schedule (including a spare aircraft), but the plan to stabilise the fleet at three operational Dornier aircraft to serve the Alderney routes will mean that the ability to add large numbers of additional services at peak times or to catch up following periods of weather disruption, as seen historically, may be reduced in future compared to what was achievable in the past. It is in this context that the ability to, on occasion, deploy larger aircraft could help to meet short term peaks of demand.
- 3.29 We understand from Aurigny that the reluctance to add additional flights is also in part a way of them controlling the costs of operations on the Alderney routes because the cost of quickly mobilising additional flights adds to the already considerable losses on the routes. Whilst resilience could be enhanced with an additional aircraft beyond the three currently planned, the cost of acquiring a further aircraft would need to be considered in terms of depreciation, maintenance and crew capacity and the impact on losses attributable to the service. Aurigny, in common with other airlines, does not have spare aircraft available which can immediately be deployed to provide additional services to meet short term spikes in demand, such as around Alderney week.
- 3.30 These short term difficulties do not, of themselves, indicate that the Dornier 228 is not the right aircraft to operate from Alderney given the size of the market overall. Rather, the difficulties in introducing the aircraft into the fleet have underpinned significant degradation in service provision to Alderney compared to the expected schedules and capacity on the routes. Consultee views are largely positive about the Dornier experience when compared to the old Trislander aircraft, with only one consultee believing that there remained risk that the aircraft was perceived by visitors as *“small and uncomfortable”*. The Dornier 228 type remains in manufacture and is likely to remain in airline fleets and/or be available on the market for a considerable time to come.



### Load Factors

- 3.31 Although we were provided with load factor data from the States of Alderney, we requested a longer time series of similar data from Aurigny in order to identify when the reported capacity problems on the services became critical. This information was not made available so we have based our analysis jointly on the short data series provided by the States, supplemented by flight data provided by the Airport, adjusted for 'likely' seats bookable, covering the period 2013 to 2016 (to end of August). In applying the 'likely' seats bookable, we recognise that Aurigny's operation shows more variability than normal in terms of making fewer seats available for sale than the aircraft can theoretically carry. Without the additional data from Aurigny, we have no way of identifying or estimating these effects. We recognise that this could lead to some marginal understatement of the actual load factor but we believe that our analysis still shows broad load factor trends.
- 3.32 We have used the available data to establish patterns of growth in load factors which supports the views presented during the consultations and the evidence assessed by the States, that increasingly there is a lack of availability for flight bookings. **Table 3.5** illustrates the January – August comparison of load factors for each of the key routes (inbound and outbound) for the comparative period from 2013 to 2016 and highlights that load factors are at their highest in 2016 across all routes on average.

Table 3.5: Jan-Aug Load Factor Comparison by Route				
Year	ACI-GCI	GCI-ACI	ACI-SOU	SOU-ACI
2013	55%	56%	65%	68%
2014	57%	58%	64%	67%
2015	57%	55%	63%	65%
2016	60%	67%	67%	69%
Source: Alderney Airport, York Aviation				

- 3.33 However, as the data in Table 3.5 includes the quieter winter months when load factors are generally lower, we have also looked at the profile of load factors by day for each route over the whole period as shown in **Figures 3.5** and **3.6**, where there could be some marginal upward trend<sup>13</sup> in load factor through 2015 and into 2016, but particularly on the inbound services for both Guernsey and Alderney.

<sup>13</sup> Indicated by higher density of records at higher load factor.

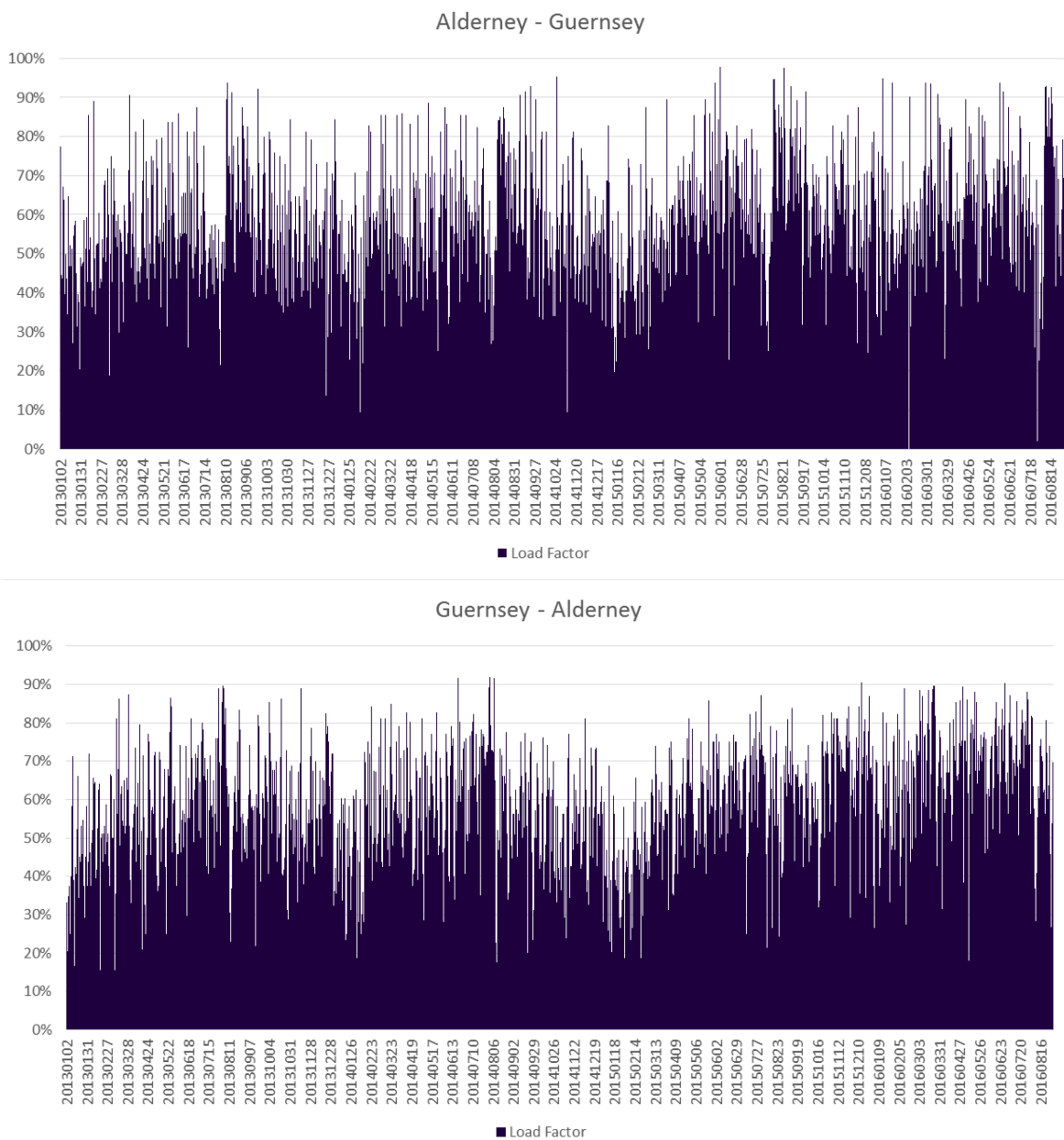


3.34 We have looked at the number of occasions within each year on which load factors were above 90%, 95% and at or above 100%. The results are shown in **Table 3.6** and show an overall upward trend in the number of days on which flights are at the higher end of the load factor scale. The upward trend into 2016 is of more concern as this only covers the first 8 months of the year, rather than the full 12 months in the other years shown. The problem may actually be worse, based on the short time series provided by the States of Alderney for 2016 which reflect actual seats on sale rather than the aircraft capacity. This will mean that, in reality, the number of days where very few or no seats are available for booking will be higher than shown here, although the trend over time should still be consistent.

Table 3.6: Number of Days by Average Load Factor				
		Above 90%	Above 95%	100% or Above
Alderney – Guernsey	2013	4	0	0
	2014	4	1	0
	2015	7	2	0
	2016*	11	0	0
Guernsey – Alderney	2013	0	0	0
	2014	3	0	0
	2015	1	0	0
	2016*	1	0	0
Alderney – Southampton	2013	20	2	1
	2014	6	0	0
	2015	22	7	1
	2016*	19	7	2
Southampton – Alderney	2013	6	1	1
	2014	1	0	0
	2015	14	4	2
	2016*	19	7	5
Note: *2016 is only first 8 months of year. All others are full year.				
Source: Alderney Airport, York Aviation				



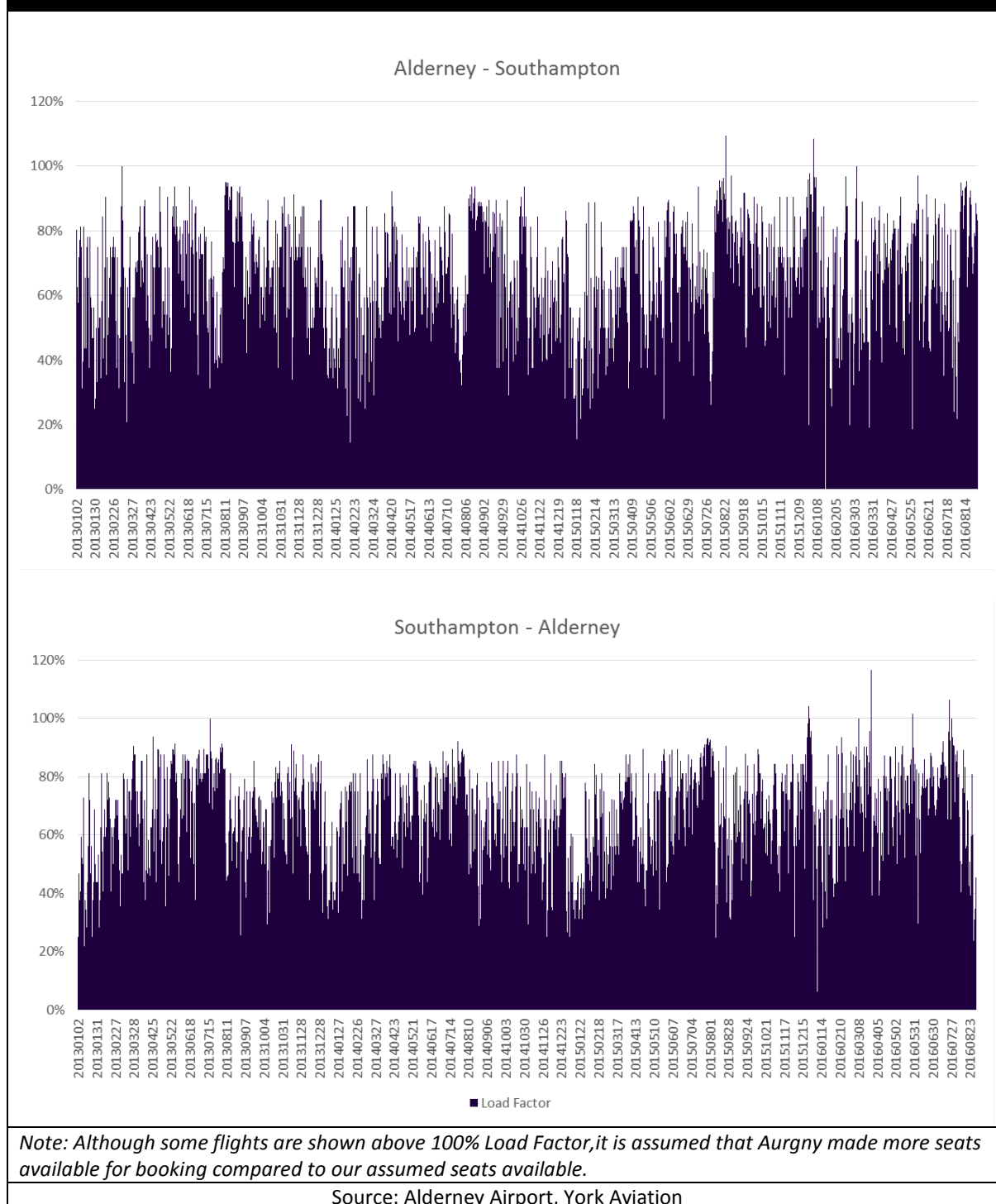
Figure 3.5: Daily Load Factors 2013 – 2016 To/From Guernsey



Source: Alderney Airport, York Aviation



Figure 3.6: Daily Load Factors 2013 – 2016 To/From Southampton

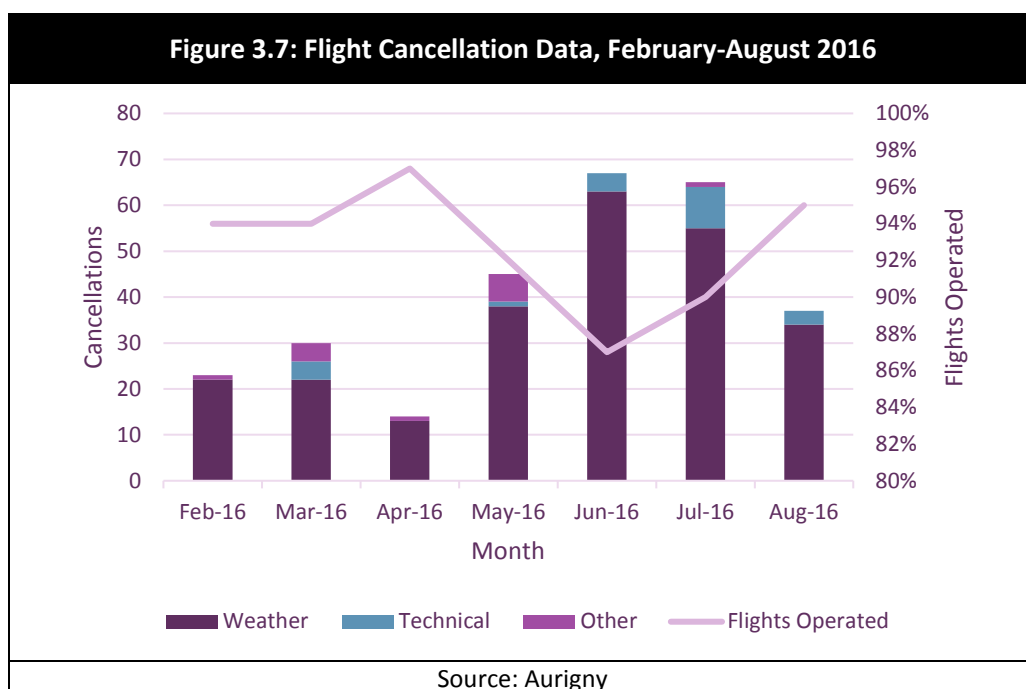




- 3.35 Although consultees indicated that the greatest load factor constraints are perceived to occur at the peak of the summer, the Airport data indicates a greater spread of occasions when there are high load factors, with particular peaks in 2016 around March, May, June and July. To some degree, this may be the result of flight cancellations in these periods and the re-booking of passengers onto following services. We understand that July and August 2016 were particularly bad for lack of seat availability due in large part to poor weather and, indeed, some days in these months are at the higher end of the load factor data. Such events inevitably impact on seat availability, particularly for bookings in the last few days prior to flying as may be expected to impact more on business related trips and last minute decisions by local residents.
- 3.36 It must also be remembered, however, that for large parts of the year, load factors are quite low, often below levels that would be considered sustainable by airlines on a commercial basis. There are a number of flights which operate with no passengers at all. In the first 8 months of 2016, nearly 400 scheduled flights, or 11% of all passenger services, operated with 4 or less passengers, of which over 100 had no passengers on at all (3% of all flights). 25% of all passengers flights operated at less than 50% load factor over this period and by the year end this figure would be expected to be higher due to the proportion of the current data occurring in the summer peak (32% for full year 2015). This is an important consideration when determining the suitability of operating larger aircraft on a commercial or subsidised basis. Aurigny told us that it experienced particular problems due to passenger flows often being in one direction only, on or off the island, leading to difficulties in matching aircraft capacity to demand in a cost effective manner.

### ***Reliability***

- 3.37 Consultees also highlight a perception of increased levels of cancellations over the last two years, but particularly into 2016. Aurigny have provided us with some data which shows that the changeover to Dornier 228 aircraft has brought operational difficulties, which have led to some flight cancellations and also required some continued provision of service by the older, typically less reliable, Trislanders. The lack of interchangeability of the fleets has made crewing difficult as not all pilots are as yet licenced to operate both types.
- 3.38 As can be seen in **Figure 3.7**, in each month from February to August, Aurigny has operated between 87-95% of planned flights. Out of the 281 cancelled flights over that period, 88% were cancelled due to weather conditions, with technical cancellations accounting for 7% and 'other' for 5%, although we do not have clarity of what this constitutes and it may include crew issues.

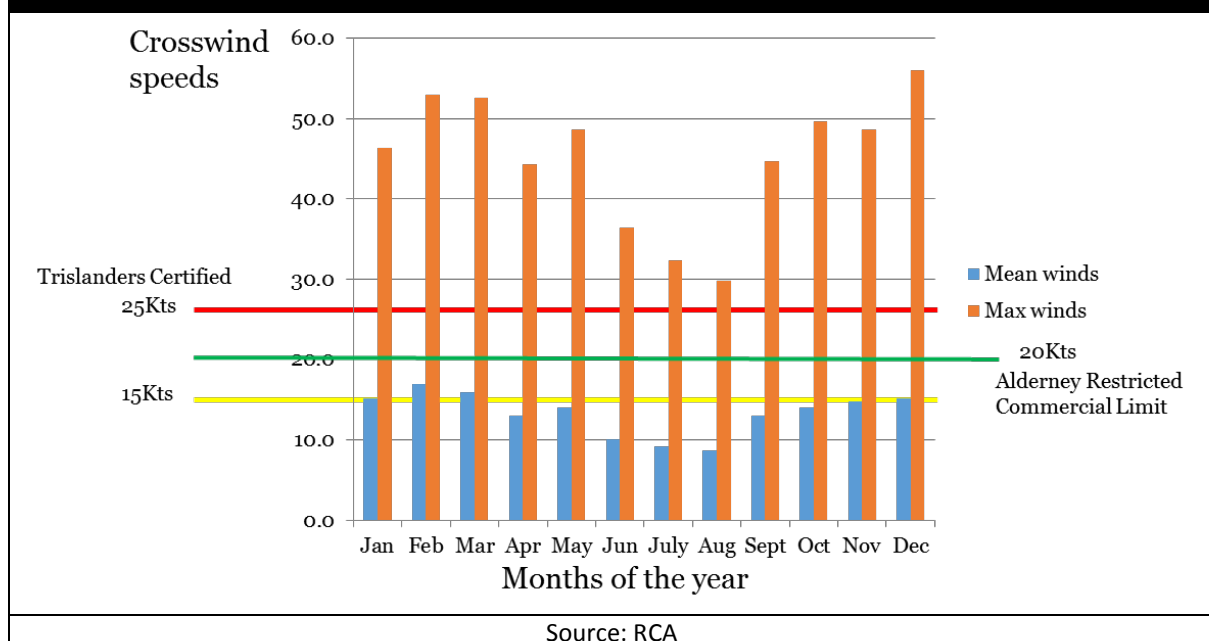


- 3.39 The period from May through to July saw a significant dip in flights operated, as highlighted by consultees. However, it has been widely recognised that this period suffered unusually high levels of fog this year which disrupted the services and, indeed, in the worst month for flight cancellations, June, 94% of all cancelled flights were the result of weather. It was generally perceived that reliability had improved again from late July into August. There are two primary drivers of weather cancellations, low visibility (fog or low cloud) and crosswinds.
- 3.40 The first of these appears to have been responsible for a significant number of cancellations this year, particularly during the peak summer periods, leading to some of the difficulties in terms of flight availability as passengers were rebooked onto following services, or unable to be accommodated. Alderney Airport does not have any form of Instrument Landing System (ILS), however, and one is not proposed as part of any of the options, so cancellations related to fog will continue to apply for any aircraft type regardless of runway length, albeit the scope to accommodate displaced passengers may have been eased by more seat capacity being available with larger aircraft types, which we consider below.



- 3.41 The second of the weather conditions, crosswinds, is more dependent on the aircraft types being operated and gives rise to additional impacts at present because the narrow runway width of 18 metres has led to both the Trislander and Dornier 228 being required to operate 20% and 33% below their normal operational limits respectively. Had the runway width been increased, as planned under all options, at least some of the weather related cancellations would not have arisen. In future, a more extensive use of the Dorniers, combined with the increased runway width, would lead to fewer cancellations during crosswinds than has historically been the case. Nonetheless, it would still be the case that the introduction of larger aircraft, such as the ATR-42, could reduce the number of cancellations further as they have higher limits on operations (maximum of 35 knots of crosswind, compared to 30 knots on the Dornier 228).
- 3.42 We do not have sufficient data to establish the number of cancellations which would have been avoided had the current fleet been able to operate at their full capability or indeed if larger aircraft had been able to operate. However, as Regional and City Airports (RCA) indicated in their work for the States of Alderney, and presented below in **Figure 3.8**, the mean wind speeds for each month over the time period 1992-2011 have been at or below 15 knots (except February which is marginally above), so well within the capability of the Dorniers assuming the runway is widened as planned. Based on the maximum crosswind speeds, the ATR-42 would only have provided a crosswind capability advantage in one month compared to the Dornier 228 and there would have been a risk of cancellations at maximum crosswinds with either aircraft type.

**Figure 3.8: Crosswind History on Runway 08-26, 1992-2011**







- 3.43 Whilst most recent cancellations have been weather related, there remain non-weather related cancellations, which in combination accounted for between 0.2% and 1.5% of all planned flights throughout the early part of 2016. We have outlined some of the operational difficulties encountered by the airline earlier in this section, but understand that, as the Trislanders are finally replaced by the next new Dornier, the levels of cancellations associated with technical or crew issues should diminish. It must be recognised that aircraft technical or crew issues would continue to be a problem for larger aircraft and do afflict all airlines. Such problems are exacerbated when older aircraft are operated, so there is some tension between seeking to minimise the cost of aircraft acquisition and the risk of fleet reliability.
- 3.44 Historically, Aurigny's response to cancellations, beyond simply rebooking passengers onto planned flights with available seats, has been to add on additional services. As described earlier, this was a result of the historically large fleet of Trislanders, giving it greater flexibility. For commercial reasons, the decision has been taken not to add additional flights to the same degree, partly as the number of available aircraft has reduced. There would still remain some scope with the number of available aircraft to add some additional services if required, although it is likely the carrier would wish to be compensated for this, due to the increased operational costs of putting these services on as per the terms of its Memorandum of Understanding, outlined below.
- 3.45 There would, therefore, be some advantages for Aurigny (or other carriers) if larger aircraft could be used on occasion because it would allow some flexibility to use other aircraft in the fleet to recover from disruptions. However, as the carrier has indicated an intention to move away from the ATR-42 anyway, this would necessarily imply the use of the ATR-72, which for reasons we explain later, may not be feasible.

#### ***Memorandum of Understanding***

- 3.46 Earlier this year, a Memorandum of Understanding (MOU) was put in place between Aurigny, the States of Alderney and the States of Guernsey regarding the levels of service to be delivered by the airline on routes to/from Alderney. The MOU acknowledges that, although the services from Alderney to Guernsey and Southampton are currently loss making, the provision of the services is fundamental to the long term economic and social sustainability of Alderney. The MOU is intended to deal with the service levels, frequencies and air fares and to strike the right balance between the needs of Alderney and the level of losses being incurred by Aurigny in operating the services. Medevac services and postal services are covered by separate contractual arrangements.



- 3.47 The terms of this MOU need to be seen within the context of an overarching Memorandum of Understanding between Aurigny and the Treasury and Resources Department of the States of Guernsey (as shareholder), which sets out a commercial and financial objective for the airline to achieve break even on its operation but, significantly, excludes the lifeline services to/from Alderney from this requirement. We note that, currently, Aurigny is still recording sizeable losses across the whole operation which cannot be entirely explained by the losses on the Alderney services.
- 3.48 The key provisions of the MOU are:
- the assumption that the services will be operated by Trislander or Dornier 228 aircraft with seating capacity up to 18 seats, with the transition to an all Dornier fleet during 2016;
  - specified daily frequencies of service, which vary by day of the week and month of the year, including a provision for an additional number of rotations to be operated in most of the months over and above the core schedule to meet variable demand;
  - on both routes, specified frequencies are higher at weekends and in summer, particularly in August;
  - it is assumed that the specified frequencies can be operated with between 1.25 and 2 aircraft, including the postal services, but that a 3<sup>rd</sup> aircraft will be available on standby to cover maintenance and to recover from weather related and other disruptions;
  - fare bands are specified (discussed further below).
- 3.49 The MOU recognises that there may be operational circumstances, e.g. weather, that are beyond Aurigny's control and which may result in the number of services actually operated being below those set out in the MOU. There are also provisions allowing Aurigny and/or the Treasury and Resources Department of the States of Guernsey to amend the service levels in the event of competitive entry of another airline onto either of the routes or onto competing ferry services, changes affecting the opening hours of any of the airports or their capability to handle the services or changes to the number of bedspaces or visitor facilities on Alderney.
- 3.50 There are also obligations on the States of Alderney to market the services, particularly to improve load factors in off-peak periods and to address the problems of one-directional flows during peak periods (more inbound visitors in particular weeks of the year and different directions of flow on different days of the week), all of which contribute to the operational inefficiencies which ultimately contribute to Aurigny's operating losses on the routes as we discuss further below.
- 3.51 It should be noted that the MOU is, in essence, a 'reasonable endeavours' agreement and lacks the contractually binding terms and penalties for non-performance which would be in place with a Public Service Obligation. This is one reason why the imposition of a PSO would be beneficial to Alderney as it would provide greater incentives to delivery, albeit it might come at the expense of higher subsidy levels required compared to today's losses.



- 3.52 We understand that it is intended that the MOU will be revised in the coming months to re-specify the requirements for 2017.

### ***Fare Levels***

- 3.53 The MOU specifies the proportion of seats which can be sold by fare band and we understand from Aurigny that achieved fares are consistent with this banding as shown in **Table 3.7**.

<b>Table 3.7: Fare Bands specified in the MOU</b>				
<b>Alderney – Guernsey</b>				
Fare Band	£10-31	£32-41	£42-53	£54-66
Percentage of Passengers	7%	34%	21%	37%
<b>Alderney – Southampton</b>				
Fare Band	£10-42	£43-78	£79-116	£117-£145
Percentage of Passengers	6%	17%	38%	39%
Source: MOU				

- 3.54 We requested data on actual air fares achieved from Aurigny but this has not been provided. One way of assessing the average air fare achieved would be to assume that the airline achieves the mid-point of the range in each band as set out in the MOU. On this base, the average fare yield achieved should be £46 each way on the Alderney to Guernsey route and £52 each way on Alderney to Southampton route. However, we note that the fares on sale this winter for the Alderney to Guernsey route are in the range £46 to £61 and for the Alderney to Southampton route in the range £77 to £140, with the top of the range being a fully flexible ticket in each case. This would suggest that a reasonable proportion of tickets must be sold at lower than the published adult fare to comply with the requirements of the MOU, however this is not obvious from the website, possibly because these lower fares are not fully available for public sale.
- 3.55 There is a perception on the island that fares are higher than paid elsewhere for comparative routes. One of the arguments for larger aircraft is that they could deliver lower fares comparable with the prices offered by Flybe on some of its routes in the UK. It must be recognised, though, that lower fares on larger aircraft will only be achieved with more passengers, as the aircraft themselves are more expensive to buy and operate. This is often accompanied by a reduction in frequency to ensure that high load factors are attained to enable the low fares to be offered.



- 3.56 The use of larger aircraft does, in large part, explain why Flybe is able to offer some very cheap fares on higher volume routes with 78-seat aircraft (i.e. larger than could operate off an extended runway on Alderney). With the exception of new routes where fares are often lower to encourage initial bookings, 'Lead-In-Fares', i.e. the lowest price usually available on a route, may be of the order of £25-30 one-way on Flybe routes, but fares at these low levels often apply only to their largest routes, carrying 250-300,000 passengers a year. Furthermore, these fares will only be applicable to limited numbers of passengers and, for UK regional airlines, the lowest fare bands often cover around 10-20% of passengers, so higher than the 6-7% seen in the MOU for Alderney, but not by a significant margin. The relationship of air fares to operating costs is considered further in Section 5.
- 3.57 To consider how Alderney's fares compare to similar routes, we have undertaken some air fare searches for routes to/from and between the Channel Islands and between the Isle of Man and Liverpool (as a comparator to the Southampton route). The results can be seen in **Table 3.8**.

Table 3.8: Air Fare Search Comparison								
Day Return Business Trip Example	Cheapest			Flexible			2015 Passengers	Notes:
Tue 1st Nov 2016 - Day Return	O/w (£)	Ret (£)	Total (£)	O/w (£)	Ret (£)	Total (£)		
Alderney - Southampton	122	122	244	140	140	280	24,000	
Guernsey - Southampton	100	101	201	228	241	469	140,425	
Jersey - Southampton	58	82	140	218	242	460	118,862	
Isle of Man - Liverpool	-	-	-	-	-	-	200,784	easyJet – no day return
	79	59	138	195	185	380		Flybe
Alderney - Guernsey	57	57	114	61	61	122	35,778	
Guernsey - Jersey	63	64	127	70	70	140	126,838	
Weekend Break Example	Cheapest			Flexible			2015 Passengers	Notes:
Fri 2nd - Sun 4th Dec 2016	O/w (£)	Ret (£)	Total (£)	O/w (£)	Ret (£)	Total (£)		
Alderney - Southampton	122	101	223	140	140	280	24,000	
Guernsey - Southampton	77	61	138	218	242	460	140,425	
Jersey - Southampton	43	67	110	217	242	459	118,862	
Isle of Man - Liverpool	49	34	84	105	105	210	200,784	easyJet
	51	31	82	195	185	380		Flybe
Alderney - Guernsey	46	46	92	61	61	122	35,778	
Guernsey - Jersey	59	40	99	66	47	112	126,838	



Week Away Example	Cheapest			Flexible			2015 Passengers	Notes:
Sat 21st - Sat 28th Jan 2017	O/w (£)	Ret (£)	Total (£)	O/w (£)	Ret (£)	Total (£)		
Alderney - Southampton	77	77	154	140	140	280	24,000	
Guernsey - Southampton	18	42	60	218	242	460	140,425	
Jersey - Southampton	18	42	60	218	242	460	118,862	
Isle of Man - Liverpool	24	26	51	62	61	123	200,784	easyJet
	37	27	64	195	185	380		Flybe
Alderney - Guernsey	46	46	92	61	61	122	35,778	
Guernsey - Jersey	40	40	80	46	47	93	126,838	
<i>Search Date: 24th October 2016, showing fares at 1-week, 6-weeks and 3-month booking timeframe.</i>								
Source: Airline booking websites, CAA Statistics								

3.58 The results are a mixed picture, but a few key points are:

- ➔ On the Alderney – Guernsey route, in two of the three examples, non-flexible fares are actually cheaper than on the equivalent Guernsey – Jersey flights, including for travel at short notice (one week away). This is despite the Guernsey – Jersey route having more passengers and larger aircraft at a four daily frequency;
- ➔ For flights to the UK, Alderney is consistently the highest priced fare across all booking periods for non-flexible tickets booked in advance. Booking one week ahead shows fares around 21% higher than from Guernsey and around 75% higher than from both Jersey and the Isle of Man on comparative routes. Given the passenger volumes on these routes, it seems likely that passengers do benefit from the combination of higher volume demand and larger aircraft delivering lower operating costs;
- ➔ In contrast, fully flexible tickets from Alderney to Southampton (the maximum price sold) are significantly cheaper than the same routes from Jersey and Guernsey. In so far as some passengers find only fully flexible tickets available at last minute from Alderney, this works in their favour, although the likelihood of passengers only being able to book fully flexible tickets from the larger islands is minimised by the total available capacity on those routes.

3.59 However, to some extent, the higher fares need to be seen in the context of the heavy losses being sustained by Aurigny on the routes and the airline is simply seeking to minimise the losses which it makes. Other airlines would seek to do the same.

3.60 Although we have not seen detailed fare data from Aurigny, which would have allowed us to look in more detail at seasonality and availability of fares, we understand anecdotally that fares over the summer are often pushed higher for residents because tourists tend to have a longer booking period ahead of flights, so taking up the cheaper fares early. In line with typical airline yield management systems, fares closer to the day of travel would be expected to be at the higher end of the available fares when residents come to book within a shorter time horizon.



- 3.61 On this basis, Aurigny's approach to fare management is in line with almost all airlines, except the low fares carriers such as Ryanair and easyJet, who may sometimes lower fares closer to the time of travel if they need to sell more seats to reach load factor targets. For most conventional airlines, and certainly most in the regional airline business, fares will typically increase closer to the time of travel regardless of the number of seats sold.
- 3.62 With no fare data available from Aurigny, we have been unable to establish how any additional flights beyond those originally scheduled are charged for, or made available.

### ***Commercial Viability***

- 3.63 Whereas the losses on the Alderney services were previously reported to the States of Guernsey to be of the order of £900,000 a year in 2014, Aurigny has advised us that, based on internal audit reports, the losses are now closer to the order of £1.5 million a year when all the costs are properly allocated. This will, in part, reflect the operation of the newer Dornier aircraft rather than the older Trislander fleet, which were fully depreciated, and may also reflect the recent service difficulties and inefficiencies.
- 3.64 Whatever the levels of air fare yield achieved, they are clearly insufficient to cover the costs of operating with the current fleet of aircraft. This is partly a reflection of the year round, as distinct from peak period, load factors and a reflection of the uni-directional nature of the flows, particularly in summer and connected with Alderney week, with it being relatively common for some services to operate full in one direction but virtually empty in the opposite direction. This pattern of demand creates challenges for any airline operator. At present, the airline or, rather, the States of Guernsey is effectively providing an average subsidy for each one way passenger carried of around £25, although we recognise that this may reflect to some degree the additional costs incurred during the transition to the Dornier fleet such that they may revert to a more 'normal' level in future.
- 3.65 What the analysis does tell, however, is that services to Alderney are not commercially viable, not least because of the asymmetry of the passenger flows and the extreme peaking in the height of summer period. If the routes to Guernsey and Southampton are not commercially viable, it is unlikely that regular services to other destinations would be so. Introducing larger aircraft well ahead of increased levels of demand would be likely to worsen losses on the routes as we go on to examine in Section 5.



### **Conclusion on the Current Performance of the Air Services**

- 3.66 Overall, whilst there is evidence that there has been some suppression of demand over the last couple of years due to unreliability, cancellations and flights being full, preventing bookings at short notice, we have no evidence to suggest that this has been a long term problem. There appears to have been a general level of satisfaction with the services offered up until around 2010 and no suggestion that the air service offer was a factor in the economic decline of Alderney over the longer term.
- 3.67 The relatively high air fares may well have been a deterrent to some travel by both residents and visitors but, in the absence of time series data for air fares, we are not able to estimate any elasticity effect over time. However, the fare levels have to be seen in the context of the operating losses sustained by Aurigny, which mean that lower fares could only be offered if the additional costs of subsidy could be borne by Alderney or the Bailiwick.
- 3.68 It is important not to concatenate short term operational difficulties with the longer term market trends. The former are almost entirely unrelated to the planned level of service capable of using the existing infrastructure but reflect the problems of flying aging Trislander aircraft and the problems encountered in transitioning to a Dornier fleet. We consider further in Section 6 the appropriate baseline against which to consider whether there is a case for a runway extension.

### **Requirement for Improved Air Services**

- 3.69 It is clear from our discussions with stakeholders, set out in Section 2, that there is a need for an improvement in the quality and reliability of the air services, ideally at lower fare levels. Whilst there are aspirations for additional routes, such as Jersey, to be offered, the principal concerns relate to reliability, relatively high fare levels and shortage of seats at peak times or following periods of disruption. What is less clear is the extent to which these issues are a material factor in key economic drivers, such as resident population or tourist numbers, not least as the latter tend to book in advance and avail of whatever lower fares are on sale in advance when making their plans.
- 3.70 We go onto consider in the Section 5, the extent to which an extended runway, allowing the operation of larger aircraft, would address the shortcomings, perceived and actual, of the current air services.



## 4 RUNWAY OPTIONS AND COSTS

### Runway Options

- 4.1 We have based our understanding of the runway options under consideration on the TPS Report of August 2014<sup>14</sup>, the Terms of Reference and subsequent discussions with TPS.
- 4.2 The Terms of Reference for this study define the three options we are asked to consider as follows:
- **Option 3:** Reconstruct all paved surfaces at the Airport and extend the runway width to 23 metres with enhancements to improve runway lighting and more efficient drainage;
  - **Option 5:** Extension of asphalt runway to 1,100 metres, from its current 877 metres, and extend width to 30 metres to accommodate larger GA and commercial aircraft – with consideration of options for both concrete and asphalt products;
  - **Option 6:** A hybrid scheme which delivers Option 3 with certain additional enhancements to the design that would facilitate a less expensive and less disruptive move to a runway extension at some point when the business need is more apparent.
- 4.3 Our task is to consider the incremental costs and benefits of delivering Option 5 or Option 6 compared to the baseline of completing the Option 3 works.
- 4.4 The TPS study of August 2014 examined a broader range of runway improvement options, including options to surface, lengthen or relocate one or more of the current grass crosswind runways. The options in relation to the grass runways do not form part of our study and we understand that these are no longer under consideration.
- 4.5 As noted above, the runway is currently 877 metres in length and operates as a Code 2B runway. We discuss further, in the next section, the limitations this imposes on the aircraft types which can operate. Option 3 preserves the physical length of the runway but reinstates the width to 23m (currently 18m) so improving cross wind capability, improves its surface, which is currently subject to some deterioration, and improves the drainage and lighting so providing some greater resilience to the effect of weather.
- 4.6 The TPS study of August 2014 does not set out further details of the required reconstruction of the main runway which comprises Option 3 above. It is our understanding that the requirements for this reconstruction follow the recommendations of the earlier Mott MacDonald Report<sup>15</sup>.

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<sup>14</sup> Alderney Airport Runway Options Study, Final Report, August 2014.

<sup>15</sup> Mott MacDonald, Alderney Airport Runway Review Report, May 2012.





- 4.7 In terms of the potential for extending the runway, these were considered in terms of the ability to handle aircraft of 42 seat capacity, with the ATR42<sup>16</sup> taken as the reference aircraft giving a requirement for a runway 1,100 metres long x 30 metres wide (Category 2C) with strength PCN 11. We consider further the types of aircraft which could use such a runway in the next section. Consideration was not given to the requirements for substantially larger aircraft types, such as the ATR72, and accommodating larger aircraft still would have consequential cost implications.
- 4.8 In considering the options for extending the runway, TPS anticipated that space for a full RESA (Runway End Safety Area) would be needed at each end of the runway. Widening of the taxiway to meet 'Code C' criteria would also be needed. TPS considered that the existing apron should be adequate to allow the operation of a single ATR42 aircraft at any one time. Two options for extending the runway were considered, having regard also to the need to ensure that existing Dornier 228 operations would need to be maintained during the construction phase to ensure continuity of service. The two options were to extend the runway by 223 metres to the east or to the west:
- *West extension* - extension of the runway westwards would require some earthworks to re-profile the 08 end of the existing runway and the land forming the extended runway strip and RESA, taking into account the need to re-route the road and protect the La Hougue de la Taillie tumulus. New runway lights would be required for the extended runway at the 08 end, which would be difficult given the need to extend across the Vallee des Trois Vaux. There is also potential for some significant operational issues related to the potential for turbulence from westerly or south-west winds on take-off, which were identified by Aurigny.
  - *East extension* - extension of the runway to the east would involve more extensive earthworks to re-profile the ground west of the intersection with Runway 03/21. This would include raising the ground levels at the head of the Vau du Sud to form the extended runway strip. A new approach light system to Runway 26 would be necessary requiring relocation of the existing Non Directional Beacon (NDB). Associated works would involve re-routing existing roads around the runway extension and RESA and new runway drainage as with the westward extension.
- Because of the operational and maintenance issues associated with an extension to the west, it was recommended that the preferred option would be to extend the runway by 223m to the east.
- 4.9 To achieve the required pavement strength (indicated above in accordance with the ICAO ACN/PCN Aircraft/Pavement Classification Number system for ATR-42 aircraft), pavement works are based on:
- 100mm bituminous overlay of existing runway pavement, or

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<sup>16</sup> Which carries 48 seats.



- 275mm bituminous materials on 225mm granular sub-base for new construction including widening.

It was noted, however, that the detailed requirements would be subject to verification through the design process. Nonetheless, the feasibility study did indicate that it would be technically feasible to extend and widen Runway 08/26 for operations by 42-seater aircraft types. It would also be necessary to widen and realign the taxiway from Runway 08/26 to the apron to meet Code C regulatory criteria, including addressing the gradient of the existing taxiway through realignment.

- 4.10 In their 2014 report, TPS addressed the question of the options for extending the runway as a single phase exercise, i.e. Option 5. They have recently considered how a phased development could best be achieved (Option 6), including some works to safeguard the ability to construct the extension at a later date whilst minimising disruption to operations. Their current view on the works required under each option are set out in **Appendix C**.

### Costs

- 4.11 Details of the costs relating to each of the runway options were provided by TPS and are set out in further detail in Appendix C. The costs have been built up by estimating the cost of the equivalent works if undertaken on the UK mainland then adjusting the relevant elements of the costs by an 'island factor' to reflect the additional costs involved by the need to import materials and labour to Alderney. An 'island factor' adjustment is required because material, labour and staff costs for this type of specialist work will all be higher than in UK:

- Material costs are higher because of the cost of their transshipment to Alderney, plus the associated charges from double or even triple handling of the product;
- Labour costs are higher because the skilled labour needed for this type of work will be supplied from the UK on a rotational shift system, with associated travel costs and local accommodation costs to be met for this type of working;
- Staff costs are higher because staff will be supplied from either the UK or Guernsey and will be subject to similar travel and local accommodation costs as are the labourers.

These higher costs will be incurred by the successful contractor throughout the contract period.

- 4.12 The basis for this 'island factor' is more fully explained in Appendix C. These additional costs relate to the construction activity and are not applied to professional fees, site surveys and land lease/purchase. In summary, the current 'feasibility' costs estimates, with a range of estimates for the 'island factor' for each option are as set out in **Table 4.1**.



Table 4.1: Runway Option Costs <sup>17</sup>		
	Island Factor Range	
	2.00	2.75
Option 3	£7,220,000	£9,760,000
Option 5	£19,590,000	£26,510,000
Incremental Cost	<b>£12,370,000</b>	<b>£16,750,000</b>
Option 6	£24,175,000	£32,705,000
Incremental Cost	<b>£16,955,000</b>	<b>£22,945,000</b>
Source: TPS		

- 4.13 It has been suggested to us by consultees that the incremental cost between Options 3 and 5 should be less because the costs of mobilisation (getting people to the island) will be incurred for Option 3 and so the incremental costs of Option 5 should be lower (clearly, mobilisation will be incurred twice for Option 6). TPS has advised us that mobilisation is only a relatively small part (only around 6-7% of the base cost of Option 3) of the costs and the majority of the work will be subject to the effects of the 'island factor' relating to the cost of getting all materials to the island and of providing specialist labour on Alderney for the life of the project, both of which are distinct from the mobilisation costs. This mobilisation cost largely comprises the cost of transporting and erecting the specialist asphalt batching plant and its associated equipment at the outset of the project. This is not double counted into the incremental cost of Option 5 as TPS advise that the same mobilisation costs are assumed to be incurred as part of Option 3 as for Option 5. To the extent that there might be some economies of scale as a consequence of the greater extent of works under Option 5, these would be marginal relative to the range of the 'island factor' uplifts assumed of between 2 and 2.75 applied to the incremental costs. However, this uncertainty is one reason why we take the range of incremental costs forward to the appraisal rather than a single point estimate.
- 4.14 It should be noted that these costs relate only to the defined airfield works. In addition, there will be other consequential costs at the Airport associated with handling larger aircraft, as discussed further later in this section.
- 4.15 It is highly likely that seeking to handle a wider range of aircraft types, such as the ATR72, would require additional strengthening of the runway to c.PCN14. This would increase the costs and also require additional cost to expand the apron area. We have not allowed for these additional costs within our appraisal at this stage.

<sup>17</sup> All costs are stated at Q4 2015 prices.



- 4.16 We are aware that alternative costs have been suggested by some parties. In particular, Regional & City Airports Ltd (RCA) has suggested that costs could be lower than suggested in the TPS Feasibility Study. We attended a presentation given by RCA on 24<sup>th</sup> August 2016, at which they presented their preliminary cost estimates. Their costs are not strictly comparable as they include for hardening of the crosswind grass runways, which does not form part of any of the options that we have been asked to consider. For the airfield works, the relevant comparators, stripping out these costs, are as follows:

<b>Table 4.2: RCA Comparative Cost Estimates</b>				
<b>£m<sup>18</sup></b>	<b>Airfield Works (Option 3)</b>		<b>Runway Extension Incremental Costs (Option 5)</b>	
	<b>RCA</b>	<b>TPS</b>	<b>RCA</b>	<b>TPS</b>
Base UK Price	£2.541	£3.377	£6.662	£5.844
Contingency	£0.295		£1.199	
Fees and Land Costs		£0.470		£0.680
Alderney Island Factor	£0.661	£3.373 – £5.913	£1.332	£5.846 – £10.226
<b>Total</b>	<b>£3.497</b>	<b>£7.220 - £9.760</b>	<b>£9.194</b>	<b>£12.370 – £16.750</b>
Source: RCA/TPS				

- 4.17 The figures may still not be strictly comparable as RCA did not include the land acquisition costs (estimated at £200,000 for the runway extension) and also assumed that the costs for the batching plant could be excluded as this would also be used for other purposes on Alderney (e.g. road repairs), which TPS advise is not a realistic assumption. It is also not entirely clear whether these costs also included for all the necessary fees. On the other hand, RCA did make a specific allowance for contingency, which is not directly included within the TPS costs, other than encompassed within the 'island factor' range. Nonetheless, on a comparative cost at UK prices basis, the cost estimates are relatively similar, with RCA having slightly lower costs for the base case airfield works but slightly higher costs for the runway extension. In practice, the differences at this level may simply reflect how costs have been apportioned between the two parts of the project as RCA presented its cost for a single all-inclusive option only.

<sup>18</sup> Figures may not sum due to rounding.



- 4.18 The principal difference lies in the assumed ‘island factor’ which RCA assumed be in the range 0.2-0.3 for the civil engineering works compared to TPS’s advice of 2-2.75 should be allowed. Whilst we recognise that RCA had benchmarked its estimate of the ‘island factor’ on discussions with a contractor who carried out works to refurbish the runway at the Isles of Scilly Airport recently, it did indicate that further work would be required to verify its costs, including the ‘island factor’, the specific ground conditions and the source of fill material, which we understand may have been underestimated. The magnitude of the difference to those ‘island factor’ estimates used by TPS based on actual Guernsey/Alderney experience leads us to the view that it would be high risk to assume that the cost impact of working on Alderney could be contained to the level suggested by RCA, although we have illustrated the effect of assuming lower costs as a low cost sensitivity test as summarised below and carried forward into the appraisal in Section 6.
- 4.19 In addition, we are aware that some parties on Alderney have suggested that material savings could be made by constructing the runway extension in concrete based on the costs of converting the runway at Sywell in the UK from grass to concrete. For the reasons explained by TPS in Appendix C, this may be a feasible option for a completely new hard surfaced runway but would give rise to issues of construction feasibility and regulatory risk given that the Alderney runway has an existing asphalt surface. It is not entirely clear whether the runway at Sywell was constructed to the standards required by the regulator for commercial passenger operations. For the purpose of our appraisal, we have discounted this option, not least as we have not been provided with any evidence of what might be proposed and included within the costs.
- 4.20 A further consideration in this appraisal is the treatment of ‘optimism bias’. UK Treasury Guidance on appraisal notes the tendency for project appraisers to be optimistic in terms of the outturn cost of projects at the business case appraisal stage. For specialist engineering works, such as runway refurbishment and extension, the recommended adjustment for optimism bias is in the range 6-66% of the initial cost estimates<sup>19</sup>. Given the range of the projected ‘island factor’ on construction costs, we consider it inappropriate to add a further adjustment for ‘optimism bias’ but the recommended range of such an adjustment is broadly consistent with the difference between the upper and lower end of the range of recommended ‘island factors’.

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[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/191507/Optimism\\_bias.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/191507/Optimism_bias.pdf), Table 1.



### **Other Consequential Costs**

- 4.21 Handling larger aircraft at Alderney Airport would not only require a longer runway but there would be other consequential costs without which larger aircraft could not be operated even if the extended runway was provided. TPS have not been asked to address these costs but some estimates were given by RCA. In this case, the potential 'island factors' are less of a concern as the incremental costs relate to equipment, extension of the terminal and operating costs where there would not be the same requirement for high cost materials and specialist construction labour to be brought in specifically to undertake the works. However, adoption of RCA's cost estimates may be on the conservative side and outturn costs could be higher for these items.

### **Security**

- 4.22 The principal issue relates to the need for enhanced security procedures to be in place to allow the handling of aircraft with more than 19 seats/10 tonnes MTOW. It has been confirmed with the Office of the Director of Civil Aviation that there would be a requirement to comply in full with these requirements if aircraft larger than the current Dorniers were to operate. This would include full security screening procedures, including screening of hold baggage.
- 4.23 RCA have estimated this would require an upfront investment of c.£1 million, principally to comply with the hold baggage rules. There would be additional operating costs of this equipment which, if passed on to passengers would simply increase air fares. For the purpose of our appraisal of the extended runway options, we have assumed a potential operating cost increase of £50,000 a year, if larger aircraft are operated, reflecting the security cost uplift assumed by RCA at higher traffic levels, as well as the additional capital costs to provide the necessary screening equipment and designated area perimeter security.

### **Terminal**

- 4.24 It is also evident that the existing terminal infrastructure would not be able to handle larger passenger loads, and comply with security requirements, principally in terms of the lack of adequate holding area 'airside' of security screening as well as the space to provide hold baggage screening. RCA have estimated that the costs of increasing the capacity of the terminal to handle larger aircraft to be of the order of £1.3 million. We have included this in our appraisal of the extended runway option as it would undermine the economic case for the runway extension if the extension was constructed to allow larger aircraft to operate but their operation was precluded due to security or terminal operation reasons. There would also be some incremental operating costs for a larger terminal but we have made no specific allowance for these as a newer building might also have some lower maintenance costs for example.



- 4.25 In summary, we will add £2.3 million to the incremental capital costs estimates provided for the runway extension works to allow for the costs associated with security and passenger handling of larger aircraft as well as an ongoing £50,000 a year in operating costs, including maintenance of the additional pavement in the short term<sup>20</sup>.

### Summary

- 4.26 On the basis that the works to the terminal and improved security are a necessary requirement to ensure that the benefits of an extended runway can be realised through allowing larger aircraft, the incremental costs associated with the runway extension and the ability to handle larger aircraft are in the range for Option 5:

- Low: £9.194 million + £2.3 million = £11.494 million according to RCA;
- Medium: £12.37 million + £2.3 million = £14.67 million at the low end of the TPS estimates;
- High: £16.75 million + £2.3 million = £19.05 million at the high end of the TPS estimates;

- 4.27 We note that the advice from TPS is that the Low end of the range is not realistic but it is included as a sensitivity test to illustrate the extent to which, if lower construction costs could be achieved, the project might attain a viability threshold.

- 4.28 If the lengthening of the runway was not carried out concurrently with the Option 3 refurbishment work, then the incremental costs would be even higher due to the requirement to integrate the works into the existing runway and due to remobilisation of the work. We do not have an estimate from RCA on this basis but assuming it would be in the same proportion as for Option 5, we have a range of costs for Option 6 of:

- Low: £12.602 million + £2.3 million = £14.902 million based on RCA costings;
- Medium: £16.955 million + £2.3 million = £19.025 million at the low end of the TPS estimates;
- High: £22.945 million + £2.3 million = £24.245 million at the high end of the TPS estimates;

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<sup>20</sup> The initial impact on maintenance costs of having a longer runway will be negligible. In the longer term, the greater length of pavement would add to the costs when the next runway refurbishment is due. This may reasonably be expected to be beyond the current appraisal period.



- 4.29 It should be noted that our initial understanding was that the initial Option 3 costs would be higher in the circumstances where preparatory work would be undertaken to prepare the ground for Option 6 to be carried out at a later date but we are now advised by TPS that the costs associated with Option 3 refurbishment would not need to vary whether the runway extension was constructed as part of the same project or at a later date. This has implications for the appraisal as we no longer need to consider additional cost in the short term to facilitate the later extension of the runway. Option 6 can, hence, be appraised as a free standing project which would be undertaken at some future (unknown) date.
- 4.30 The costs outlined above have been taken forward to appraisal in Section 6





## 5 AIR SERVICE OPTIONS

### Aircraft Capability

- 5.1 The runway redevelopment schemes focus on two runway lengths, either the existing 877m, or an extension to 1,100m. Retention of the current runway length would see the Airport continue to be restricted to maximum 19-seat aircraft types. The proposed extension was designed around the capability of handling the 48-seat ATR-42 aircraft, but would in fact allow a broader range of aircraft to be handled. **Table 5.1** illustrates the aircraft which may viably operate from each runway length and current airline operators in the UK market. Where airlines do not yet operate these aircraft in the UK, this would not necessarily be a barrier as aircraft could be acquired by carriers that were interested in operating to Alderney and/or procured by the States as part of a PSO operation (based on the example of the Scottish Government which acquired two Twin Otter aircraft to guarantee the continued operation of the PSO routes to Campbeltown, Tiree and Barra), which rely on that aircraft type being available.

Table 5.1: Viable Aircraft By Runway Length		
	Aircraft Type	UK Operators
877m Runway Length	Trislander (17 seat)	Aurigny
	Dornier 228 (19 seat)	Aurigny
	Let 410 (19 seat)	CityWing
	Twin Otter (18 seat)	Isle of Scilly Skybus
1,100m Runway Length	Dornier 328 (32 seat)	Loganair
	Dash-8-Q100/Q200 (30-36 seat)	None
	Dash-8-Q300 (50 seat)	None
	ATR-42 (48 seat)	Aurigny, Blue Islands (Flybe), Stobart Air (Flybe/Aer Lingus)
	Saab 340B+WT (36 seat)*	Loganair
Note: *May have some payload restrictions		
Source: York Aviation		



- 5.2 There may be other types which could operate with greater payload restrictions than those shown above, such as the SAAB 2000, and, based on the runway length alone, it could be possible for Aurigny to operate their ATR-72 aircraft from 1,100m runway (there are examples of this aircraft type operating from similar runway lengths in the UK, albeit on an ad-hoc basis and with weight restrictions). Whilst we can see some merit in enabling Aurigny to deploy on its ATR-72 aircraft capability on a tactical basis to provide greater resilience and to cope with short term peaks in demand, this would require the runway to be stronger<sup>21</sup> than proposed under the current design. Hence, the costs would be higher and the benefits probably relatively marginal provided that greater reliability can be attained with the Dornier fleet. The ATR-72 would remain subject to similar weather cancellations as noted earlier in this report, due to the restricted length of runway in any event and would only be deployed on relatively few days in the year.
- 5.3 A further consideration in assessing the need for a longer runway is the availability of suitable aircraft over the longer term that would be compatible with the existing short runway. If the number of aircraft capable of using the existing runway were to decline in future, this would place the services at severe risk and, over and above any commercial or market growth considerations, may make the provision of a runway extension essential.
- 5.4 However, it must be recognised that neither the existing nor the extended runway length would be immune to the potential recurrence a runway length issue at some point in the future if smaller aircraft types were to fall out of production. Whilst it is easy to identify this as a potential concern, it is difficult to be precise about the point in time at which such a circumstance could arise. This is because it will depend on what age of aircraft an individual airline is willing to operate. In the case of Aurigny, it has shown a willingness to operate aircraft as old as 41 years - the Trislanders, but this is not typical and, indeed, was probably less than ideal for the carrier given maintenance and reliability issues which have arisen in operating such elderly aircraft. The first two (second hand) Dorniers that were acquired are around 30 years old, and have demonstrated some reliability problems (to be overcome with the arrival of the new aircraft). More typically, regional aircraft have a lifespan of 20-30 years which suggests that from the end of production, there will be availability of suitable aircraft for up to 30 years.

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<sup>21</sup> with a higher Pavement Classification Number (PCN) than currently used as a design parameter.



- 5.5 Of the aircraft listed in Table 5.1, only 5 types are still in production, including three 19-seat types (Dornier 228, Twin Otter and Let 410), the Dornier 328 (recently restarted production under new ownership after a hiatus of 16 years) and the ATR-42. For other aircraft types, including the Saab340 and the Dash-8, the 20-30 year period of operating life is now rolling as production has stopped<sup>22</sup>. Despite concerns raised during the consultations over longer term availability of smaller aircraft, more of the smaller 19 seat types remain in production than the 32-34 and 48 seaters, suggesting that, at this time, the lack of aircraft capable of using the short runway is not likely to be a valid concern for at least 30 years and possible longer. It also important to note that the niche nature of the 19-seat market extends well beyond Alderney and the requirement for these aircraft may remain strong globally over the longer term in order to maintain service to remote locations or smaller islands, such as Alderney, where larger aircraft are less likely to be viable and/or operating or infrastructure constraints limit the aircraft types which can be used. It is not inconceivable, therefore, that following the recent investment by Viking and RUAG in updating the Twin Otter and Dornier respectively, this would be replicated in the future to keep production going into the long term to ensure that aircraft are available to satisfy these niche markets. It is equally possible that enhancements will be made to the ATR-42 to keep these in production. Hence, we do not believe that availability of aircraft of either size is likely to be a problem for the next 20-30 years. The issue is more of commercial viability and the attractiveness of the Alderney market.
- 5.6 As highlighted in Table 5.1, the number of operators with suitable aircraft types to operate from either runway length currently within their fleets is relatively small. Hence, the medium to long term risk may be more in terms of the willingness of airlines to serve the market than in terms of aircraft availability. These airlines will be reluctant to introduce new aircraft types into their fleets specifically for the Alderney market because crew training and maintenance costs are high for any new type in a fleet (as can be seen with Aurigny's experience in transitioning to the Dorniers). Furthermore, airlines will be less likely to want to operate and maintain fleets of substantially mixed aircraft types because of costs and lack of operational flexibility which arise as a consequence. With or without a runway extension, there will remain a small pool of airlines able to serve Alderney.

### **Aircraft Operating Costs**

- 5.7 We are aware that one of the cited advantages of lengthening the runway is to allow larger aircraft to be operated and that such larger aircraft would have lower seat mile operating costs, which conventionally would be passed through to lower air fares so contributing to an increase in demand. We consider the price elasticity of demand later in this section.

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<sup>22</sup> Dash-8-Q200/Q300 production ceased in 2009, and the last Saab340 was produced in 1999, meaning the youngest aircraft are approaching 20 years old.



- 5.8 Larger aircraft do, nonetheless, have higher overall operating costs than the current smaller aircraft operated on the routes. Hence, improvements in seat mile costs will only translate into improved passenger mile costs if the passenger volumes increase to fill more of the seats.
- 5.9 Implicit in our analysis here is the assumption that airlines will seek to operate no greater frequency of service than necessary to serve demand at a reasonable average load factor (taken as c.80% for services operated commercially). The same applies to the size of aircraft used, i.e. there is a balance to be struck between aircraft size and frequency of service to match the number of seats offered as closely as possible to demand. The maintenance of a higher frequency or operation of a larger aircraft on the routes than an airline would otherwise operate commercially is considered below in relation to subsidy/PSO issues.
- 5.10 We have estimated the direct operating cost per passenger<sup>23</sup> for each of the Alderney to Guernsey and Southampton routes for a range of relevant aircraft types at varying annual passenger volumes on the route, taking into account the relevant sector length and different potential daily frequencies of service where suitable to better match overall aircraft capacity to demand. The results for the Guernsey route are shown in **Figure 5.1** and for the Southampton route in **Figure 5.2**. This gives the order of magnitude difference in cost per passenger carried for different types of aircraft operating at up to an industry average load factor of 80%. It is important to recognise that these costs do not include the costs of any 'stand by' non-operational aircraft and crews or the necessary contribution to airline overheads. It is these factors in combination which contribute to Aurigny's current losses on the routes. The analysis, nonetheless, provides an indication of the scope for lower operating costs per seat of larger aircraft to be passed through by way of lower air fares.
- 5.11 In the case of the Guernsey route, for the purpose of illustrating the relative operating costs, we have assumed an average of 5 flights a day if the service is operated as currently with Trislander or Dornier aircraft utilising a single aircraft sufficient overall to carry current passenger volumes at a reasonable average load factor. For the future, the costs of the Dornier represent the relevant baseline<sup>24</sup>. For the other aircraft types, including the 32-34 seat DO328/Saab340B aircraft, we have assumed that the frequency would be reduced to 3 flights a day on average as airlines would seek to avoid operating with very low average load factors.

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<sup>23</sup> Manufacturer data, Flightglobal and confidential information.

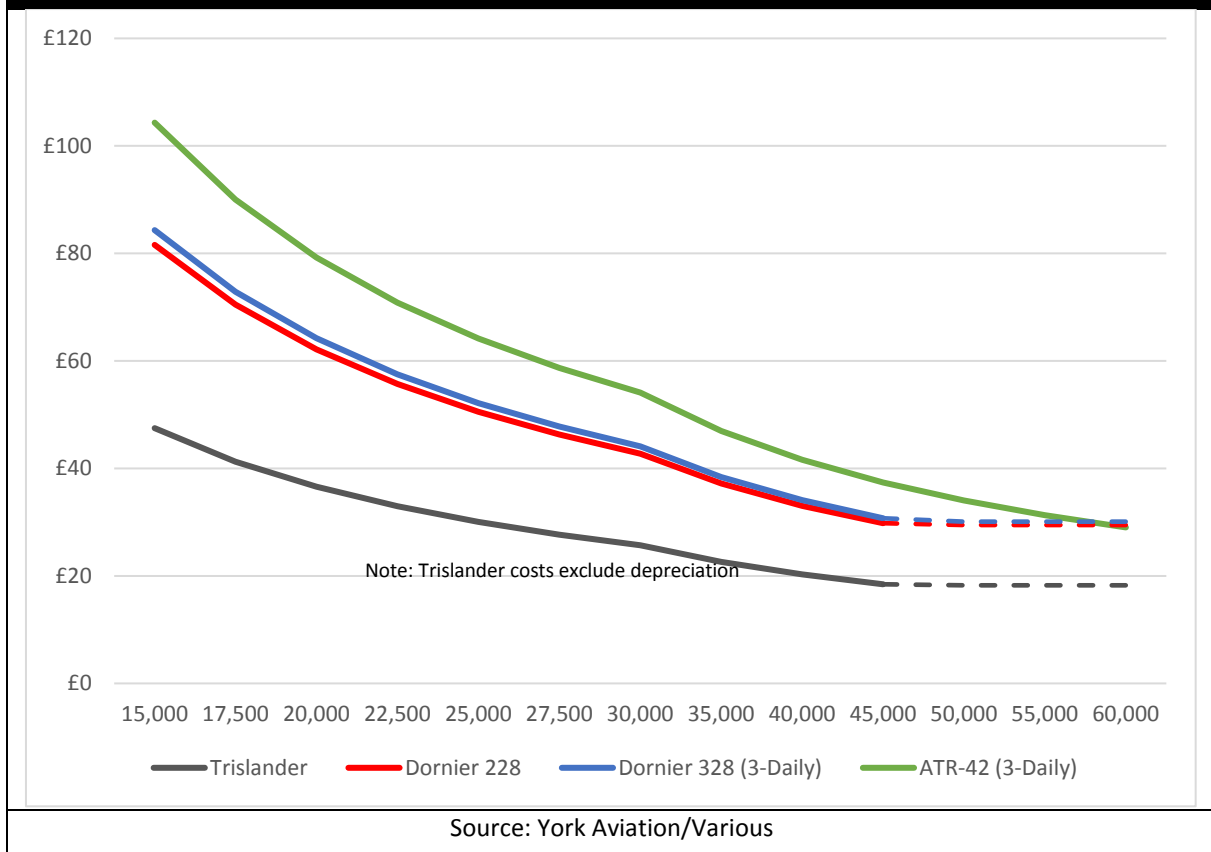
<sup>24</sup> We also considered costs for a Twin Otter aircraft which would be similar to the DO228 and for the Saab340B which would be similar to the DO328. ATR72 aircraft would have higher costs per passenger than the ATR across the range of annual passenger volumes that we have considered should the runway be further strengthened to allow them to operate.



- 5.12 We recognise that on some days the number of services is less and on others higher which, in the latter case, requires an additional aircraft to be deployed at increased cost, including crews, depreciation and direct operating costs. This would equally apply to the other aircraft types and airlines if higher frequencies of operation were required to meet peaks of demand. For the purpose of examining operating costs, we have assumed a ceiling on average load factor of 80%, indicated by dotted lines on Figure 5.1.
- 5.13 In estimating the operating cost per passenger, we have assumed that the Trislander fleet is already depreciated and that spare parts are also fully depreciated and held by Aurigny based on comments made by the airline. We are aware that some Alderney residents believe the Trislander could be brought back into limited production to re-equip the fleet serving the island in lieu of Dorniers. We doubt this is a realistic option unless there were other markets for such aircraft and, in any event, it seems likely that cost of production and of spare parts would be very high for such a limited run of aircraft. Taking into account the depreciation costs if new Trislanders were to be constructed, the operating costs of a new Trislander fleet would be very similar to those of the Dornier fleet, taking into account the higher cost of fuel for the Trislanders as well. Information about the costs of Trislander operation are, hence, included simply to provide a baseline cost for the current operation against which future costs can be compared. Historically, the effective operating costs will have been higher up until the point when the aircraft were fully depreciated.

### **Guernsey**

- 5.14 Examining the relative costs shown in Figure 5.1, it is evident that passenger numbers would need to increase by around 9,000 passengers a year on the route, around 25%, to deliver the same average cost per passenger for an ATR-42 operating 3 times a day compared to the current 5 times a day service operated entirely with DO228 aircraft. At that point, the DO228 would be operating at an average 80% load factor and additional capacity would be required, increasing average costs per passenger until all flights reached 80% again. The same would apply to a 3 times a day operation by the larger DO328 type. The cost of operation by 32-34 seat aircraft, such as the DO328, are similar at 3 a day to a 5 a day service using DO228 aircraft. Hence, this aircraft would not appear to offer any advantages as it too would require a reduction in frequency to balance operating costs to current levels.
- 5.15 When the concerns expressed about current air fares are taken into account, it should be recognised that to match the costs of the current hybrid Dornier/Trislander operation, passengers would need to increase to around 60,000 a year (a 66% increase) to match the current operating costs. This is material in considering the scope for larger aircraft to enable lower air fares to be offered even at reduced frequencies of service.


**Figure 5.1: Operating Costs per Passenger for Different Aircraft Types on the Guernsey Route**


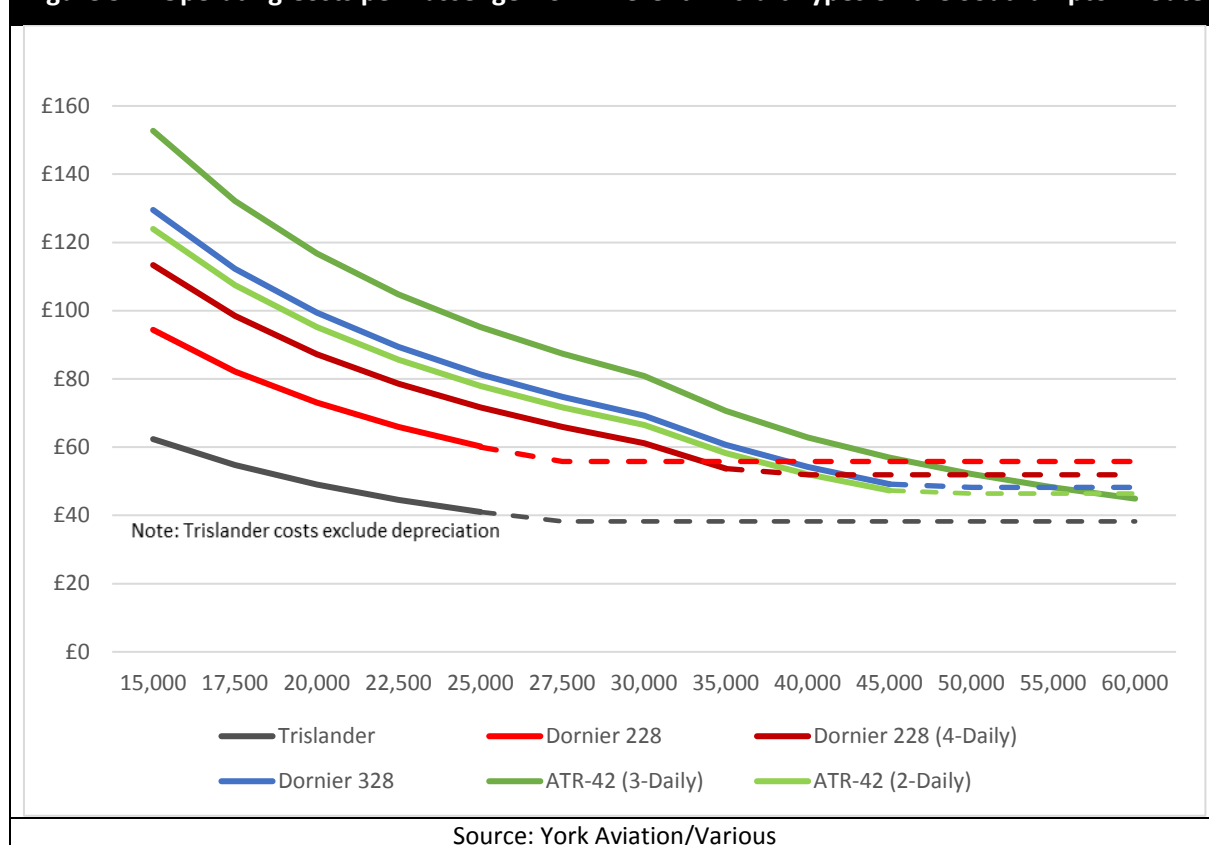
- 5.16 This analysis would suggest that, in order to ensure that air fares do not rise as a consequence of facilitating the operation of larger aircraft on the route, a lower frequency operation (3 per day on average) by a larger ATR-42 type aircraft would only generate benefits in terms of the ability to pass on lower costs into lower fares than would otherwise be offered beyond a threshold of around 45,000 passengers per annum on the route, at which point additional Dornier 228 capacity would be required to carry the demand. In both cases, however, the cost per passenger carried would be higher than current levels (with a risk of higher air fares if the losses on the route are not to be increased) due to excess capacity being provided until the threshold of 60,000 passengers per annum is reached. There would be fewer benefits with DO328 aircraft as the frequency would need to be increased to accommodate any increase in demand above 45,000 passengers, so adding to costs as with the smaller DO228 aircraft. There might be some prospect of small fare reductions beyond the threshold of 60,000 passengers per annum but, in the meantime, there would be a risk of subsidy costs rising to maintain fares at the current levels.



### Southampton

- 5.17 The equivalent operating cost graph for the Southampton route is shown in **Figure 5.2**. A first point to note is that current passenger numbers on the route are close to the threshold where capacity would need to increase to meet demand if the demand profile was smooth over the year. However, this could be met through the introduction of a 4<sup>th</sup> DO228 service on an average basis but there will remain a summer-winter differential which means flights may be operating with very low load factors in winter whilst summer flying is oversubscribed. If there was a consistent year round pattern of demand, the increase in cost would be marginal as it would, in essence, be extra flying by the same aircraft.

**Figure 5.2: Operating Costs per Passenger for Different Aircraft Types on the Southampton Route**



- 5.18 As with the Guernsey route, passengers would need to increase substantially to reach the point where the cost per passenger of using larger aircraft would fall below current levels, requiring of the order of 45,000 passengers a year (87% increase over current volumes) for a 2 per day ATR-42 service and 55,000 passengers per year (130% increase) for a 3 a day ATR-42 service. There would be little fares benefit from a 32-34 seat aircraft on this route as additional frequency would result in a cost profile very similar to a 4 times a day service with a DO228 aircraft.



- 5.19 Taking into account the need to increase to an average of 4 flights a day with a DO228 aircraft if passengers on the route increase above c.27,000 per annum again – the level of demand on the route prior to 2011, a 2 a day ATR-42 service could offer some potential to reduce fares above 37,000 passengers per annum on the route compared to the level required for a 4 per day DO228 service. However, a 3 per day service with an ATR-42 would be required to carry the volume of passengers at 45,000 passengers per annum, resulting in an increase in cost per passenger above current levels until volumes reach 50,000 passengers per annum. Overall, this suggests little scope to reduce fares compared to current levels (based on a hybrid type operation).
- 5.20 Hence, in order to ensure that air fares do not rise as a consequence of facilitating the operation of larger aircraft on the route, a lower frequency operation (2 per day on average) by a larger ATR-42 type aircraft would generate benefits in terms of the ability to lower fares only beyond a threshold of around 37,000 passengers per annum on the route. A higher frequency operation could be warranted above 45,000 passengers per annum but with some remaining risk of higher fares in the short to medium term until a threshold volume of 50,000 passengers per annum is exceeded.

### **Potential Service Pattern**

- 5.21 Simply enabling larger aircraft to operate from the runway will not guarantee that airlines will operate such aircraft. If left to make purely commercial decisions, airlines will always seek to deploy aircraft assets in the most profitable way and right size the capacity that they provide to the market. The small size of the Alderney market will ultimately limit the size of aircraft which an airline will be willing to operate and the potential for either a shortfall in passengers (low load factors) or low yield will make the routes more vulnerable. This will typically mean that airlines will favour larger markets over smaller ones, not only because they will have more passengers on their aircraft, but also because it will give them the greatest chance of maximising revenue per passenger (yield).





- 5.22 Furthermore, in a typical operation, regional airlines may seek to fly a given route at each end of the day in order to offer business connectivity and maximise yields from business passengers. Such flights will normally be priced to cover the fixed cost of the operation. In between, they may offer additional frequencies but only if the marginal revenues that can be earned from extra passengers cover the marginal costs of operation. If this is not the case, it is more efficient for airlines to park aircraft through the day rather than fly below cost. Hence, if larger aircraft were operated on a commercial basis, this is likely to see flight frequencies reduced as passenger volumes are insufficient to justify the marginal cost of middle of the day flying. At current passenger levels, the Southampton route might only sustain a once-daily service by a 48-seat aircraft, whilst the Guernsey route would require two flights a day to handle current passenger volumes. By way of illustration, at current total passenger volumes on these routes, the aircraft would be operating at an average load factor of 58%, which could only be sustained with higher, rather than lower, fares. This also does not take account of the cost of any back-up aircraft capacity to ensure resilience and to cope with particular peaks of demand.
- 5.23 A further consideration, in terms of meeting the aspiration for a service pattern that is adaptable to varying levels of demand, is that regional airlines do not tend to have 'spare' aircraft because of the costs of acquisition and maintenance. Spare aircraft tend to be retained in fleets purely to cover maintenance periods and to serve as backup aircraft if the operational fleet has technical issues. Airlines tend not to keep dedicated crews for these aircraft. This means that, on the whole, regional airlines do not have lots of spare capacity to deploy on routes beyond their core schedules, i.e. they could not easily deploy aircraft at short notice if they see an immediate opportunity due to a sudden surge in demand, such as the extreme peaks of traffic around Alderney week. To the extent that spare capacity exists, this tends to be in the winter periods and does not coincide with the peaks of demand to/from Alderney. In other words, it may be difficult to meet the aspiration of consultees for additional capacity to be put on, for example during Alderney week, on a commercial basis. A small number of operators in Europe do maintain aircraft available for charter, but at inflated rates during peak periods. The only realistic way of securing additional peak capacity would be through by underwriting, through a PSO or otherwise, the retention of an aircraft available at short notice to operate top up flights.
- 5.24 Similarly, as evidenced earlier in this report, even significant stimulation would be unlikely to create commercially viable load factors on larger aircraft for large periods of the year to Alderney. Hence, an airline would almost certainly be unwilling to maintain a fleet of smaller aircraft for winter operations and larger aircraft for summer operations as this would add significantly to the cost and complexity of their business. This approach would require fleets and pilots not to be used at all for long periods of the year, and the costs of this would need to be allowed for in the air fares or otherwise covered through subsidy or PSO support. Again, we will consider this further below.



5.25 Ultimately, we would expect the introduction of larger aircraft to result in lower frequencies of service on the core routes and, because of the cost of having standby aircraft available, potentially not lead to any improvement in service resilience. Whilst there might be a larger pool of airlines with suitable aircraft, there is unlikely to be substantial spare capacity to operate additional flying in the summer peak although there might be opportunities for ad hoc charters around Alderney week and these might be operated from other points along the South Coast of England as in the past but fare levels are likely to reflect a peak period premium. Even so, overall levels of tourist demand and the low numbers of passengers seen on these and the route to Jersey when operated by Blue Islands would suggest that the incremental effect of such services on the market overall would be very small.

5.26 Our analysis would indicate that larger aircraft operations would require significant growth in the market before they could be introduced without the risk of higher fares or substantially increased costs of subsidy (losses for the airline):

→ *Guernsey*

- DO228 operations would provide adequate capacity up to 45,000 passengers per annum at an average of 5 flights a day with a single aircraft;
- ATR-42 operations would be cost effective above 45,000 passengers per annum, with an average of 3 flights per day with a single aircraft.

→ *Southampton*

- DO228 operations would provide adequate capacity up to 37,000 passengers per annum, subject to an average frequency of 4 a day;
- ATR-42 operations would be cost effective above 37,000 passengers per annum, with an average of 2 flights a day.

We recognise that these are simplified assumptions and may not fully reflect the variability and complexity of the actual services operated, including the need to deploy a spare aircraft at times of high demand. We do not believe that these complexities would, in practice, be impacted substantially by the ability to operate larger aircraft or not and that the 'typical' year round frequencies set out above are the appropriate basis for undertaking our option assessment.

### **Impact on Level of Subsidy**

5.27 Based on our analysis of the operating costs of relevant aircraft types, discussed above, the scope for ATR-42 type operations to lower the per passenger operating costs, even at lower than current frequencies of service, is limited and would only arise at higher volumes of passengers. In considering the scope for larger aircraft to deliver lower air fares and stimulate the market, almost all patterns of service which could be reasonably considered are more likely to increase the costs to an airline of delivering the service than reduce it at foreseeable passenger volumes.



- 5.28 To the extent that, at higher passenger volumes above the thresholds identified above, there might be some small reductions in cost per passenger carried of the order of 19% per passenger on the Guernsey route compared to current blended Dornier/Trislander costs and around 11.5% per passenger on the Southampton route if passengers reached c.60,000 per annum on each route. In overall terms, if passenger volumes increased above 82,000 overall, based on the viability thresholds for ATR-42 operations outlined above and on the basis of an integrated operation of larger aircraft across the two routes, it would be reasonable to assume that there could be a reduction in cost per passenger of around 15% on average if the overall passengers volume reached 120,000 per annum. However, this threshold volume of passengers would mean regrowth in the market to deliver passenger volumes to/from Alderney on all routes higher than seen other than in the years 1988-1990, when market conditions were very different and both population and tourist numbers were at their peak. We discuss below, the scope to stimulate the market even with this level of fare reduction.
- 5.29 In practice, the potential for reductions in cost per passenger across the routes need to be set against the current losses on the routes reported by Aurigny at around £25 per one way passenger. It is far from clear that any cost reductions would be passed through to air fares and may be more likely to be used to reduce losses and subsidy costs compared to current levels. Whilst this would be a longer term benefit of a longer runway permitting operations by larger aircraft, it only arises if the market grows sufficiently to deliver these lower per passenger costs. As we go onto explain, this seems highly unlikely and beyond the bounds of probability.
- 5.30 In which case, the effect of the introduction of larger aircraft would increase losses/subsidy costs in the short to medium term until the point at which the cost per passenger of the larger aircraft matched those of the current operation, i.e. c.82,000 annual passengers to/from Alderney, beyond which there would be incremental scope for per passenger cost reduction. Using the cost data outlined above, the immediate effect of the introduction of larger aircraft would be to increase airline costs per passenger by around £6<sup>25</sup>, declining as volumes increase towards 82,000 annual passengers. We have built this additional cost of subsidy into our appraisal model as a consequential cost associated with larger aircraft using the longer runway.

### **Scope for Market Growth**

- 5.31 A key question is whether the reduced operating costs which larger aircraft might bring would be passed on to passengers through lower air fares and the consequential effect on demand.

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<sup>25</sup> Note, this is based on incremental operating costs and does not reflect the current losses by Aurigny on the routes which would persist in any event, subject to any efficiency improvements which the airline can make.



- 5.32 Although this may be somewhat academic given the threshold volume of passengers which would have to be reached before there would be cost savings which could be passed through by way of lower air fares, we did examine the extent to which the entry of new airlines onto UK-island routes, as cited as examples by RCA in their presentation to the States of Alderney, have delivered lower air fares and increased passenger volumes.
- 5.33 We used UK Civil Aviation Authority survey data to examine the impact of the entry of easyJet onto routes between London Gatwick and Jersey and Liverpool and the Isle of Man in 2014 and 2010 respectively in terms of the effect on air fares and demand between London and Jersey and the Northwest of England and the Isle of Man (recognising that, in this case, the easyJet entry reflected the use of large jet aircraft which is not feasible in the case of Alderney). At the outset, it should be noted that the air fare sample collected by the CAA is relatively small and, therefore, subject to some tolerance for error. Nonetheless, the analysis presented in **Tables 5.2** and **5.3** below provides some indication of the order of magnitude of the effects.

**Table 5.2: The Effect of easyJet entry on the London – Jersey Market**

	Inbound Business	Inbound Leisure	Total Inbound	O'bound Business	Outbound Leisure	Total Outbound	Total Business
Single Ticket Cost (2013)	£75.61	£63.38	£65.99	£79.19	£56.31	£66.11	£77.63
Single Ticket Cost (2015)	£47.37	£47.47	£47.43	£60.91	£49.38	£51.36	£52.50
% Change	-37%	-25%	-28%	-23%	-12%	-22%	-32%
Passengers (2013)	57,998	234,560	292,559	84,319	206,264	290,583	142,318
Passengers (2015)	139,631	240,637	380,268	57,081	254,910	311,992	196,712
% Change	141%	3%	30%	-32%	24%	7%	38%
Elasticity	-3.8	-0.1	-1.1	1.4	-1.9	-0.3	-1.2
Route	London - Jersey						
easyJet year of Entry	2014						



**Table 5.3: The Effect of easyJet entry on the Northwest England – Isle of Man Market**

	Inbound Business	Inbound Leisure	Total Inbound	O'bound Business	Outbound Leisure	Total Outbound	Total Business
Single Ticket Cost (2007)	£104.28	£122.16	£114.14	£80.76	£71.03	£73.33	£95.81
Single Ticket Cost (2015)	£52.65	£39.51	£42.93	£53.79	£42.88	£43.26	£52.77
% Change	-50%	-68%	-62%	-33%	-40%	-41%	-45%
Passengers (2007)	55,617	68,524	124,141	39,207	124,246	163,453	94,823.8 1
Passengers (2015)	60,416	118,059	178,475	29,755	161,766	191,521	90,171.1 7
% Change	9%	72%	44%	-24%	30%	17%	-5%
Elasticity	-0.2	-1.1	-0.7	0.7	-0.8	-0.4	0.1
Route	<i>North West - Isle of Man</i>						
<i>EasyJet year of Entry</i>	<i>2010</i>						

5.34 In overall terms, passengers travelling between London and Jersey rose by 19% and average fares fell by 23%, suggesting a relatively inelastic market, with an elasticity of -0.8 to changes in air fares. Similarly, in the case of the Isle of Man example, passengers rose by 29% whilst average air fares fell by 51%, an elasticity less than of -0.6. In both cases, this suggests that markets between the UK and its associated islands are relatively mature and inelastic. We would not expect the Alderney market to show any greater elasticity to air fare changes. The results which we have derived in these two markets are actually higher than calibrated by the UK Department for Transport<sup>26</sup>, which suggest the appropriate air fare elasticity for domestic routes is of the order of -0.5, albeit leisure travellers exhibit higher elasticities at -0.7. Whilst other analyses, such as Intervistas for IATA<sup>27</sup> suggest that individual route level air fare elasticities can reach -1.4 where there is substantial passenger switching between routes, this is not valid in the case of Alderney given the nature of the market and the fare levels which already exist in competitive tourism markets.

<sup>26</sup> Department for Transport, UK Aviation Forecasts, January 2013, paragraph 2.16, Table 2.1.

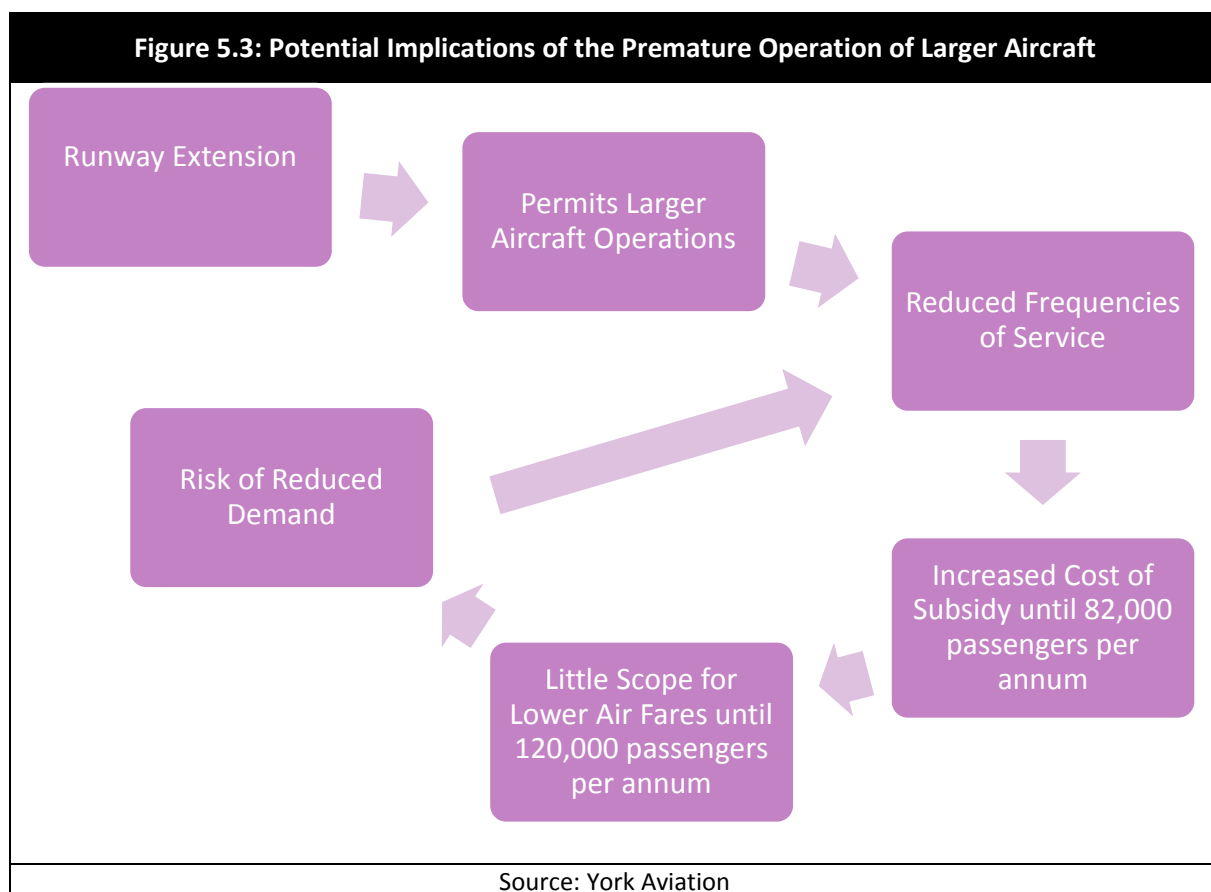
<sup>27</sup> Intervistas, Estimating Air Travel Demand Elasticities, 2007



- 5.35 At the potential fare reductions which might be achieved in the long term, at the point when larger aircraft would deliver lower cost per passenger than current operations, and if these were passed through to air fares (rather than simply used to reduce subsidy costs), the effect on demand would be marginal. If a 15% reduction could be achieved the effect on demand might be no more than 12% at an air fare elasticity of -0.8 (at the upper end of our range and higher than recommended by the UK DfT), i.e. an additional 10,000 passengers in the very long term. However, the fare reductions at this level would not kick in until the air passenger numbers approached 120,000 per annum to/from Alderney, far in excess of levels of air passenger demand previously reached in the late 1980s, albeit some more marginal fare reductions might be realised once demand exceeded 82,000 passengers per annum. In other words, introduction of larger aircraft in the short term would not enable lower fares to be offered and, even in the longer term, any cost reductions with the types of aircraft possible would not be sufficient to act as a stimulus to market growth. The level of stimulation, even if fares were artificially reduced in advance through increasing the subsidy to act as a market stimulus, would not be sufficient to generate viable demand levels for larger aircraft for the foreseeable future.
- 5.36 A further consideration in terms of the scope for market growth is the potential impact of the reductions in frequency which would be the inevitable consequence of operating larger aircraft, assuming that the further additions to the cost of subsidy to sustain the current frequencies would not be sustainable.
- 5.37 At reduced frequencies of service, necessary to enable lower costs per passenger to be realised with larger aircraft in operation above the relevant demand thresholds, there would be effective time cost penalties due to lower frequencies of operation that would negate the beneficial effects of any fare reduction in terms of the generalised cost of travel. In considering this, we have used the UK Department for Transport's approach to frequency change, which relates to an extra wait time factor between flights and derives a cost related to the loss of time utility. For existing users, decreasing from 5 flights per day to Guernsey to 3 with a larger aircraft would translate to a cost penalty of £6.28 per passenger at current prices. On the route to Southampton, the drop from 3 flights to 2 with a larger aircraft would cost £5 per passenger for all existing users. This penalty would be greater when set against the potential for an increase to 4 flights a day if the market grows and the existing Dornier fleet continues to be used. Combining both markets leads to an average cost increase per current user due to lower frequencies of service of £5.84. In other words, the time cost penalties from reductions in service frequency would negate any possible fare reductions which might be achieved even if the market grew beyond the threshold for larger aircraft operations of 82,000 annual passengers up until close to 120,000 passengers per annum using the services, i.e. there would be no net benefit to users from larger aircraft until passenger numbers are virtually double today's levels. Until that time, the total cost of travel to/from Alderney would effectively increase (in time and money terms) as a consequence of any use of larger aircraft rather than reduce when compared to the current and potential pattern of operation if the routes continue to be operated by smaller aircraft.



5.38 Overall, then we see little scope for the use of larger aircraft in themselves to stimulate the market, although we recognise that there may be some perception of quality benefits. Against a baseline scenario of ensuring the current service problems with the Dornier fleet are resolved and the two core aircraft and the standby aircraft can be used effectively to deliver resilience and additional frequencies in peak periods, there are significant risks attached to encouraging operations by aircraft of 32 or 48 seats, which are inherently too large for the current size of the market. The risk of damaging the market is illustrated in **Figure 5.3** below.



5.39 Our best estimate would, therefore, be that the case for the runway extension would be stronger once the air travel market recovers to the level seen around 2000 of over 82,000 passengers per annum but the real benefits would not be seen until demand levels reach 120,000 passengers per annum. Even then, the market risk of lower frequencies of service with larger aircraft would remain. It should be noted that delivering this passenger volume would suggest resident population increasing to at least 2,500 and leisure tourism delivering at least 25,500 air passengers a year, i.e. higher population than seen on the island since the early years of the 20<sup>th</sup> Century and tourism back to the levels seen at the turn of the millennium.



## 6 ASSESSING THE ECONOMIC VALUE OF THE OPTIONS

- 6.1 At the outset, it should be noted that our ability to assess the economic value of a runway extension under the two options is limited by the lack of detailed economic and demand data for Alderney and particularly by the lack of any real evidence that there is a definitive causality between declines in population and business and the air service offer. When coupled with the highly provisional nature of the existing cost estimates, in particular the estimates of the actual construction costs on Alderney, our appraisal is necessarily heavily assumption driven. For this reason, we have undertaken a number of sensitivity tests in terms of both construction costs and economic effects to illustrate the range of outcomes under different conditions.
- 6.2 In order to carry out this assessment, we have had to define hypothetical scenarios for the effect of a runway extension on the economy and on passenger demand using the air services but without the underpinning evidence which would support these scenarios as being deliverable in practice. Hence, these hypotheses provide an illustration of the circumstances under which investment in a runway extension could be economically justified rather than a definitive economic justification for its provision.
- 6.3 We have assessed the options on the basis that a longer runway will automatically result in the operation of larger aircraft and deliver any benefits that such larger aircraft might bring as well as the costs associated with handling/operating such aircraft from the first year after runway completion. If that were not to be the case, it would imply that the construction of the runway extension was premature in any event.
- 6.4 As requested by the client Steering Group, we have appraised the case for extending the runway using both the conventional transport economics/economic welfare approach, as would be applied in accordance with UK Treasury Green Book guidelines and commonly applied to airport related investments by the public sector, and a development economics approach at the specific request of the States of Alderney and the Steering Group. Whilst we understand that the development economics approach, taking into account the wider economic benefits of development, is adopted in circumstances where the infrastructure is regarded as an essential enabler to economic growth, we note that it is more usual to appraise airport development projects using the transport economics/consumer welfare approach.





- 6.5 In the development economics approach, we have necessarily had to base our appraisal on the hypothesis that improving the air service offer requires an extended runway to be available so enabling the operation of larger aircraft, with fewer restrictions on the availability of seats at critical peak periods. However, for the reasons outlined in Section 5, this is not necessarily the case. Furthermore, we have had to assume that improvements in air services so delivered are both necessary and sufficient to secure an increase in population and tourism numbers such that it would, therefore, be appropriate to ascribe a value related to such increases to the delivery of a runway extension. As will become clear when the results of the transport economics appraisal are considered, these conditions are highly unlikely to arise due to the disbenefits to users which would result from the premature introduction of larger aircraft when tested against the hypothetical increases in passenger volume. This has implications for the weight that can be attached to the outputs from the development economics approach, which assumes a direct linkage between the provision of a longer runway and uplifts in population and tourism that may in fact have the opposite effect.

### **Basis for Appraisal Scenarios**

- 6.6 Although, ideally, we would have been able to set out future demand scenarios for both Option 5 and Option 6 by reference to projected economic growth, enabling us to establish the time when the introduction of larger aircraft into the market would be viable, there are no robust economic projections for Alderney.
- 6.7 There is an economic aspiration founded on the target to see the resident population increase to 2,300 and to grow tourist visitors. The Economic Development Plan is framed in terms of a number of specific actions aimed at creating the conditions for particular business sectors to grow. Improving the air service offer is seen as a fundamental part of that plan, including the upgrading of the Airport infrastructure. Improving the Airport and air services are seen as critical enablers to delivering other aspects of the plan. Other elements include improved broadband, education and electricity supply, along with softer measures such as an improved planning regime, review of business legislation, further tax amendments and encouragement of apprenticeships and entrepreneurship through funding and mentoring.



- 6.8 However, whilst improving the air service offer is clearly important, as we note in Section 2 there is no hard evidence that declines in population over the medium to long term have been as a consequence of failings in the air service offer until very recently. At the time when Blue Islands was still operating to and from Alderney, we understand that the air service offer was considered appropriate and not a particular impediment, although the population was declining more rapidly during this period than it has reportedly done since. Hence, it would not be appropriate to attribute any longer term decline in population to deficiencies in air connectivity per se. Recent fluctuations in recorded resident population since 2011 cannot explicitly be linked to the recent problems with the air service, albeit those problems are evident in a relative reduction in the number of passengers carried on the routes. This is material to the extent to which the benefits of the any achieved uplift in population might be wholly or in part ascribed to improving air services. This impacts on the extent to which it would be safe to assume that an uplift in resident population would necessarily follow an improvement in the air service and, to the extent there is a linkage, the proportion of the target uplift in population that could be so ascribed.
- 6.9 In terms of inbound tourism, we note that the recent peak was in 2008, when Blue Islands served a number of routes. On our estimation (see Figure 3.1) the volume of tourism reached around 22,000 air passengers (11,000 visitors coming by air) which was the highest since the late 1990s. We have assumed that this is a reasonable target for increased visitor numbers if there was an improved air service offer given structural changes in tourism which occurred after the previous peaks seen in earlier years.
- 6.10 Although, as we have outlined earlier in the report, there would be no real case for the introduction of a fleet of larger aircraft operating the routes to/from Alderney until the combined volume of passengers reaches c.82,000 passengers per annum, we have developed illustrative scenarios assuming such aircraft were introduced onto the routes on completion of the runway extension in the short to medium term as the basis for appraising whether there is an economic case for such an extension in the near future, i.e. if it were built and larger aircraft operated immediately, what would be the benefit.
- 6.11 There are two further considerations in developing scenarios for assessment:
- ➔ First of all, delivery of the uplift in population relies on a number of other economic or infrastructure improvements being delivered, including the provision of fit for purpose broadband access, improved and reliable electricity supply, healthcare initiatives (in part already delivered) and reviewing education provision on the Island among others. Hence, it would be inappropriate to attribute the full increase in target population to the delivery of improved air services alone.
  - ➔ Secondly, given the inability to assume that the market can be stimulated by lowering air fares to/from the island until threshold passenger volumes are reached, it is less clear how the use of larger aircraft would deliver a step change in tourist numbers.



- 6.12 Although, as noted above, we have not been able to establish any causal link, we have adopted the assumption of 2,300 for resident population and 11,000 tourist visits travelling by air as upper bound target values to support the economic development strategy as a basis for testing whether, if such numbers could be achieved and were directly linked to the operation of larger aircraft, the provision of a runway extension allowing the operation of larger aircraft would be economically justified. However, it is important to note that our analysis should not be read as indicating that we believe that the provision of a longer runway and operation of larger aircraft will deliver this uplift in population and tourism.
- 6.13 We have used the relationship of air passengers to population illustrated in Figure 3.2 to estimate the increase in population related air passengers and directly added the target number of tourist related passengers to provide a basis for assessment the costs and benefits of delivering an extended runway. Achievement of the full population and tourism targets would result in annual passenger demand volumes across the two routes of c79,500 (last seen in 2000), still well below the threshold for lower fares with a larger aircraft. For the reasons which we go onto explain, this illustrates the hypothetical nature of the scenarios which we have developed as in reality, the passenger volumes justifying the use of larger aircraft – c.82,000 across the two routes, would not be achieved.
- 6.14 It is important to note that the ability to achieve this increase in passengers using the air services to/from Alderney is entirely hypothetical as, for the reasons outlined earlier in the report, it would not be driven for the foreseeable future by lower air fares derived from lower operating costs or from frequency increases, rather the converse would be the case with larger aircraft operating. The only drivers for growth would have to rely on the perception value of larger aircraft alone, coupled with the availability of spare seats on the aircraft to meet peak period demand. This mismatch between demand and capacity is a key factor which influences the results of our appraisal due to the higher costs of operation and lower frequencies of service required to minimise the discrepancy between demand and capacity with larger aircraft in operation.
- 6.15 As a consequence, it would certainly be unrealistic to assume that the full target increases in population or tourism would be achieved without substantial reductions in air fares, which would not be delivered by the premature introduction of larger aircraft relative to the size of the market. In order to illustrate the underlying economic conditions which would need to be achieved to support the economic viability of a runway extension, we have tested core hypothetical scenarios based on the achievement of 50% of the uplift in population and tourist visitors. Even this is a highly optimistic assumption given the evidence. We do also show the effect of assuming the full uplift in population and tourism for illustrative purposes only, although the probability of this being achieved is very low without substantial other initiatives being undertaken not directly related to the air service offer, thus rendering the attribution of the full uplifts to the runway extension highly questionable.



## Costs

### *Runway and Airfield Costs*

- 6.16 The runway and airfield capital costs which we have assumed for the appraisal are set out in Section 4. As noted there, we have not further adjusted the costs included in the appraisal to reflect 'optimism bias' as we are currently assuming that the range of optimism bias will be subsumed within the range of values for the 'island factor'. This does mean, however, that we may have been conservative in our estimates of cost and that there could be a risk of costs being even higher at the outturn. Whilst we have included the Low cost estimates as a sensitivity test in our assessment, based on the information supplied by RCA, a very high degree of risk should be attached to the ability to deliver the runway extension at this low cost.
- 6.17 In summary, we have appraised Option 5 on the basis of a range of additional costs of £9.194 million to £16.75 million (at 2015 prices) incurred in years 1 and 2, with the most likely cost towards the upper end of the range (between our Medium and High cost cases) based on the detailed advice from TPS. We note that the costs of Option 6 would be higher at £12.602 million to £22.945 million (at 2015 prices). The revised cost estimates prepared by TPS no longer assume that there would be any upward adjustment to the cost for the baseline Option 3 refurbishment to prepare for the later implementation of Option 6. Hence, the case for Option 6 can be considered on a free-standing basis when market conditions suggest that some benefits might be attained from the introduction of larger aircraft as necessary enabling works would have been undertaken in Option 3 in any event.
- 6.18 TPS do refer in their reports to the possibility of some value engineering as the design is developed. However, given the wide range of cost estimates for construction on Alderney, we do not consider a further lower cost sensitivity test to be necessary as it seems likely, on balance, that the costs would still lie within the range outlined above. This is broadly consistent to the approach we have adopted in not specifically adjusting the costs upwards for optimism bias.

### *Terminal and Security Costs*

- 6.19 As noted in Section 4, there are also consequential costs to ensure that the terminal can process the larger number of passengers carried if larger aircraft were operated and to comply with the necessary security regulations for aircraft carrying more than 19 seats. Based on the cost estimates provided to the States of Alderney by RCA, we have assumed £2.3 million as a best estimate for these additional capital costs and £50,000 ongoing increment to annual operating costs. Although we do not consider that the benefits from the longer runway, i.e. enabling larger aircraft to operate, could be obtained without incurring these costs, we have carried out our economic appraisal with and without these costs included to illustrate the effect of the runway extension costs alone. Nonetheless, in our view, it would be imprudent to exclude these consequential costs from the consideration of the economic case for the runway extension.



### ***Subsidy Costs***

- 6.20 As noted in Section 3, the current air services realise operating losses of c.£1.5 million a year. The operating costs may be expected to rise once the Trislanders are fully replaced by Dornier aircraft, not least as the former aircraft will be fully or virtually fully depreciated with lower effective operating costs. These cost increases may be offset in part by some recovery of the passenger volume lost in the last 2 years since the service difficulties began. Given the transitional period that Aurigny is going through, we have not based the estimate of increased subsidy costs on the current levels of losses on the route but worked from the difference in operating costs between Dorniers and potential larger aircraft going forwards.
- 6.21 Nonetheless, as we set out in the last section, introduction of larger aircraft following the extension of the runway is likely to result in increased operating costs, even at lower frequencies of service. As explained at paragraph 5.30, we estimate that the additional operating cost per passenger of using larger aircraft earlier than warranted by the market is around £6 per passenger at current demand levels. We have assumed that the quantum of additional subsidy required would start at £360,000<sup>28</sup> in year 1 and decline pro-rata to passenger growth up until the 82,000 passenger threshold is reached. At that point, the lower operating costs with larger aircraft, albeit still at lower frequencies of service, could be used to reduce subsidy costs or to reduce air fares. In practice, our scenarios do not reach this passenger threshold as, without the stimulus of lower fares and with lower frequencies of service, we do not believe it would be prudent to assume growth of the market to that level within the 20 year period for our appraisal. That is not to say that such circumstances could not arise at some future date if other measures have made a material contribution to securing economic, population and tourism growth on Alderney.
- 6.22 To some extent, the subsidy costs are included on an optimistic basis based on incremental operating costs alone as we have not taken into account the required contribution to central fixed costs, which we understand from Aurigny may not be fully reflected in the reported £1.5 million current loss. We have also not included the costs of the spare aircraft required under all circumstances to provide service resilience. For larger aircraft, the cost of this could be significantly higher because of the increased cost of purchase (4-6 times higher potentially) and with higher depreciation costs applicable to the cost of operation as any spare aircraft would not directly contribute to revenue generation. This is a further area where we have been conservative in our approach to cost increases.

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<sup>28</sup> Slightly less than £6 per incremental passenger reflecting a small allowance for growth above current traffic levels in the baseline case.



## Benefits

- 6.23 For the purpose of assessing the economic case for the extension of the runway, we have assumed that larger aircraft operations commence from the year after completion of construction. If this were not to be the case, no benefits could be ascribed to the extension until such aircraft were to operate.

### *Baseline Case (Option 3)*

- 6.24 We recognise the views of some consultees that the baseline for our assessment should be one of continued economic and population decline on Alderney in the absence of a longer runway. However, for the reasons set out in Sections 2 and 3, we have not been able to link the overarching declines in population and tourist visitors specifically to issues related to the air services, save for the current operational performance deficiencies. To the extent that other factors are at play, it would be inappropriate to include their effects within our appraisal.
- 6.25 Our baseline assumption is rather that the recent service difficulties are related to the introduction of the Dornier fleet, rather than the length of the runway on Alderney, and that these will be resolved by 2017 and through the effective working of the MOU. This would allow tourist demand levels to recover to the level seen in 2013, prior to recent difficulties. However, simply fixing the service is unlikely to be sufficient to act as a stimulus to population growth. We have, thus, assumed as a baseline that passengers using the services would recover in the short term to 62,650, of which 17,650 would be leisure tourist related passengers (8,825 visitors).
- 6.26 We believe that there would be further scope to improve the services exploiting the capacity of the 3 Dornier aircraft to operate additional services in the peak but, for the purpose of appraising the potential benefits of a runway extension, we have conservatively assumed that there would be no further improvements or increases in tourist or population numbers arising from any of the other economic initiatives in the short term without the introduction of larger aircraft operations. This will tend to overstate the benefits as increased frequencies of service using the Dornier aircraft would increase capacity and give rise to frequency benefits as well.
- 6.27 Clearly, at some future date, if Option 6 were to be considered, this baseline would need to be updated to reflect intervening developments on Alderney (e.g. improved electricity supply), which may well improve the baseline performance materially above current levels assuming recent air service shortcomings are overcome. In the event that there were further declines in economic performance and reductions in population, this would simply defer the time period over which the operation of larger aircraft on the routes might be realistic.



### ***Option 5 Impacts***

- 6.28 For the purpose of illustrating the potential benefits of extending the runway, we have worked with the premise, commonly held by many stakeholders on Alderney, that population and economic growth can only be attained through facilitating the operation of larger aircraft on services to and from the island. To the extent that growth could be delivered through other means, this approach will tend to overstate the benefits but this will be compensated for to some extent as we have also included the incremental costs of such operations within our appraisal.
- 6.29 As we set out above, we have tested a hypothesis that larger aircraft operations could improve the perception of travelling to Alderney and that this could contribute 50% towards the achievement of the population growth target to 2,300, i.e. an additional 140 residents, and supports 50% of the recovery of tourism to 2008 levels, i.e. an additional 1,088 visitors each year, with the remainder of the uplift ascribed to other economic measures and/or not deliverable without an effective reduction in air fares. This forms our core illustrative appraisal case.
- 6.30 For the purpose of appraisal, we have assumed that the uplift is achieved over 10 years from the operation of larger aircraft, following the completion of the runway works in Year -1 and Year 0. We have assumed no further growth as it would not be realistic to assume that lower air fares would be offered so as to stimulate further market growth without other economic measures delivering increased air travel demand to reach the threshold of 82,000, beyond which there could be some reduction in air fares and/or subsidy costs compared to today.
- 6.31 On this basis, air passenger demand levels reach c.70,600, equivalent to 2010 levels, with no further growth directly attributable to the extended runway. It is important to recognise that the assumptions underpinning this are highly optimistic given the lower frequencies of service which would be the consequence of larger aircraft being operated.

### ***Option 6***

- 6.32 As noted above, it is difficult to define when the demand threshold might be reached which would enable the operation of larger aircraft without increasing the costs of operation. It is possible that other economic initiatives might deliver population growth such that increased numbers of passengers would use the air services, although we recognise that this may not deliver a step change in passenger volume or economic performance.



- 6.33 Paradoxically, the more successful that other initiatives are in achieving economic and population growth to increase demand, the more likely it is that deferring construction of the runway extension would enable the circumstances to be reached where larger aircraft could deliver lower fares and contribute to a virtuous circle of economic growth if an underlying demand threshold of 82,000 annual passengers could be reached. However, there is nothing in the Economic Plan which suggests these circumstances might be realised for the foreseeable future nor whether higher population or tourist numbers would be feasible or desirable. Hence, we do not have any visibility as to when these conditions might arise and are not able to produce robust demand scenarios against which to appraise the increase in costs associated with Option 6 at some future point in time, not least as we cannot predict baseline conditions without a runway extension without some visibility as to the likely success of other initiatives in stimulating the economy and levels of demand as a baseline.
- 6.34 Clearly, deferring construction would have the effect of increasing costs but, if the negative impacts associated with premature introduction of larger aircraft could be avoided, it is possible that a more positive appraisal outcome could be attained at some date in the future. We are not in a position to carry out such an appraisal based on the current economic evidence.

### **Economic Appraisal**

- 6.35 We have appraised the difference between Option 5 and Option 3 (the base case), taking into account some potential for improvement in the air service offer and recovery of tourist numbers in the absence of larger aircraft operations. We believe that we have been conservative in our assessment of the improvements which could be made with Option 3 in place and through commitments under a PSO, which we will describe further in Section 8.
- 6.36 We have appraised the case over a 20 year period against a target rate of return of RPI+4% as specified by the Bailiwick<sup>29</sup>. Currently, this equates to a target rate of return of 4.4%.
- 6.37 We have assumed that the runway extension and terminal would have an effective life of 40 years and assumed a residual value of 50% at year 20 after opening. We consider this to be reasonable as we have not explicitly allowed for any increase in maintenance costs in the intervening period.

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<sup>29</sup> By e-mail 13<sup>th</sup> September 2016.





### ***Sensitivity Tests***

- 6.38 We have tested Low, Medium and High construction costs for the difference between Option 3 and Option 5 as set out in Table 4.2, albeit we have presented the Low estimate for illustrative purposes only in the light of the advice received from TPS. Whilst we consider that the introduction of larger aircraft operations would require the provision of full security screening and an enlarged terminal, we have tested the circumstances where these additional costs are not required as a further sensitivity test albeit that we do not consider this a prudent assumption.
- 6.39 Whilst we do not believe that it would be right to ascribe the achievement of the full target uplift in population and tourism solely to the introduction of larger aircraft operating at lower frequencies of service without any reduction in air fares, we have considered the impact on the appraisal if the full uplift was assumed in order to see if a runway extension could be economically justified even on the most optimistic basis.

### ***Transport Economics Approach***

- 6.40 The potential for the runway extension at Alderney Airport to impact on socio-economic welfare in the Bailiwick of Guernsey has been considered in the first instance using a conventional transport economics approach. This considers the impact of the change in the market brought about by the runway extension in terms of how it impacts on the different costs and benefits facing key actors over a 20 year period. We are not able to ascribe the costs and benefits definitively to the States of Alderney and the States of Guernsey as this will depend on decisions taken as to the apportionment of construction and air service support costs between the two islands. It would theoretically be possible to make some apportionment of user benefits but we do not have sufficient information to be certain as to the allocation of passenger trips between those resident on Guernsey and those resident on Alderney, albeit we make some assumptions regarding inbound and outbound business and leisure travel to inform the appraisal, based on precedents on other small island services.
- 6.41 In terms of costs, we have adopted the costs set out above and applied the range of sensitivity tests.
- 6.42 In terms of benefits:
- **The Airport** – we have included additional airport charges revenue from the uplift in passengers based on current revenue per passenger, less the allowance for the additional operating cost of £50,000 per annum.
  - **The Airline** – we have included the incremental costs of subsidy as set out above.



- **Passengers** - we have considered two groups of passengers separately in this analysis as the effects on them are different. We have assumed no change in air fares, consistent with our analysis of the threshold volumes which would need to be reached to enable lower fares to be contemplated:
- *Existing Passengers* - the only change to their costs and benefits will come from the reduction in frequency, which in the absence of reduced fares, will result in a loss of utility. The size of the loss has been estimated using the UK Department for Transport formula developed for its traffic forecasting model, which takes into account the extent to which passengers are able to adapt their travel patterns to airline schedules to a reasonable degree rather than using a simple half headway approach. The change in wait times is then monetised separately for business and leisure passengers using values of time for air travellers taken from the recent UK Airports Commission work uplifted to 2015 values:
    - Business Passengers - £0.78 per minute;
    - Leisure Passengers - £0.12 per minute.
  - *Stimulated Passengers* – we have assumed that the uplift in passengers will in effect have been stimulated to travel by the improved accessibility that comes about as a result of the development of the runway. As already discussed, it is not entirely clear how this would arise at lower frequencies of service and no reduction in air fares, albeit that release in peak period capacity constraints may effectively stimulate some additional passengers on the margin. The benefits to these passengers are assumed to come from the change in accessibility between the new pattern of air services and the current next best option, which we have taken currently to be the twice weekly ferry from Guernsey. We have used appropriate journey time saving and wait time value estimates as above. However, the use of the ferry as the alternative may overstate the benefits to these passengers. As is standard, we have applied the rule of a half to the calculated benefits.

6.43 The results of our analysis are set out in **Tables 6.1** and **6.2** overleaf. Full results are given in **Appendix D**.



Table 6.1: Summary of Economic IRRs Option 5 – Transport Economics Approach				
		Option 5 over Option 3		
		Low Cost	Medium Cost	High Cost
Core Case: 50% of Target Growth	Without Terminal Cost	-8%	-7%	-6%
	With Terminal Cost	-8%	-7%	-6%
Maximum Case: Target Growth	Without Terminal Cost	-2%	-2%	-2%
	With Terminal Cost	-3%	-3%	-3%

Table 6.2: Summary of Economic NPVs – Transport Economics Approach				
		Option 5 over Option 3		
		Low Cost	Medium Cost	High Cost
Core Case: 50% of Target Growth	Without Terminal Cost	-£11.6m	-£13.9m	-£17.2m
	With Terminal Cost	-£14.0m	-£16.3m	-£19.6m
Maximum Case: Target Growth	Without Terminal Cost	-£6.6m	-£8.9m	-£12.2m
	With Terminal Cost	-£8.7m	-£11.3m	-£14.6m

6.44 It is evident that when considered in terms of economic welfare, the extension of the runway, facilitating operations by larger aircraft in the short term, would result in negative IRRs and NPVs under all circumstances. In other words, the Bailiwick would be materially worse off as a result of the investment in the infrastructure before it is required. This is driven principally by the increased costs to users due to the loss of frequency and increased subsidy which are not compensated for by lower air fares or increased revenues to producers (airport and airline).



- 6.45 The negative economic welfare results highlight why it may not be realistic to assume that the extended runway could make a material contribution in the short term to achieving target population and economic growth. Rather, the risks to the quality of the air service could have negative impacts. Hence, the realism of the development economics appraisal set out below has to be viewed in the low likelihood of an extended runway delivering the conditions which would stimulate population and tourism growth.

### ***Development Economics Approach***

- 6.46 This approach considers the impact on GVA directly from the potential for improved air services to result in an increase in population on Alderney and incremental tourist visits. Along with the costs noted above, the key components of this approach are the GVA values associated with the increased population and tourism.

### **Tourism**

- 6.47 We have taken data on spending by tourists from the Alderney Visitor Survey carried out in July/August 2016. We have assumed that the values are broadly consistent with the Q4 2015 prices used as a basis for the construction cost estimates. This survey shows that the average expenditure per tourist visit is £240 per visitor (taking an average across day visitors and those staying for longer). However, this expenditure is not a direct equivalent to the GVA effect of increased tourism due to the need to import goods and services to serve the visitors.
- 6.48 In the UK<sup>30</sup>, the ratio of direct GVA to turnover is typically around 0.3 and, in the absence of specific data for Alderney (or Guernsey), we have applied this ratio to estimate a direct GVA figure per trip of around £72. To this direct GVA figure, we need to apply an indirect and induced multiplier. The recent Visit Guernsey Strategic Plan 2015-2025 implies a multiplier of 1.8 for these effects as appropriate for Guernsey. We are unclear the basis of this multiplier but the UK Homes and Communities Agency would suggest a multiplier of 1.1 for neighbourhood level effects and 1.5 at a regional level<sup>31</sup>. The former may be too low for Alderney but we would not expect a multiplier of a regional scale. We have, thus, adopted a multiplier of 1.15. In other words, for every £ of tourism spend, the GVA effect on Alderney would be £0.345. This gives a GVA value per incremental visitor of £83.

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<sup>30</sup> UK Office of National Statistics, Annual Business Survey 2014.

<sup>31</sup> Homes and Communities Agency: Additionality Guide, Fourth Edition 2014, Table 4.14.



### Population

- 6.49 We have based our estimate of the GVA value of an additional resident on the 2013 Household Income survey for Alderney<sup>32</sup>. This report shows that the average income per household in 2013 was £40,928, with an average household size of 1.9, i.e. average income per head of population was £21,210 in 2013. We have assumed that, in nominal terms, this will have risen by 2% the end of 2015 (Q4), to give an estimate of the average income per head of population of the order of £22,000.
- 6.50 We do not have data available to us to convert household income to GVA on Alderney. In the absence of detailed data, we have assumed that the relationship is broadly similar to that to turnover outlined above, i.e. allowing for the proportion of the income which is spent on imported goods and services. Hence, taking the multiplier effects into account, the GVA value of an additional permanent resident would be approximately £7,615 at Q4 2015 values. This will include tax revenues to the Bailiwick.
- 6.51 In relation to both GVA values, relating to population and tourists, we assume that the real value of income grows over time at 2% p.a. and this converts into increased tourist expenditure as well. This is consistent with the standard approach adopted to increase the values of time described above over time.

### Results

- 6.52 The results of our analysis are given in **Table 6.3**, with the full workings in Appendix D.

<b>Table 6.3: Summary of Economic IRRs – Development Economics Approach</b>				
		<b>Option 5 over Option 3</b>		
		<b>Low Cost</b>	<b>Medium Cost</b>	<b>High Cost</b>
<b>Core Case: 50% of Target Growth</b>	<b>Without Terminal Cost</b>	7.5%	5.5%	3.7%
	<b>With Terminal Cost</b>	5.6%	4.1%	2.8%
<b>Maximum Case: Target Growth</b>	<b>Without Terminal Cost</b>	15.2%	12.2%	9.5%
	<b>With Terminal Cost</b>	12.6%	10.4%	8.3%

<sup>32</sup> States of Alderney, Alderney Household Income Report Trial using 2013 Data.



- 6.53 Whilst the analysis above might suggest that investment in an extended runway could deliver an economic return if it successfully delivered the full target uplift in population and tourist visitors, for the reasons explained above, we do not consider it realistic to assume that this could be the case given the reduced frequencies of service and the absence of lower air fares, leading to a reduction in economic welfare as a consequence of larger aircraft being introduced before the market requires, and taking account of the other deliverables required to secure growth in the population.
- 6.54 If a 50% uplift towards the population and tourism targets could be attributed to the runway extension, it would only deliver an economic return if there was confidence that the project could be delivered at the lowest capital costs, which may not fully reflect the construction costs on the island, and/or the operation of larger aircraft does not trigger investment in additional security measures and an extended terminal. Both of these would appear high risk assumptions. Within the realistic range of costs – Medium to High, and assuming that the costs of the terminal works are required, the project would not meet its cost of capital of 4.4%.
- 6.55 In any event, the achievability of even this hypothetical demand outcome needs to be seen in the context of the disbenefits to users, including existing users, from lower frequencies of service and the absence of lower air fares as taken into account in the transport economics approach set out earlier. Hence, all of the results set out in Table 6.1 need to be viewed as illustrative only of the circumstances which might deliver a positive economic return given the extremely low probability of these outcomes arising.

### **Other Benefits**

- 6.56 We recognise that there are other social benefits from improved air services, such as access to education and healthcare, but these factors do not lend themselves to quantification. However, the delivery of these benefits relate to both the attained frequencies of service and the ability to deliver lower fares. Our assessment would suggest that premature operation of larger aircraft, ahead of the market requirement may be more likely to have negative rather than positive impacts.
- 6.57 Other specific issues relate to:



**Medevac**

- 6.58 As was highlighted at the consultation stage, the runway extension could offer additional social benefits in relation to the Medevac service. Currently, the Alderney based fleet of Aurigny aircraft provide this service, with casualties stretchered onto the aircraft and laid on the floor. We understand that the current runway length is deemed to be too short for the Medevac aircraft based on Guernsey, though this is unusual as the runway requirements of the Piper Chieftain, which provides the service, are usually well below the current runway length on Alderney. We are not certain of the reasons for the lower than typical performance for the aircraft in this case. However, accepting that the aircraft is not able to operate currently, it may be reasonable to assume that an extended runway could allow the aircraft to use Alderney. In its own right, the aircraft may be better equipped for medical emergencies, but it is not clear how it would offer a better solution overall. We see a number of difficulties in relying on this aircraft over the Aurigny fleet based on the Island, including:
- ➔ Relying on an externally based aircraft will leave the community exposed during times of high winds or low visibility as the aircraft is unlikely to be able to operate. The maximum crosswind performance of the smaller Medevac aircraft is likely to be a further impediment. The current based aircraft arrangement has the advantage that aircraft will be able to depart from Alderney in lower visibility than aircraft arriving to collect patients and, with greater crosswind capabilities, will have a higher reliability in landing at Guernsey with patients;
  - ➔ Whilst there is currently some delay in getting aircraft activated on Alderney through the night, the same will be true for activating an aircraft based on Guernsey, i.e. pilots will still need to make their way to the Airport, as will ground staff, and the aircraft will need to be prepared. Even if the Medevac aircraft is kept in a more prepared state for operation, any time savings this may offer will almost certainly be eroded when the flight time from Guernsey is also taken into account, thereby slowing the speed of getting patients off the Island; and
  - ➔ The cost of this service could be greater, with Alderney likely to have to make bigger contributions to the service being available as standby, compared to the ad-hoc nature of cost allocation that we understand exists with the current arrangements with Aurigny.
- 6.59 It could be argued that in extreme weather conditions, any based passenger aircraft could then operate the service, but this provides no real benefit over the existing arrangement. Furthermore, if the based aircraft was a larger type, for example a Saab 340 or ATR-42, it would be far less suited to the nature of the operation, likely requiring further start-up time and making access of patients on stretchers difficult due to the extra height from the ground as well as adding to the cost of providing the service. In the alternative, a smaller appropriate aircraft could be acquired to provide a dedicated Medivac service based on Alderney but this would not necessarily require an extended runway.



### ***Business Aviation***

- 6.60 Although the Airport already handles a large number of general aviation aircraft, some of which, according to our consultations, are already used for business activities, a runway extension may provide opportunities for further business aviation usage, with a capability to handle larger corporate turboprops and jets. During consultations, a view was expressed that high-net worth individuals may be more inclined to consider Alderney as a base if they could arrive and depart freely on their aircraft, as seen on Jersey and Guernsey, so supporting the population growth targets for Alderney. Whilst this could be an added benefit from an extended runway, it is unclear to what extent this could be used as a justifying argument for the runway extension in circumstances where the broader economic benefits are hard to justify. The tax regime on Alderney caps the maximum level at which individuals pay income tax at £50,000, so whilst the runway extension may be attractive to a very limited number of individuals, they are unlikely to bring any specific additional economic gain over and above those who could be attracted through better provision of scheduled air services. The number of additional residents this could deliver would likely be very limited, particularly as Alderney would need to compete with the likes of Jersey and Guernsey, where other aspects, such as quality broadband, better health provision and reliable electricity supplies, along with a greater array of social activities, is likely to be a deciding factor.

### **Conclusions**

- 6.61 Our analysis would suggest that, for the foreseeable future, extending the runway would only be economically justified if there is absolute confidence that provision of a runway extension and the mere fact of introducing larger aircraft will deliver a material increase in population and in tourist visitors. The results of the transport economics appraisal strongly suggest that this is unlikely to arise given the higher operating costs of larger aircraft leading to lower frequencies of service and no potential to reduce air fares, resulting in increased costs to users and reduced economic welfare relative to the base case of refurbishing the runway only.
- 6.62 Even taking into account the view of some stakeholders that larger aircraft are essential to deliver any improved economic performance, the extended runway would only deliver the required rate of return in terms of its potential wider economic impacts if it can be delivered at the lowest potential cost and/or assuming that there is no consequential expenditure required to upgrade the terminal and security infrastructure. We believe these to be high risk assumptions.





## 7 FINANCIAL ANALYSIS

7.1 Whilst the economic appraisal in the previous section shows the circumstances under which there could be economic return from investment in a runway extension, this does not of itself demonstrate affordability. The sources of incremental revenues would relate to:

- ➔ Additional airport revenues from the additional passengers generated;
- ➔ Additional tax revenues from incremental population and tourism.

7.2 In both cases, the additional income forms part of the economic appraisals set out in the previous section, with additional revenues included as a producer benefit within the economic welfare approach and taxes already included in the GVA uplift estimated relating to population and tourism.

### **Affordability Analysis**

#### ***Airport Revenues***

7.3 The maximum additional contribution from incremental revenues earned at the Airport would be c.£170,000 after 10 years, continuing on an annual basis. This could make a contribution towards the overall project costs but would be insufficient to fund the entire scheme. Although airport charges could increase to generate further revenues, this would simply transfer into the air service losses or, if passed through to passengers, result in lower demand and negate much of any potential economic benefit.

#### ***Tax Revenues***

7.4 We are not in a position to make a robust estimate of the incremental tax revenues which would be earned from increased population and tourism and, in any event, we would have to caveat this by the uncertainties in the linkage between the operation of larger aircraft, consequent upon the works, and the achievability of the growth in population and tourist visitors. Assuming that, at 20% tax on incomes, increased tax revenue per additional head of population could be of the order of £4,400 (see para 6.48). There would be some further tax revenue as a proportion of tourism spend but it is difficult to estimate this and we are unclear the effect on property incomes, given that the property to support the expanded population is already in place. Overall, if air service improvement as a consequence of the extended runway delivers 50% of the target uplift in population and tourism, we could be looking at additional tax revenues after 10 years of the order of £600,000 per annum. Overall, this would suggest the additional income accruing to the Bailiwick would at best be c.£800,000 per annum after 10 years, including incremental airport revenues.



- 7.5 If all of the increased income (tax and airport revenues) from a 50% uplift towards population and tourism targets was used to repay the principal and interest on a loan taken out for the purpose of undertaking the works, it would take a minimum of 18 years to repay a loan to cover the lowest possible capital costs from the point at which the increase in population and airport passengers was achieved and could be substantially longer dependent on the rate of interest on the loan and the actual costs of the works. The payback period could exceed 36 years.

### **Funding Options**

- 7.6 In reality, at least a part of the cost will need to be provided from the public purse by diverting tax revenues away from alternative uses in some manner. This then becomes a matter of affordability of the project in relation to the overall budget and priorities at the level of the Bailiwick or the States of Alderney.
- 7.7 Based on our discussion with the Deputy Chair of the States of Alderney Policy and Finance Committee, the mechanism by which a public contribution towards the cost of extending the runway at Alderney Airport is inextricably linked to broader discussions regarding greater financial autonomy for Alderney. These discussions include whether responsibility for operating the Airport and subsidising the operation of the air services should transfer to the States of Alderney rather than continuing to be part of the overall Bailiwick responsibility. These discussions include consideration of the extent to which the States of Guernsey should make some contribution to the costs, in part to ensure that the Airport asset is fit for purpose at the point of handover.
- 7.8 Our understanding is that there is an expectation by the States of Alderney that the States of Guernsey would provide the finance for the required runway improvement works, drawing on already approved bond finance, and some initial cash to support the loss making operations of the Airport.
- 7.9 Responsibility for the losses on the air service are less clear but the current losses of Aurigny as an airline fall on the States of Guernsey. However, responsibility for the cost of a PSO subsidy could transfer to the States of Alderney.
- 7.10 Given the complexities of the financial relationship and the linkage between discussions about the Airport and the broader financial relationship between the two States, we are not in a position to apportion benefit to each party separately or to assess separately the costs and benefits to each of the States separately.



## 8 CONCLUSIONS

8.1 We have examined the potential for an extended runway to deliver improved air services and considered the extent to which this could feed through to improved economic performance. We do not dispute that improvements to the reliability and peak period capacity of the air services compared to the recent service delivery are essential in order to prevent further economic damage.

8.2 We set out to address a number of specific questions in terms of would a longer runway:

- deliver lower fares
- deliver more seat capacity
- higher frequency
- lower subsidy
- enable the operation of new routes
- translate to population and tourism growth

These form the key hurdles which the development of the runway extension would need to pass. In essence, these fall into two groups – the effect on the pattern of air services and the relationship between air service provision and population and tourism growth.

### Effect on the Pattern of Air Services

8.3 Our analysis of aircraft operating costs would strongly suggest that early introduction of larger aircraft would be more likely to increase the costs of operating the routes to/from Alderney than to reduce them, leading to higher operating losses for the airline concerned and potentially higher costs of subsidy, even on the basis of reduced frequencies of service and no reduction in air fares. The scope for larger aircraft to deliver lower costs than the current operation, which could be passed onto passengers, would not arise before a threshold of c.82,000 annual air passengers across the two main routes, a level of demand not seen since 1995, requiring a population greater than 2,500 and tourist air passengers above 25,500 per annum (or some equivalent combination) to support that level of air passenger demand. Even then, the routes would still be loss making and require subsidy.

8.4 Whilst an extended runway would offer airlines some greater flexibility in terms of using larger aircraft to meet specific short term peaks in demand and/or recover from delays and cancellations, such ad hoc operations are unlikely on their own to justify the costs involved in extending the runway. Refurbishment of the existing runway, including an improved surface and drainage, improved lighting and reinstated usable width, will improve the operational performance in any event, so contributing to improving reliability and provide a platform for an improvement in the quality of service based on a fully functioning fleet of Dornier228 aircraft.



### Population and Tourism Growth

- 8.5 Our analysis demonstrates that, for the foreseeable future, extending the runway would only be economically justified if there is absolute confidence that provision of a runway extension and the mere fact of introducing larger aircraft will deliver increased population and tourism. The results of the transport economics appraisal, for the reasons set out above, strongly suggest that this is unlikely to arise given the higher operating costs of larger aircraft leading to lower frequencies of service and no potential to reduce air fares. Economic welfare would be reduced not increased. Taking steps, such as extending the runway, so as to facilitate or encourage the use of larger aircraft before the market warrants would lead to economic disbenefits, making any increase in population or tourism highly unlikely as a consequence. In the circumstances, the outputs from the development economics approach to appraisal, which we have undertaken at the request of the States of Alderney and the Steering Group, must be regarded as spurious as they depend on this underpinning assumption being realistic and likely to occur.
- 8.6 Whilst we recognise the views of some stakeholders that larger aircraft are essential to deliver any improved economic performance, we have not been able to identify any substantive evidence of a direct link between the performance of the air services and the longer term economic trends of population and tourism decline. However, anecdotally, the recent performance shortcomings on the routes to Guernsey and Southampton are one factor deterring business activity on the island and impacting on tourist visitor numbers in the summer peak. However, these operational problems are unrelated to the runway length at the Airport.

### Project Costs

- 8.7 We have received updated cost estimates from TPS and, whilst there may be some scope for value engineering as design progresses, we believe that it would be not be prudent at this stage to assume that the project could be delivered at the Low (RCA) cost estimate and that the regular operation of larger aircraft could be achieved without incurring the cost of enhancing security and improving the terminal facilities. Hence, it is unlikely that the project could deliver an economic return above the target of 4.4%, even on the basis of the development economics approach, which for the reasons outlined above depends on a relationship between extending the runway and population and tourism growth which is highly unlikely to exist.
- 8.8 Whereas the original advice given was that there be additional costs incurred now in implementing Option 3 to enable the later extension of the runway (Option 6), the latest information provided by TPS suggests that it is no longer considered necessary to enhance the Option 3 scheme to facilitate the later construction of the runway extension. This would have the added benefit of allowing cost estimates for extending the runway at a later date to be refined, taking into account the actual costs of the Option 3 works undertaken on Alderney.



## Overall Assessment

- 8.9 If there was any validity to our appraisal based on hypothetical scenarios that assume some causality between the provision of a runway extension and population and tourism growth, the runway extension would only be justified now (Option 5) if certain conditions could be met. In summary, even on this hypothetical basis, the extended runway would only deliver the required rate of return in terms of its potential wider economic impacts if:
- it can be delivered at the lowest realistic cost (less than c.£13 million);
  - there is no consequential expenditure required to upgrade the terminal and security infrastructure to enable larger aircraft to be handled (or the costs are included within the capital cost ceiling above); and
  - assuming that at least 50% of the target increase in population – 140 additional residents over 10 years, and an increase in annual tourist visitors of c.1,100 over the same time period can be directly attributable to the provision of a longer runway.
- 8.10 We believe the first two of these to be high risk assumptions and the latter simply unsustainable given the likely effect of the introduction of larger aircraft on the frequency of air services offered. Fundamentally, this conclusion is driven by our analysis of the effect of a longer runway leading to the operation of larger aircraft and so reducing the effective frequency of air services offered without any compensatory reduction in air fares. The negative economic effects of this are clearly illustrated in the transport economic appraisal such that it would simply not be realistic to assume that the premature introduction of larger aircraft onto the routes, which forms the rationale for extending the runway, would result in an uplift in population and tourism.
- 8.11 In the light of the advice from TPS that there would be no substantive changes required to Option 3 to enable the later extension of the runway (Option 6), the decision whether to implement a runway extension can be deferred to a later date. This would allow time for improvements to be made to the existing air services to improve resilience and reliability, and act as a driver for a return to growth. At a date in the future, when there has been growth in demand, the case for using larger aircraft will be stronger and could produce a service pattern which might deliver some reductions in air fares. However, this does look to be some way into the future and the threshold passenger volume for larger aircraft to deliver lower operating costs (82,000 annual air passengers to/from Alderney albeit with lower frequencies of service) may not be reached.
- 8.12 Our recommendations are, hence, that:
- the case for extending the runway now would only be economically justified on the most optimistic assumptions about deliverability of population and tourism growth directly related to the extension of the runway and if construction of all of the required infrastructure improvements necessary to support the operation could be delivered at the lowest possible cost;



- these conditions are unlikely to be met given the higher costs of operating larger aircraft and the consequential effects on the frequency of service offered;
  - the case for a runway extension should be kept under review and that the Option 3 works should be carried out in a manner which would not preclude the cost effective construction of a runway extension at a later date;
  - all possible steps are taken to improve the reliability and capacity offered by the existing air services based on 19 seat aircraft to provide a platform for improving economic performance and delivering passenger growth.
- 8.13 We are aware that discussions regarding the refurbishment of the runway have been going on for some time, during which the runway condition will have deteriorated further. Hence, given the concerns about service reliability and resilience, it appears to us important that the refurbishment works (Option 3) are undertaken as soon as possible lest further delay, whilst the provision of an extended runway is deliberated further, leads to the more occasions when the runway is not operationally fit for aircraft to land.

#### ***PSO Considerations***

- 8.14 Our analysis has recognised that there are deficiencies in the current air service performance and offer. To a substantial extent, these are a function of short term operational difficulties experienced by Aurigny in introducing the Dornier aircraft. These have been compounded by periods of poor weather during the peak summer season, resulting in a high number of cancellations and consequent overbooked flights over the last two summers.
- 8.15 Although the air services are now covered by a Memorandum of Understanding between the States of Alderney, the States of Guernsey and Aurigny which sets out targets for the performance of the air services, this agreement lacks the enforcement provisions for failure to perform which would be included under a formal Public Service Obligation contract. Under a PSO contract, a failure of an airline to deliver the specified number of services (or other failures in deliver within their control) results in financial penalties in terms of a reduction in the subsidy payable. Clearly, given Aurigny is a loss making airline and is owned by the States of Guernsey, there would be no effective difference between an overt subsidy payable linked to the Alderney operations and a de facto increases in the loss because of a compensatory reduction in the subsidy. Nonetheless, we believe there would be substantial improvements in accountability if the costs associated with the Alderney operations were specifically accounted for and the cost penalties associated with service failures transparently recorded.
- 8.16 Furthermore, many of the clauses of the MOU are, in effect, little more than 'best endeavours' provisions and there is no real obligation to deliver. In particular, the requirements to ensure sufficient capacity to meet demand in the summer peak lack specificity.



- 8.17 There are, of course, challenges for any airline in dealing with traffic which has such a limited duration of summer peak and with traffic flows which show strong uni-directionality. This contributes greatly to the inefficiency and high cost of the operation relative to the overall level of passenger demand. It is in this context that the scope which a runway extension would provide to operate larger aircraft at times of peak demand looks attractive. However, the reality is that few airlines will have spare capacity during the summer peak to switch to Alderney operations even if the runway was long enough. For airlines to contemplate switching aircraft away from other profitable routes, they would need to see a yield premium from the Alderney operation, in other words they would look to charge passengers more rather than less which would not have the desired effect in acting as a stimulus to increased tourism. The most cost effective way to meet these peaks of demand is likely to be to incentivise Aurigny to work its fleet of Dornier aircraft to the maximum possible.
- 8.18 We recognise that there is a reluctance to seek a formal PSO on the route whilst it is perceived that Aurigny would be the only bidder as this could increase the cost of subsidy. However, it can be far from certain that there would be other bidders in any event. It is unlikely that airlines with larger aircraft would bid for the routes, even if the runway extension was in place, as they would be well aware that they could not match Aurigny's operating costs with smaller aircraft at current demand levels and would be aware of the economics of seeking to stimulate the market through lower fares given the balance between load factors and operating costs of larger aircraft. Other airlines would also need to set up local bases on Alderney and Guernsey which would add to costs. In these circumstances, other airlines may be reluctant to incur the costs of preparing a bid. In other words, extending the runway before demand warrants is unlikely to increase the number of bidders for a PSO and these would be limited to airlines with 19 seat aircraft competitive with Aurigny's operating costs in any event.
- 8.19 In our view, the priority should be to seek greater control over the delivery of the current air service offer through the imposition of a PSO as soon as practicable to better incentivise delivery of service improvements and to ensure that the cost of subsidy is transparent. We believe this would provide the best mechanism for improving the air service offer and contributing to economic recovery, which in turn could provide a platform in future for further enhancements to the service.

## **APPENDIX A – TERMS OF REFERENCE**





# An Extended Runway for Alderney – Economic and Financial Analyses

## Background

Consultants TPS have been advising Guernsey Airport, who are also the operators of Alderney Airport, on an '*Outline Business Case*'<sup>33</sup> (OBC) and Options for rehabilitating the runway at Alderney.

This is the first of a two-pronged initiative to revitalise the Alderney civil aviation sector. The second prong will be to instigate a more competitive operating environment for commercial air services, which it is hoped will lead to lower air fares and more reliable services. It is recognised that the Alderney market is 'thin' and that, therefore, there may be insufficient traffic to support more than one operator. For this reason, consideration is being given to competitively letting a concession to which a Public Service Obligations component would be attached.

## Recent Developments

The OBC for the project is being compiled and to that end a series of Risk and Benefit Workshops have been arranged for engagement with stakeholders, including The States of Alderney, Alderney Chamber of Commerce, Airport Technical Managers, Aurigny and GA representatives.

The workshops included as a reference 7 options (0-6 below) although the intention was that only Options 1-6 would be advanced into the Outline Business Case:

**Option 0:** Do nothing – this is not, however, being taken forward and is not considered a realistic solution;

**Option 1:** Do minimal – effectively larger patch and repair works with a likely maximum five years life enhancement to the current runway paved areas – this would include widening of the runway back to 23m;

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<sup>33</sup> This is a document required by the States of Guernsey in support of an investment – a project procurement or scheme. The required template for the OBC is attached for reference purposes.

**Option 2:** Reconstruct all paved surfaces at the airport and extend the runway width to 23m;

**Option 3:** as Option 2 but with enhancements to improve runway lighting and more efficient drainage;

**Option 4:** As Option 3 – but also hard surface and extend the short grass runway to improve cross-wind capability;

**Option 5:** Extension of asphalt runway to 1100m<sup>34</sup> and extend width to 30m to accommodate larger GA and commercial aircraft – with consideration of options for both concrete and asphalt products;

**Option 6:** A hybrid scheme which delivers Option 3 with certain additional enhancements to the design that would preclude a less expensive and less disruptive move to a runway extension at some point when the business need is more apparent.

This range of options varies considerably in terms of the extent and cost of the works and to assist the research and business case evaluation of each option, Guernsey Airport wishes to engage a consultant to conduct an economic and financial feasibility study to test and validate the potential benefits of the investment in a full runway extension against a baseline reconditioning of the existing infrastructure.

The output of this study will greatly assist the States of Alderney and the States of Guernsey in determining the “Value-for-Money” of this large investment and its affordability.

The economic aspects are deemed to be critical and, it is agreed, must centre on the holistic benefits to the Alderney economy. At a Workshop held on Monday 16<sup>th</sup> May in Alderney to discuss rehabilitation works, the Alderney stakeholders were of the opinion that Option 5 was the most desirable. It was the overwhelming opinion of those present that this was the key enabler for delivering, immediately-needed wider economic development in Alderney.

## Objectives

The key objective is to assess whether there is a prima facie economic case for an extension of Alderney’s runway to 1100m either now (Option 5) or as part of a phased approach (Option 6). Secondly, if this case exists, whether there exists an economic argument in favour of completion of the works in a single immediate phase.

The advisor will be required to critically assess the costs and benefits to Alderney of upgrading the airfield above and beyond the baseline (Option 3) and assess the economic and other risks associated with the retention of the present runway length (877m). In

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<sup>34</sup> Currently 877 metres.

assessing the alternative options (5 or 6) the advisor will be expected to assess the wider economic benefits that may be gained both by the States of Alderney and the States of Guernsey, against the costs of these enhanced options and against the alternative baseline case.

The advisor will be expected to assess and quantify possible additional benefits including:

- Reduced operating costs per seat-km using larger aircraft (that is, when compared to Dorniers and Trislanders and subject to achieving adequate load factors, albeit at the short and possible longer-term cost of reduced frequencies of services);
- The extent to which this could lead to lower fares, higher patronage and more sustainable air services;
- The potential for increased runway length to attract other airlines that might be prepared to tender for an air-service PSO contract potentially at a lower cost to the States;
- The opportunity for increased or enhanced air routes and passenger growth; and
- An assessment of whether the additional investment required for Option 5 or 6 is justified with reference to the potential economic gains that might be made over the lifetime of the investment and/or with reference to the reduced risk of further economic loss to the Alderney economy.

The advisor will be expected to provide a weighted analysis outlining the scope and probability of benefits and risks under the alternative options and the baseline case.

Consideration has to be given to the strategic importance to the Alderney Economy of air connectivity and each option needs to be evaluated against potential future developments in airline operating models that any runway extension may unlock.

The advisor will be expected to be able to support its conclusions with appropriate analysis and to justify its conclusions.

The successful advisor will be expected to draw upon their practical and academic expertise and place this in the context of both Alderney and Guernsey, taking into account the key economic areas of activity, its experience of the aviation and travel industry and the specific issues of Alderney.

## **Scope of the Project**

In realising the project objectives the successful tenderer will need to:

- Use the current cost estimates for the proposed upgrading points as a starting point<sup>35</sup>
- Assess Option 3, 5 and Option 6 against current airline operating models and aircraft performance.
- Assess the three options against potential air transport developments, including changing airline and airport operating requirements and models and the impacts on Alderney's connectivity now and in the medium term future. The Consultant will have to assess whether the baseline option would have a material impact on economic activity and population and at what rate this might occur.
- Assess options against the likely direct and indirect economic and social benefits that may be realised by the Bailiwick including, but not limited to, the scope for opening new and retention of existing routes and/or operators to and from Alderney, the likelihood of new operators being attracted to apply for a PSO contract and the scope to open Alderney wider economic growth<sup>36</sup> and new tourism possibilities. To this end it is important that any direct or indirect impacts on GDP and any economic multiplier effects are included in the appraisal.
- Provide an assessment of potential catalytic economic benefits for each option. It is particularly important to assess the extent that these developments might be a key enabler for future economic recovery/development. To this end it should be noted that a population increase from the present 2,000 to about 3,000 is seen by many in Alderney as both desirable and a target to be aimed at. The output should include estimated Economic Internal Rates of Return and Net Present Values. An agreed Opportunity Cost of Capital will be fundamental to the analysis. The indications are that, in the current economic climate, this is currently some 4-5%, but this will need to be reviewed as part of the study.
- It is expected that the Consultant will undertake a cost-benefit analysis for Option 3, 5 and 6, to support the Business Case process.
- The Consultant will, consequently, prepare forecasts of air passengers 'with' and 'without' the extended runway – forecasts may be divided into two categories:
  - Normal traffic growth/decline based on the pragmatic capacity of aircraft capable of using the option 3

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<sup>35</sup> Sensitivity test should examine the impact if reduced construction costs can be obtained – there is some evidence that lower costs might be achievable – these will be discussed with the Consultants at the outset of the study.

<sup>36</sup> Complementary already on-going enabling initiatives under consideration include (i) a digital revolution and (ii) an electrical cable between France and the UK that would deliver energy to both nations and which would at a later date enable Alderney to feed macro-renewable energy into the cable to supply either nation. Other mooted projects include increased provision of visitor accommodation.

specification and with more rotations/additional aircraft, if necessary; and

- Additional traffic generated by on-going new 'enabling' infrastructure – specifically, the longer runway.
- Engage with key stakeholders (airlines, airport management, States of Alderney, States of Guernsey, user groups etc) in both islands and such other expert sources as may be required to canvas view and provide empirical estimates, on demand and likely future developments to enable the construction of a number of different development scenarios for the medium and longer term given the asset life.
- The Consultant will prepare a financing plan based on funds presently available, capital and loans likely to be available from Guernsey, Alderney and other sources and with repayment of any loans over an acceptable time-frame via user charges and any other acceptable methods. This matter will be further discussed with the Consultant at the commencement of the work
- To prepare a report for the STSB and the States of Alderney outlining the key conclusions and recommendations, to include the economic and empirical analysis together with a full risk and sensitivity analysis - for example, Monte-Carlo ("@risk"), modelling.
- To present the findings of the report at a meeting of the States of Alderney and the States Trading Supervisory Board.

## Personnel

The Consultant is required to provide named expertise (with cvs) in the following professional disciplines:

- *Transport/development economics*: an economist/transport planner with 10+ years' experience in the economic appraisal of airport developments and knowledge of/experience in applying development economics
- *Financial analyst*: a financial analyst with 5+ years' experience in transport projects

## Reporting and Client/Stakeholder Liaison

An initial kick-off meeting with Guernsey Airport and the nominated SoA liaison officer is required. The Consultant will have day-on-day access to both during the course of the study.

It is envisaged that the Consultant will have to undertake some primary research in Alderney, for example:

- with businesses that have recently moved to/moved out of Alderney – to ascertain the push/pull factors involved and the importance of reliable/affordable air services;
- with entrepreneurs currently promoting new Alderney-based investments;
- with residents who have recently settled in or are about to depart Alderney – to ascertain the push/pull factors involved and the importance of reliable/affordable air services;

The Consultant will have to work with the TPS team who are producing financial cost estimates and will amongst other things have to translate these financial costs into economic costs. Indicative estimates will also have to be made of operating and maintenance costs. A parallel Environmental Impact Assessment may, additionally, require mitigating measures. It is anticipated that Environmental Impact Assessment would include indicative costs.

A residual value may be assigned to the infrastructure at the end of the appraisal period. An appropriate value will be derived after consultation with TPS. As a minimum, the earthworks might be expected to have a useful life well beyond a normal 20-year economic appraisal period.

The SoA and Alderney Chamber of Commerce will assist with identifying such businesses/residents.

A Draft Report that can populate relevant sections of the OBR is required within two months following appointment which we anticipate to be ratified by end July.

The SoA and Guernsey Airport will comment within one month of the receipt of the Draft Report and a Final Report is expected two weeks thereafter.

A list of available useful reference reports, which the SoA and Guernsey will assist in making available is attached as **Appendix 1**

# Appendix 1 Previous Reports that can be made available to the Consultant

## Economics

- 1 *Alderney Economic Development Plan (available on SoA web site)*

## Airport<sup>37</sup>

- 1 *"Alderney Airport Masterplan", BurksGreen, March 2006;*
- 2 *"Alderney Airport – Runway Review Report" Mott McDonald, May 2012;*
- 3 *"Alderney Airport – Runway Review – Stage 2", Mott McDonald August 2013;*
- 4 *"Ground Model Data"*
- 5 *"Alderney Airport – Runway Options Study", TPS, August 2014;*
- 6 *"Alderney Economic Development Study, Draft Final Report, Frontier Economics, August 2014*
- 7 *"Summary of Assessments of Importance of Airfield Improvements to Alderney's Economic Strategy", DRASS Economics, 2014;*
- 8 *"The Airport and Economic Development in Alderney"; Policy Council (Guernsey), September 2014;*
- 9 *"Alderney Future – A position Paper", January 2016;*
- 10 *"Alderney Airport Project", Sywell, February 2016.*
- 11 *Alderney Transport Policy<sup>38</sup>;*
- 12 *"Alderney Air Services – an assessment of Future Options" – Aviation Economics, June, 2014.*

## Other-Civil Aviation Related

- 13 *"Proposal to the States of Alderney for a Service Level Agreement proposed by CityWing Aviation Services Limited with Vanair Europe AS, May 2015 and Report to States of Alderney – Independent Review, S Taylor, February 2015;*
- 14 *"An Alderney Airline for Alderney" – Powerpoint Presentation, AYFly,*
- 15 *"Memorandum of Understanding between States of Guernsey, the States of Alderney and Aurigny Air Services", February 2016 and "Memorandum of Understanding between the Treasury and Resources Department (Guernsey) and the Aurigny Group", January 2015*

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<sup>37</sup> The value of these documents is more related to engineering – however they are available and may contain useful background information

<sup>38</sup> Currently in draft form.





## **APPENDIX B - LIST OF STAKEHOLDERS CONSULTED**

Andrew Eggleston – President of Chamber of Commerce/Bell & Co Estate Agent  
Anne Wilby – Stenhams  
Malcolm Matthews – Islands Insurance  
Sharon Donaldson – Blanchards  
Nigel Lawrence – Shipping Magazine  
Ann Hodgson  
Richard Proctor – Braye Beach Hotel  
Helen Ackrill – Fort Group  
Brendan Noone – Noone & Associates  
Alan Fulford – Alderney Estate Agents  
Nicky Burland & Team - Alderney Gambling Commission  
Paul Veron – States of Alderney  
Paul Clarke – FAB & Entrepreneur  
Norma Paris – States Member



## **APPENDIX C: TPS COST ESTIMATES**



## **Alderney Airport Pavements Project:**

### **Supporting Description of the Options Shortlisted Through Risk and Benefit Workshops**

The following “Long List” was submitted to the Workshop selection process

#### **Option 1 – Do Minimal**

Work to the existing paved areas would be limited to patching and repairs, maximum life enhancement +5 years, plus widening the existing main runway (08/26) to 23m wide.

#### **Option 2 – Basic Resurfacing of existing paved areas**

Resurface all the paved surfaces at the airport, including widening the existing runway to 23m.

#### **Option 3 –Option 2 with some minimal improvements**

As Option 2, with enhancements to improve runway lighting and more efficient drainage.

#### **Option 4 –Option 3 + paved crosswind runway (03/21)**

As Option 3, plus extending and hard surfacing the short grass runway (03/21)

#### **Option 5 – Extension of the existing Runway to 1100m**

Extension of the asphalt runway (08/26) to 1100m length, and increase width to 30m, to accommodate larger GA and commercial aircraft.

#### **Option 6 – Option 3 + improvements to enable extension to 1100m at a later stage**

A hybrid (two-stage) scheme which delivers Option 3 initially, with certain additional enhancements to the design that would facilitate a less expensive and less disruptive move to a runway extension to 1100m at a future stage when the business need is more apparent.

### **Short List**

Following consultations and Stakeholder Workshops, the following shortlist has been selected for more detailed examination:

#### **Option 3 –Resurface all surfaces, and widen Runway 08/26 along with some minimal improvements**

Runway 08/26 will be widened on both sides to create a minimum paved width (declared width) of 23m, throughout its existing length of 877m, retaining the existing turning blisters. The widened runway will then be overlaid with new asphalt surface course throughout. The widening works will include drainage enhancements at the runway edges by the incorporation of filter drains, to supplement and assist natural land drainage.



In conjunction with the runway resurfacing, the runway lighting (AGL) circuits will be rewired and the fittings upgraded to a modern LED lighting system. Runway centreline lights will also be installed; although not a mandatory requirement for this length of runway, they have been identified as a desirable safety enhancement. A new standby generator will replace the existing aged unit.

The existing paved taxiway (Taxiway Bravo) will also be resurfaced with asphalt.

The existing apron will be resurfaced, using a grouted macadam surfacing to enhance resistance to minor fuel spillages.

*Operational considerations:* The construction works will need to be carried out during night possessions of the paved areas, to allow continuity of operational use.

#### **Option 5 – Extension of the existing Runway to 1100m in a single phase**

Runway 08/26 will be extended eastwards to 1100m length and 30m width to provide a Code 2C runway (PCN 11) suitable for operations by aircraft up to 42 seat capacity. The work will include resurfacing and strengthening the existing runway pavement to accommodate the larger aircraft types. The works will use asphalt as the surfacing material of choice.

The extension of the runway will require significant earthworks beyond the existing 26 Threshold, infilling the existing access track at the airport perimeter and requiring realignment of all affected access roads outside the airport boundary.

In conjunction with the runway resurfacing, the runway lighting (AGL) circuits will be rewired and the fittings upgraded to a modern LED lighting system. Runway centreline lights will also be installed; although not a mandatory requirement for this length of runway, they have been identified as a desirable safety enhancement. A new standby generator will replace the existing aged unit.

The existing 08 Approach lights will be retained and refurbished, and a new 26 Approach light system installed.

To achieve compliant Code C taxiway gradients on Taxiway Bravo it will be necessary to construct a new taxiway alignment to the Apron, utilising a part of the existing taxiway, but connecting to Runway 08/26 west of the existing taxiway intersection.

The existing apron will be resurfaced, using a grouted macadam surfacing to enhance resistance to minor fuel spillages.

*Operational considerations:* Option 5 is based on the outline scheme developed in the Runway Options Study report by TPS (August 2014). This included extensive earthworks to re-profile the ground east of the intersection with Runway 03/21, reducing the level of the runway beyond the intersection and using the excavated material to build up the ground east of the existing runway threshold (at the head of the Vau du Sud). This avoids the need to import fill material.

The necessary work would restrict the existing runway length to approximately 630 m for the period of the major earthworks. The two grass runways would be available for use, but the reduced take-off

and landing distances (TORA/LDA) available on the paved runway would impose restrictions on aircraft payloads (and aircraft types) using this runway for the period of major earthworks, until the construction of sufficient new pavement to reinstate the present runway length. Provisions for temporary approach lights (for 26 Approach) for reduced declared distances would be developed and agreed with the regulator.

The details of this phase, and construction methodology to minimise the period of disruption (e.g. phasing of works, and 24 hour working), will be addressed in the development of a detailed design if Option 5 is the selected option.

#### **Option 6 – Phased extension of the runway to 1100m**

Stage 1 – widening and resurfacing, equivalent to Option 3.

Stage 2 – extend the runway from 877m to 1100m and widen to 30m.

This is a hybrid, two-stage scheme which delivers “Option 3” initially as Stage 1 of the development. This will include certain additional enhancements to the design, which will facilitate future extension of the runway to 1100m as stage 2 of the development. The works will use asphalt as the surfacing material of choice.

In the initial phase of work, Runway 08/26 will be widened on both sides to a minimum paved width (declared width) of 23m, throughout its existing length of 877m, retaining the existing turning blisters. The widened runway will then be overlaid with new asphalt surface course throughout. This corresponds to the refurbished Code 2B runway provided by Option 3. However, drainage and AGL works, would be positioned outside of the 30m zone so as to facilitate future runway widening in stage 2

During Stage 1 the runway AGL circuits will be rewired and the fittings upgraded to a modern LED lighting system for the existing 877m length. Runway centreline lights will also be installed, as in Option 3. Detailed design of the works will take account of the future lighting layout of the future extension, to safeguard for the future light configuration. A new standby generator will replace the existing aged unit at Stage 1.

The existing Taxiway Bravo will be resurfaced with asphalt.

The existing apron will be resurfaced, using a grouted macadam surfacing to enhance resistance to minor fuel spillages.

During Stage 2 the 23m wide runway will be widened to 30m, with earthworks at the east of the runway re-graded so that the pavement can be extended. This will include realignment of all affected access roads outside the airport boundary.

The 30m wide runway will be extended, to 1100m length, then a new surface course laid over the whole length to strengthen the existing runway pavement to accommodate the larger aircraft types.

All AGL circuits will be extended as necessary to serve the extended runway. AGL fittings installed in Stage 1 will be moved out to 30m width at a suitable time in the development.





The existing 08 Approach lights will be retained and refurbished, and a new 26 Approach light system installed.

A new Code C Taxiway Bravo will be constructed, on the same alignment as Option 5.

*Operational and cost considerations:* Option 6 Stage 1 is based on the resurfacing of the existing runway length. Retention of its full length at Stage 2, which would minimise the impact of the works east of Runway 03/21 intersection on the airport operation, would entail significant additional importation and placement of fill material (in the order of 70,000m<sup>3</sup> = 150,000 tonnes) to build up levels at the head of the Vau du Sud. This would represent a significant cost element in the order of £6m (based upon an island factor of 2), which might be reduced if a quarry or borrow pit on island can provide sufficient material of suitable quality. The more economical approach, on which TPS costings are based, is to apply a similar solution to Option 5 and restrict the existing runway length to approximately 630 m for the period of the major earthworks. Rebuilding 244m of runway to the east of Runway 03/21 to a reduced level then generates the fill needed to create the embankment for the runway extension. The two grass runways will still be available for use, but the reduced take-off and landing distances (TORA/LDA) available on the paved runway would impose restrictions on aircraft payloads (and aircraft types) using this runway for the period of major earthworks, until the construction of sufficient new pavement to reinstate the present runway length..

The construction works will need to be carried out during night possessions of the paved areas, to allow continuity of operational use.

Provisions for temporary approach lights (for 26 Approach) at different stages of the development, will need to be devised and agreed with the regulator.

### **Options 5 / 6 – Concrete as an Alternative Material**

All the option costings have been based on flexible pavements utilising asphalt surfacing. The reasons for this become clear when comparing with concrete as an alternative material:

The existing runway pavement is asphalt, and can thus be readily built up (and extended) in thin asphalt layers during a number of time limited (night time) possessions, with the runway re-open for operation the following morning.

Concrete is not a thin layer solution and so the option of surfacing with concrete pavement would entail either a significant depth of overslab to the existing asphalt (that would present difficulties matching levels with existing taxiways, grass runways and apron) or excavation of the existing pavement structure and reconstruction in concrete. This approach would require an extended full closure of the airport for a number of months (to include 28 days curing time for the concrete to achieve the desired strength development).

To avoid such a closure one could consider a concrete construction purely for the extension part of options 5 & 6. This would necessitate the need for both a concrete plant as well as an asphalt plant,



each with its own differing aggregate needs, with associated increased mobilisation costs, which would limit or completely wipe out any potential cost savings.

Notwithstanding cost factors, there is the almost unsurmountable challenge of gaining regulatory and operator approval to a change in runway surfacing part way along the runway's length. Such a solution would inevitably lead to different friction values between the asphalt and the concrete, which would create uncertainty for pilots as they transition between "black" and "white" portions (or vice versa) whilst under breaking. We think this would be a unique situation in aviation and not one that TPS would propose or support.

In conclusion, concrete is a viable material for a new build runway remote from operational pavements or where an existing runway can be closed for a period of months during its reconstruction. Staged runway rehabilitation construction with asphalt is necessary where a surface must be back in operation the following morning (e.g. runways at almost all civil airports around the world).

Prepared by David Wilbraham

Approved by Gerry Prickett

5<sup>th</sup> October 2016



**Alderney Airport Pavements Project:**

**Order of Cost Estimates - Basis of Estimates**

- 1 Costs have been calculated based on UK prices and then adjusted for Alderney.
- 2 For this Order of Cost estimate we have assessed a location factor for works on Alderney at between 2 and 2.75 times UK costs. In practice this will depend on a number of factors, which are difficult to assess without more detailed planning and early contractor involvement:
  - i) On-costs for transport of materials to the island.
  - ii) Mobilisation of specialist plant (e.g. asphalt batching) to the island.
  - iii) Size and productivity of construction plant suitable for use on island roads.
  - iv) The contractor's strategy for resourcing, transporting and accommodating the staff and workforce required for this project.
  - v) We have been unable to identify a recent civil engineering project on Alderney of comparable size for benchmarking.
  - vi) Overall size of project. A larger project may be towards the lower end of the range, a smaller project towards the top.

As this location factor is only an assessment, we have presented total estimated costs based at both upper and lower ends of this range. As the project progresses it will be possible to test the assumptions to refine this location factor and reduce its range.

- 3 Mobilisation costs are included and assume a batching plant and site laboratory are established within the airport vicinity
- 4 Site Surveys and investigations allow for topographic surveys and pavement testing on all options, ground investigations for the extended land take required for Options 5 & 6 and materials investigation of local borrow pits (if available) for option 6.
- 5 Land will be required in the vicinity of the airport but outside the protected surfaces for the installation of the batching plant. It is likely that appropriate locations will be in private ownership, necessitating a lease agreement for the duration of construction works. This is included for options 3, 5 and 6. Land purchase for the runway extension will be required in Options 5 and 6
- 6 Potential costs for enhancement of other Airport infrastructure (Terminal building, parking, fire cover etc), to accommodate operations by larger aircraft, have not been allowed for in the works cost estimate.
- 7 Costs are based at 4Q15.

**TPS Cost Estimates (base Date Q4 2015)**

			Island Factor Range	
			2.00	2.75
Option 3	Construction Cost - UK Prices		£3,377,000	£3,377,000
	Construction Cost - Alderney Prices		£6,750,000	£9,290,000
	Professional Fees	12%	£410,000	£410,000
	Site Surveys & investigations		£10,000	£10,000
	Land Lease for Plant Compound		£50,000	£50,000
	<b>Total Option 3</b>		<b>£7,220,000</b>	<b>£9,760,000</b>
Option 5	Construction UK Prices		£9,221,000	£9,221,000
	Construction Alderney Prices		£18,440,000	£25,360,000
	Professional Fees	10%	£920,000	£920,000
	Site Surveys & investigations		£30,000	£30,000
	Land Purchase and land lease for Plant Compound		£200,000	£200,000
	<b>Total Option 5</b>		<b>£19,590,000</b>	<b>£26,510,000</b>
Option 6	Construction UK Prices			
		Stage 1	£3,377,000	£3,377,000
		Stage 2	£7,999,000	£7,999,000
		Total	£11,376,000	£11,376,000
	Construction Alderney Prices		£22,750,000	£31,280,000
	Professional Fees	10%	£1,140,000	£1,140,000
	Site Surveys & investigations		£35,000	£35,000
	Land Purchase		£250,000	£250,000
	<b>Total Option 6</b>		<b>£24,175,000</b>	<b>£32,705,000</b>



### **The Island Factor used for Option Costings**

In 2014 TPS held initial consultations with States of Guernsey's Project Services division regarding their experience in relation to the uplift factor they apply to construction projects in Alderney. They indicated that an uplift factor between 2.5 - 3.5 times mainland rates would be a normal uplift range for costs of typical works carried out on Alderney.

TPS reviewed this in the context of:

1. economies of scale from the larger size of the Alderney Airport Pavement Project compared to these typical works and
2. some 'big-ticket' items (e.g. AGL equipment) the price of which is likely to be less dependent on location.

And we concluded that for the type of work envisaged, a range between 2.0 to 2.75 should be used for the purposes of high level estimating at this Feasibility stage.

The range of 'Island Factor' values from 2.0 to 2.75 reflects uncertainty in the on-island costs of particular elements and in particular the lack of any comparable recent project on Alderney that could be used for benchmarking purposes. The sheer volume of labour, materials and machinery that will need to be imported to the island is a significant aspect in preparing our option costings. Due to these uncertainties we have always presented total estimated costs based at both upper and lower ends of this range of factors.

### **Island Factor Comparisons**

The Building Cost Information Service of the Royal Institute of Chartered Surveyors (BCIS) produce 'location factors' for all regions of the UK. They have featured an 'Islands' category including Isle of Man, Scilly and Channel Islands as well as the Scottish Islands. The format does change from year to year, probably due to the number of sample projects available. The following are extracts from BCIS around the time of our 2014 cost analysis:

#### **Channel Islands**

2012 had a weighted average of 1.76 for the Channel Islands as a whole, with a range of 1.24 to 2.71. The majority of sample projects from which this data was produced would have been in Jersey and Guernsey. It would be logical to assume that compared to Jersey and Guernsey, Alderney would be towards, if not above, the top of this range.

#### **Scottish Islands**

Shetlands and Orkneys historically average 1.23 with a range of 0.77 to 1.82. Due to the limited size and scale of infrastructure in Alderney compared to Shetland and Orkney, it is likely that Alderney will be more expensive than the Scottish Islands.

#### **Isle of Man**

Historically has been 1.66 and a range of 1.32 – 2.13. Using the same logic we have applied to Orkney and Shetland, Alderney should sit higher than Isle of Man.

These historic comparators suggest to us that the range we have selected for current use is appropriate.



Just one slight word of caution is that across all 3 areas (Scottish Islands/Isle of Man/Channel Islands) the current factors are positioned lower than they were in 2012. We can't see any logical reason for that, and so are still inclined to think 2-2.75 is where we need to be positioned at the present time. As the project progresses into the design stage it will be essential for accurate budgetary control purposes to refine the location factor and reduce the range through further research. The most appropriate means of refinement would be through analysis of costs for a major project tendered recently in Alderney, should one be available. An alternative approach would be through the appointment of a civil engineering construction company to undertake an island costing exercise through a detailed analysis of logistics and procurement specifically for the typical elements of this project.

**In the meantime we continue to have confidence in our 2014 assessment.**

Prepared by Rob Jenkins  
Approved by Gerry Prickett  
29<sup>th</sup> September 2016



## **APPENDIX D: ECONOMIC APPRAISAL OUTPUTS**





# Transport Economics Approach

## Option 5 Core Case, Low Cost No Terminal

SCENARIO ASSUMPTIONS																									
Construction Cost Scenario																									
Cost Option	5 Low																								
Construction Time Split		Year 1 50%	Year 2 50%	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	Year 21	Year 22		
Terminal Built	No																								
Pax Scenario	0.5																								
TRAFFIC & FREQUENCY																									
Year		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
Baseline Traffic Forecast		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	Year 21	Year 22		
Guernsey																									
Average Daily One Way Frequency		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4		
Outbound Business		8,041	8,041	8,041	8,041	8,041	8,041	8,041	8,041	8,041	8,041	8,041	8,041	8,041	8,041	8,041	8,041	8,041	8,041	8,041	8,041	8,041	8,041		
Outbound Leisure		17,112	17,112	17,112	17,112	17,112	17,112	17,112	17,112	17,112	17,112	17,112	17,112	17,112	17,112	17,112	17,112	17,112	17,112	17,112	17,112	17,112	17,112		
Inbound Business		3,612	3,612	3,612	3,612	3,612	3,612	3,612	3,612	3,612	3,612	3,612	3,612	3,612	3,612	3,612	3,612	3,612	3,612	3,612	3,612	3,612	3,612		
Inbound Leisure		8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825		
Southampton																									
Average Daily One Way Frequency		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3		
Outbound Business		5,360	5,360	5,360	5,360	5,360	5,360	5,360	5,360	5,360	5,360	5,360	5,360	5,360	5,360	5,360	5,360	5,360	5,360	5,360	5,360	5,360	5,360		
Outbound Leisure		8,466	8,466	8,466	8,466	8,466	8,466	8,466	8,466	8,466	8,466	8,466	8,466	8,466	8,466	8,466	8,466	8,466	8,466	8,466	8,466	8,466	8,466		
Inbound Business		2,408	2,408	2,408	2,408	2,408	2,408	2,408	2,408	2,408	2,408	2,408	2,408	2,408	2,408	2,408	2,408	2,408	2,408	2,408	2,408	2,408	2,408		
Inbound Leisure		8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825		
Total																									
Average Daily One Way Frequency		7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7		
Outbound Business		13,401	13,401	13,401	13,401	13,401	13,401	13,401	13,401	13,401	13,401	13,401	13,401	13,401	13,401	13,401	13,401	13,401	13,401	13,401	13,401	13,401	13,401		
Outbound Leisure		25,579	25,579	25,579	25,579	25,579	25,579	25,579	25,579	25,579	25,579	25,579	25,579	25,579	25,579	25,579	25,579	25,579	25,579	25,579	25,579	25,579	25,579		
Inbound Business		6,021	6,021	6,021	6,021	6,021	6,021	6,021	6,021	6,021	6,021	6,021	6,021	6,021	6,021	6,021	6,021	6,021	6,021	6,021	6,021	6,021	6,021		
Inbound Leisure		17,650	17,650	17,650	17,650	17,650	17,650	17,650	17,650	17,650	17,650	17,650	17,650	17,650	17,650	17,650	17,650	17,650	17,650	17,650	17,650	17,650	17,650		
Change Scenario Traffic Forecast																									
Guernsey																									
Average Daily One Way Frequency		5	5	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3		
Outbound Business		8,041	8,041	8,137	8,235	8,335	8,435	8,537	8,640	8,744	8,849	8,956	9,064	9,064	9,064	9,064	9,064	9,064	9,064	9,064	9,064	9,064	9,064		
Outbound Leisure		17,112	17,112	17,324	17,539	17,756	18,198	18,424	18,652	18,883	19,117	19,353	19,353	19,353	19,353	19,353	19,353	19,353	19,353	19,353	19,353	19,353	19,353		
Inbound Business		3,612	3,612	3,656	3,700	3,745	3,790	3,835	3,882	3,928	3,976	4,024	4,072	4,072	4,072	4,072	4,072	4,072	4,072	4,072	4,072	4,072	4,072		
Inbound Leisure		8,825	8,825	8,926	9,027	9,130	9,234	9,340	9,446	9,554	9,662	9,773	9,884	9,884	9,884	9,884	9,884	9,884	9,884	9,884	9,884	9,884	9,884		
Southampton																									
Average Daily One Way Frequency		3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2		
Outbound Business		5,360	5,360	5,425	5,490	5,556	5,623	5,691	5,760	5,829	5,899	5,970	6,042	6,042	6,042	6,042	6,042	6,042	6,042	6,042	6,042	6,042	6,042		
Outbound Leisure		8,466	8,466	8,574	8,683	8,794	8,906	9,019	9,134	9,250	9,368	9,487	9,608	9,608	9,608	9,608	9,608	9,608	9,608	9,608	9,608	9,608	9,608		
Inbound Business		2,408	2,408	2,437	2,467	2,496	2,526	2,557	2,588	2,619	2,650	2,682	2,715	2,715	2,715	2,715	2,715	2,715	2,715	2,715	2,715	2,715	2,715		
Total																									
Average Daily One Way Frequency		8	8	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5		
Outbound Business		13,401	13,401	13,562	13,726	13,891	14,058	14,228	14,399	14,573	14,748	14,926	15,106	15,106	15,106	15,106	15,106	15,106	15,106	15,106	15,106	15,106	15,106		
Outbound Leisure		25,579	25,579	25,898	26,222	26,549	26,881	27,217	27,557	27,902	28,250	28,603	28,961	28,961	28,961	28,961	28,961	28,961	28,961	28,961	28,961	28,961	28,961		
Inbound Business		6,021	6,021	6,093	6,167	6,241	6,316	6,392	6,469	6,547	6,626	6,706	6,787	6,787	6,787	6,787	6,787	6,787	6,787	6,787	6,787	6,787	6,787		
Inbound Leisure		17,650	17,650	17,851	18,055	18,260	18,469	18,679	18,892	19,107	19,325	19,545	19,768	19,768	19,768	19,768	19,768	19,768	19,768	19,768	19,768	19,768	19,768		
CONSTRUCTION COSTS																									
Runway Extension		£4,597,000	£4,597,000	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£4,597,000		
Terminal		£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0		
Total		£4,597,000	£4,597,000	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0		
PRODUCER IMPACTS																									
Airport																									
New Passenger Revenue	Estimated Revenue per Pax	£10	£0	£0	£7,621	£15,334	td																		



Option 5 Core Case, Medium Cost No Terminal

SCENARIO ASSUMPTIONS																									
Construction Cost Scenario	5 Medium																								
Cost Option																									
Construction Time Split																									
Terminal Built	No 0.5																								
Pax Scenario																									
TRAFFIC & FREQUENCY																									
Year		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21		
Baseline Traffic Forecast		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	Year 21	Year 22		
Guernsey		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4		
Average Daily One Way Frequency		8,041	8,041	8,041	8,041	8,041	8,041	8,041	8,041	8,041	8,041	8,041	8,041	8,041	8,041	8,041	8,041	8,041	8,041	8,041	8,041	8,041	8,041		
Outbound Business		17,112	17,112	17,112	17,112	17,112	17,112	17,112	17,112	17,112	17,112	17,112	17,112	17,112	17,112	17,112	17,112	17,112	17,112	17,112	17,112	17,112	17,112		
Outbound Leisure		3,612	3,612	3,612	3,612	3,612	3,612	3,612	3,612	3,612	3,612	3,612	3,612	3,612	3,612	3,612	3,612	3,612	3,612	3,612	3,612	3,612	3,612		
Inbound Business		8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825		
Inbound Leisure																									
Southampton		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3		
Average Daily One Way Frequency		5,360	5,360	5,360	5,360	5,360	5,360	5,360	5,360	5,360	5,360	5,360	5,360	5,360	5,360	5,360	5,360	5,360	5,360	5,360	5,360	5,360	5,360		
Outbound Business		8,466	8,466	8,466	8,466	8,466	8,466	8,466	8,466	8,466	8,466	8,466	8,466	8,466	8,466	8,466	8,466	8,466	8,466	8,466	8,466	8,466	8,466		
Outbound Leisure		2,408	2,408	2,408	2,408	2,408	2,408	2,408	2,408	2,408	2,408	2,408	2,408	2,408	2,408	2,408	2,408	2,408	2,408	2,408	2,408	2,408	2,408		
Inbound Business		8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825		
Inbound Leisure																									
Total		7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7		
Average Daily One Way Frequency		13,401	13,401	13,401	13,401	13,401	13,401	13,401	13,401	13,401	13,401	13,401	13,401	13,401	13,401	13,401	13,401	13,401	13,401	13,401	13,401	13,401	13,401		
Outbound Business		25,579	25,579	25,579	25,579	25,579	25,579	25,579	25,579	25,579	25,579	25,579	25,579	25,579	25,579	25,579	25,579	25,579	25,579	25,579	25,579	25,579	25,579		
Outbound Leisure		6,021	6,021	6,021	6,021	6,021	6,021	6,021	6,021	6,021	6,021	6,021	6,021	6,021	6,021	6,021	6,021	6,021	6,021	6,021	6,021	6,021	6,021		
Inbound Business		17,650	17,650	17,650	17,650	17,650	17,650	17,650	17,650	17,650	17,650	17,650	17,650	17,650	17,650	17,650	17,650	17,650	17,650	17,650	17,650	17,650	17,650		
Inbound Leisure																									
Change Scenario Traffic Forecast																									
Guernsey		5	5	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3		
Average Daily One Way Frequency		8,041	8,041	8,137	8,235	8,335	8,435	8,537	8,640	8,744	8,849	8,956	9,064	9,064	9,064	9,064	9,064	9,064	9,064	9,064	9,064	9,064	9,064		
Outbound Business		17,112	17,112	17,324	17,539	17,756	17,976	18,198	18,424	18,652	18,883	19,117	19,353	19,353	19,353	19,353	19,353	19,353	19,353	19,353	19,353	19,353	19,353		
Outbound Leisure		3,612	3,612	3,656	3,700	3,745	3,790	3,835	3,880	3,925	3,970	4,015	4,060	4,060	4,060	4,060	4,060	4,060	4,060	4,060	4,060	4,060	4,060		
Inbound Business		8,825	8,825	8,926	9,027	9,130	9,234	9,340	9,446	9,554	9,662	9,773	9,884	9,884	9,884	9,884	9,884	9,884	9,884	9,884	9,884	9,884	9,884		
Inbound Leisure																									
Southampton		3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2		
Average Daily One Way Frequency		5,360	5,360	5,425	5,490	5,556	5,623	5,691	5,760	5,829	5,899	5,970	6,042	6,042	6,042	6,042	6,042	6,042	6,042	6,042	6,042	6,042	6,042		
Outbound Business		8,466	8,466	8,574	8,683	8,794	8,906	9,019	9,134	9,250	9,368	9,487	9,608	9,608	9,608	9,608	9,608	9,608	9,608	9,608	9,608	9,608	9,608		
Outbound Leisure		2,408	2,408	2,437	2,467	2,496	2,526	2,557	2,588	2,619	2,650	2,682	2,715	2,715	2,715	2,715	2,715	2,715	2,715	2,715	2,715	2,715	2,715		
Inbound Business		8,825	8,825	8,926	9,027	9,130	9,234	9,340	9,446	9,554	9,662	9,773	9,884	9,884	9,884	9,884	9,884	9,884	9,884	9,884	9,884	9,884	9,884		
Inbound Leisure																									
Total		8	8	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5		
Average Daily One Way Frequency		13,401	13,401	13,562	13,726	13,891	14,058	14,228	14,399	14,573	14,748	14,926	15,106	15,106	15,106	15,106	15,106	15,106	15,106	15,106	15,106	15,106	15,106		
Outbound Business		25,579	25,579	25,898	26,222	26,549	26,881	27,217	27,557	27,902	28,250	28,603	28,961	28,961	28,961	28,961	28,961	28,961	28,961	28,961	28,961	28,961	28,961		
Outbound Leisure		6,021	6,021	6,093	6,167	6,241	6,316	6,392	6,469	6,547	6,626	6,706	6,787	6,787	6,787	6,787	6,787	6,787	6,787	6,787	6,787	6,787	6,787		
Inbound Business		17,650	17,650	17,851	18,055	18,260	18,469	18,679	18,892	19,107	19,325	19,545	19,768	19,768	19,768	19,768	19,768	19,768	19,768	19,768	19,768	19,768	19,768		
Inbound Leisure																									

Option 5 Core Case, Medium Cost with Terminal

SCENARIO ASSUMPTIONS																								
Construction Cost Scenario	5 Medium																							
Cost Option																								
Construction Time Split																								
Terminal Built	Yes																							
Pax Scenario	0.5																							
TRAFFIC & FREQUENCY																								
Year																								
Baseline Traffic Forecast																								
Guernsey																								
Average Daily One Way Frequency																								
Outbound Business																								
Outbound Leisure																								
Inbound Business																								
Inbound Leisure																								
Southampton																								
Average Daily One Way Frequency																								
Outbound Business																								
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Average Daily One Way Frequency																								
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Inbound Leisure																								
Change Scenario Traffic Forecast																								
Guernsey																								
Average Daily One Way Frequency																								
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Southampton																								
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Inbound Leisure																								
Total																								
Average Daily One Way Frequency																								
Outbound Business																								
Outbound Leisure																								
Inbound Business																								
Inbound Leisure																								
CONSTRUCTION COSTS																								
Runway Extension																								
Terminal																								
Total																								
PRODUCER IMPACTS																								
Airport																								
New Passenger Revenue	Estimated Revenue per Pax	£10	£0	£0	£7,621	£15,334	£23,139	£31,039	£39,035	£47,126	£55,316	£63,604	£71,992	£80,482	£80,482	£80,482	£80,482	£80,482	£80,482	£80,482	£80,482	£80,482	£80,482	£80,482
OPEX		£0	£0	-£50,000	-£50,000	-£50,000	-£50,000	-£50,000	-£50,000	-£50,000	-£50,000	-£50,000	-£50,000	-£50,000	-£50,000	-£50,000	-£50,000	-£50,000	-£50,000	-£50,000	-£50,000	-£50,000	-£50,000	-£50,000
Airline																								
Subsidy	Total Increase in Subsidy				-345,963	-331,750	-317,366	-302,807	-288,074	-273,162	-258,071	-242,797	-227,339	-211,695	-211,695	-211,695	-211,695	-211,695	-211,695	-211,695	-211,695	-211,695	-211,695	-211,695
USER IMPACTS																								
Existing Passengers - Wait Time Impacts																								
Guernsey																								
Change in Frequency / Wait Time	Business		7	7	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
Leisure			11	11	-17	-17	-17	-17	-17	-17	-17	-17	-17	-17	-17	-17	-17	-17	-17	-17	-17	-17	-17	-17
		VoT per Minute																						
Outbound Business	£0.78	£44,451	£45,473	-£59,693	-£61,066	-£62,470	-£63,907	-£65,377	-£66,881	-£68,419	-£69,993	-£71,602	-£73,249	-£74,934	-£76,657	-£78,421	-£80,224	-£82,069	-£83,957	-£85,888	-£87,863	-£89,884	-£91,952	-£94,064
Outbound Leisure	£0.12	£23,168	£23,701	-£37,125	-£38,852	-£40,660	-£42,552	-£44,530	-£46,596	-£48,742	-£50,978	-£53,316	-£55,645	-£58,067	-£60,482	-£62,894	-£65,299	-£67,699	-£70,094	-£72,484	-£74,869	-£77,244	-£79,619	-£81,994
Inbound Business	£0.78	£19,971	£20,430	-£26,819	-£27,435	-£28,066	-£28,712	-£29,372	-£30,048	-£30,739	-£31,446	-£32,169	-£32,909	-£33,666	-£34,440	-£35,232	-£36,043	-£36,872	-£37,720	-£38,587	-£39,475	-£40,383	-£41,312	-£42,261
Inbound Leisure	£0.12	£11,948	£12,223	-£19,146	-£19,586	-£20,037	-£20,499	-£20,969	-£21,451	-£21,945	-£22,449	-£22,966	-£23,494	-£24,034	-£24,587	-£25,152	-£25,731	-£26,323	-£26,928	-£27,548	-£28,181	-£28,829	-£29,492	-£30,165
Southampton																								
Change in Frequency / Wait Time	Business		0	0	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12
Leisure			0	0	-28	-28	-28	-28	-28	-28	-28	-28	-28	-28	-28	-28	-28	-28	-28	-28	-28	-28	-28	-28
		VoT per Minute																						

















Option 5 Maximum Case, High Cost No Terminal

SCENARIO ASSUMPTIONS																										
Construction Cost Scenario	5 High																									
			Year 1 50%	Year 2 50%	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	Year 21	Year 22		
Terminal Built	No Max																									
Pax Scenario																										
TRAFFIC & FREQUENCY																										
Year			0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
Baseline Traffic Forecast			Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	Year 21	Year 22		
Guernsey			4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4		
Average Daily One Way Frequency			8,041	8,041	8,041	8,041	8,041	8,041	8,041	8,041	8,041	8,041	8,041	8,041	8,041	8,041	8,041	8,041	8,041	8,041	8,041	8,041	8,041	8,041		
Outbound Business			17,112	17,112	17,112	17,112	17,112	17,112	17,112	17,112	17,112	17,112	17,112	17,112	17,112	17,112	17,112	17,112	17,112	17,112	17,112	17,112	17,112	17,112		
Outbound Leisure			3,612	3,612	3,612	3,612	3,612	3,612	3,612	3,612	3,612	3,612	3,612	3,612	3,612	3,612	3,612	3,612	3,612	3,612	3,612	3,612	3,612	3,612		
Inbound Business			8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825		
Inbound Leisure																										
Southampton			3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3		
Average Daily One Way Frequency			5,360	5,360	5,360	5,360	5,360	5,360	5,360	5,360	5,360	5,360	5,360	5,360	5,360	5,360	5,360	5,360	5,360	5,360	5,360	5,360	5,360	5,360		
Outbound Business			8,466	8,466	8,466	8,466	8,466	8,466	8,466	8,466	8,466	8,466	8,466	8,466	8,466	8,466	8,466	8,466	8,466	8,466	8,466	8,466	8,466	8,466		
Outbound Leisure			2,408	2,408	2,408	2,408	2,408	2,408	2,408	2,408	2,408	2,408	2,408	2,408	2,408	2,408	2,408	2,408	2,408	2,408	2,408	2,408	2,408	2,408		
Inbound Business			8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825	8,825		
Inbound Leisure																										
Total			7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7		
Average Daily One Way Frequency			13,401	13,401	13,401	13,401	13,401	13,401	13,401	13,401	13,401	13,401	13,401	13,401	13,401	13,401	13,401	13,401	13,401	13,401	13,401	13,401	13,401	13,401		
Outbound Business			25,579	25,579	25,579	25,579	25,579	25,579	25,579	25,579	25,579	25,579	25,579	25,579	25,579	25,579	25,579	25,579	25,579	25,579	25,579	25,579	25,579	25,579		
Outbound Leisure			6,021	6,021	6,021	6,021	6,021	6,021	6,021	6,021	6,021	6,021	6,021	6,021	6,021	6,021	6,021	6,021	6,021	6,021	6,021	6,021	6,021	6,021		
Inbound Business			17,650	17,650	17,650	17,650	17,650	17,650	17,650	17,650	17,650	17,650	17,650	17,650	17,650	17,650	17,650	17,650	17,650	17,650	17,650	17,650	17,650	17,650		
Inbound Leisure																										
Change Scenario Traffic Forecast																										
Guernsey			5	5	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3		
Average Daily One Way Frequency			8,041	8,041	8,234	8,433	8,637	8,845	9,058	9,277	9,500	9,730	9,964	10,205	10,205	10,205	10,205	10,205	10,205	10,205	10,205	10,205	10,205	10,205		
Outbound Business			17,112	17,112	17,541	17,981	18,431	18,893	19,367	19,852	20,350	20,860	21,382	21,918	21,918	21,918	21,918	21,918	21,918	21,918	21,918	21,918	21,918	21,918		
Outbound Leisure			3,612	3,612	3,700	3,789	3,880	3,974	4,070	4,168	4,268	4,371	4,477	4,585	4,585	4,585	4,585	4,585	4,585	4,585	4,585	4,585	4,585	4,585		
Inbound Business			8,825	8,825	9,022	9,223	9,428	9,638	9,853	10,072	10,296	10,526	10,760	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000		
Inbound Leisure																										
Southampton			3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2		
Average Daily One Way Frequency			5,360	5,360	5,490	5,622	5,758	5,897	6,039	6,184	6,334	6,486	6,643	6,803	6,803	6,803	6,803	6,803	6,803	6,803	6,803	6,803	6,803	6,803		
Outbound Business			8,466	8,466	8,687	8,913	9,145	9,382	9,626	9,877	10,134	10,398	10,668	10,946	10,946	10,946	10,946	10,946	10,946	10,946	10,946	10,946	10,946	10,946		
Outbound Leisure			2,408	2,408	2,466	2,526	2,587	2,649	2,713	2,779	2,846	2,914	2,984	3,056	3,056	3,056	3,056	3,056	3,056	3,056	3,056	3,056	3,056	3,056		
Inbound Business			8,825	8,825	9,022	9,223	9,428	9,638	9,853	10,072	10,296	10,526	10,760	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000		
Inbound Leisure																										
Total			8	8	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5		
Average Daily One Way Frequency			13,401	13,401	13,724	14,055	14,394	14,741	15,097	15,461	15,834	16,216	16,607	17,008	17,008	17,008	17,008	17,008	17,008	17,008	17,008	17,008	17,008	17,008		
Outbound Business			25,579	25,579	26,228	26,893	27,576	28,276	28,993	29,729	30,483	31,257	32,050	32,864	32,864	32,864	32,864	32,864	32,864	32,864	32,864	32,864	32,864	32,864		
Outbound Leisure			6,021	6,021	6,166	6,315	6,467	6,623	6,783	6,946	7,114	7,285	7,461	7,641	7,641	7,641	7,641	7,641	7,641	7,641	7,641	7,641	7,641	7,641		
Inbound Business			17,650	17,650	18,043	18,445	18,856	19,276	19,705	20,144	20,593	21,052	21,521	22,000	22,000	22,000	22,000	22,000	22,000	22,000	22,000	22,000	22,000	22,000		
Inbound Leisure																										
CONSTRUCTION COSTS																										
Runway Extension			-£8,375,000	-£8,375,000	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	
Terminal			£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	
Total			-£8,375,000	-£8,375,000	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0				







Runway Option	5						
Incremental Cost	Low	£9,194,000		EIRR	5.6%		
Add Terminal Cost	Yes	£2,300,000					
Annual Operating Cost Increase		£50,000					
Base Year Traffic	Service Corrected	62,650					
Uplift Assumed relative to Max	50%		Total				
Population Increase after 10 years	7%	141	2,161				
Tourism increase after 10 years	12%	2,118	19,768				
(Million GBP - Q4 2015 prices)							

Year	Pax	Subsidy Increment	Capital Cost	Operating Cost	GVA due to Construction Employment	Value Adjusted	Value Adjusted	Net Benefit in Year
						GVA due to Population Increase	GVA due to Tourism Increase	
-1	62,650	-	-5.75		0.22			-5.53
0	62,650	-	-5.75		0.22			-5.53
1	63,405	- 0.34596		-0.05		£0.11	£0.02	-0.27
2	64,169	- 0.33175		-0.05		£0.23	£0.04	-0.12
3	64,942	- 0.31736		-0.05		£0.35	£0.06	0.04
4	65,725	- 0.30280		-0.05		£0.48	£0.08	0.20
5	66,516	- 0.28807		-0.05		£0.61	£0.10	0.37
6	67,318	- 0.27316		-0.05		£0.74	£0.12	0.54
7	68,129	- 0.25807		-0.05		£0.88	£0.14	0.72
8	68,950	- 0.24279		-0.05		£1.03	£0.17	0.90
9	69,781	- 0.22734		-0.05		£1.18	£0.19	1.10
10	70,622	- 0.21169		-0.05		£1.34	£0.22	1.30
11	70,622	- 0.21169		-0.05		£1.37	£0.22	1.33
12	70,622	- 0.21169		-0.05		£1.39	£0.23	1.36
13	70,622	- 0.21169		-0.05		£1.42	£0.23	1.39
14	70,622	- 0.21169		-0.05		£1.45	£0.24	1.42
15	70,622	- 0.21169		-0.05		£1.48	£0.24	1.46
16	70,622	- 0.21169		-0.05		£1.51	£0.25	1.49
17	70,622	- 0.21169		-0.05		£1.54	£0.25	1.53
18	70,622	- 0.21169		-0.05		£1.57	£0.26	1.56
19	70,622	- 0.21169		-0.05		£1.60	£0.26	1.60
20	70,622	- 0.21169	5.75	-0.05		£1.63	£0.27	7.38
							<b>EIRR</b>	<b>5.6%</b>

Runway Option	5						
Incremental Cost	Medium	£12,370,000		EIRR	5.5%		
Add Terminal Cost	No	£0					
Annual Operating Cost Increase		£0					
Base Year Traffic	Service Corrected	62,650					
Uplift Assumed relative to Max	50%		Total				
Population Increase after 10 years	7%	141	2,161				
Tourism increase after 10 years	12%	2,118	19,768				
(Million GBP - Q4 2015 prices)							

Year	Pax	Subsidy Increment	Capital Cost	Operating Cost	GVA due to Construction Employment	Value Adjusted GVA due to Population Increase	Value Adjusted GVA due to Tourism Increase	Net Benefit in Year
-1	62,650	-	-6.19		0.22			-5.96
0	62,650	-	-6.19		0.22			-5.96
1	63,405	- 0.34596		0.00		£0.11	£0.02	-0.22
2	64,169	- 0.33175		0.00		£0.23	£0.04	-0.07
3	64,942	- 0.31736		0.00		£0.35	£0.06	0.09
4	65,725	- 0.30280		0.00		£0.48	£0.08	0.25
5	66,516	- 0.28807		0.00		£0.61	£0.10	0.42
6	67,318	- 0.27316		0.00		£0.74	£0.12	0.59
7	68,129	- 0.25807		0.00		£0.88	£0.14	0.77
8	68,950	- 0.24279		0.00		£1.03	£0.17	0.95
9	69,781	- 0.22734		0.00		£1.18	£0.19	1.15
10	70,622	- 0.21169		0.00		£1.34	£0.22	1.35
11	70,622	- 0.21169		0.00		£1.37	£0.22	1.38
12	70,622	- 0.21169		0.00		£1.39	£0.23	1.41
13	70,622	- 0.21169		0.00		£1.42	£0.23	1.44
14	70,622	- 0.21169		0.00		£1.45	£0.24	1.47
15	70,622	- 0.21169		0.00		£1.48	£0.24	1.51
16	70,622	- 0.21169		0.00		£1.51	£0.25	1.54
17	70,622	- 0.21169		0.00		£1.54	£0.25	1.58
18	70,622	- 0.21169		0.00		£1.57	£0.26	1.61
19	70,622	- 0.21169		0.00		£1.60	£0.26	1.65
20	70,622	- 0.21169	6.19	0.00		£1.63	£0.27	7.87
							<b>EIRR</b>	<b>5.5%</b>



Runway Option	5						
Incremental Cost	Medium	£12,370,000		EIRR	4.1%		
Add Terminal Cost	Yes	£2,300,000					
Annual Operating Cost Increase		£50,000					
Base Year Traffic	Service Corrected	62,650					
Uplift Assumed relative to Max	50%		Total				
Population Increase after 10 years	7%	141	2,161				
Tourism increase after 10 years	12%	2,118	19,768				
(Million GBP - Q4 2015 prices)							

Year	Pax	Subsidy Increment	Capital Cost	Operating Cost	GVA due to Construction Employment	Value Adjusted GVA due to Population Increase	Value Adjusted GVA due to Tourism Increase	Net Benefit in Year
-1	62,650	-	-7.34		0.22			-7.11
0	62,650	-	-7.34		0.22			-7.11
1	63,405	- 0.34596		-0.05		£0.11	£0.02	-0.27
2	64,169	- 0.33175		-0.05		£0.23	£0.04	-0.12
3	64,942	- 0.31736		-0.05		£0.35	£0.06	0.04
4	65,725	- 0.30280		-0.05		£0.48	£0.08	0.20
5	66,516	- 0.28807		-0.05		£0.61	£0.10	0.37
6	67,318	- 0.27316		-0.05		£0.74	£0.12	0.54
7	68,129	- 0.25807		-0.05		£0.88	£0.14	0.72
8	68,950	- 0.24279		-0.05		£1.03	£0.17	0.90
9	69,781	- 0.22734		-0.05		£1.18	£0.19	1.10
10	70,622	- 0.21169		-0.05		£1.34	£0.22	1.30
11	70,622	- 0.21169		-0.05		£1.37	£0.22	1.33
12	70,622	- 0.21169		-0.05		£1.39	£0.23	1.36
13	70,622	- 0.21169		-0.05		£1.42	£0.23	1.39
14	70,622	- 0.21169		-0.05		£1.45	£0.24	1.42
15	70,622	- 0.21169		-0.05		£1.48	£0.24	1.46
16	70,622	- 0.21169		-0.05		£1.51	£0.25	1.49
17	70,622	- 0.21169		-0.05		£1.54	£0.25	1.53
18	70,622	- 0.21169		-0.05		£1.57	£0.26	1.56
19	70,622	- 0.21169		-0.05		£1.60	£0.26	1.60
20	70,622	- 0.21169	7.34	-0.05		£1.63	£0.27	8.97
							<b>EIRR</b>	<b>4.1%</b>

Runway Option	5						
Incremental Cost	High	£16,750,000		EIRR	3.7%		
Add Terminal Cost	No	£0					
Annual Operating Cost Increase		£0					
Base Year Traffic	Service Corrected	62,650					
Uplift Assumed relative to Max	50%		Total				
Population Increase after 10 years	7%	141	2,161				
Tourism increase after 10 years	12%	2,118	19,768				
(Million GBP - Q4 2015 prices)							

Year	Pax	Subsidy Increment	Capital Cost	Operating Cost	GVA due to Construction Employment	Value Adjusted GVA due to Population Increase	Value Adjusted GVA due to Tourism Increase	Net Benefit in Year
-1	62,650	-	-8.38		0.22			-8.15
0	62,650	-	-8.38		0.22			-8.15
1	63,405	- 0.34596		0.00		£0.11	£0.02	-0.22
2	64,169	- 0.33175		0.00		£0.23	£0.04	-0.07
3	64,942	- 0.31736		0.00		£0.35	£0.06	0.09
4	65,725	- 0.30280		0.00		£0.48	£0.08	0.25
5	66,516	- 0.28807		0.00		£0.61	£0.10	0.42
6	67,318	- 0.27316		0.00		£0.74	£0.12	0.59
7	68,129	- 0.25807		0.00		£0.88	£0.14	0.77
8	68,950	- 0.24279		0.00		£1.03	£0.17	0.95
9	69,781	- 0.22734		0.00		£1.18	£0.19	1.15
10	70,622	- 0.21169		0.00		£1.34	£0.22	1.35
11	70,622	- 0.21169		0.00		£1.37	£0.22	1.38
12	70,622	- 0.21169		0.00		£1.39	£0.23	1.41
13	70,622	- 0.21169		0.00		£1.42	£0.23	1.44
14	70,622	- 0.21169		0.00		£1.45	£0.24	1.47
15	70,622	- 0.21169		0.00		£1.48	£0.24	1.51
16	70,622	- 0.21169		0.00		£1.51	£0.25	1.54
17	70,622	- 0.21169		0.00		£1.54	£0.25	1.58
18	70,622	- 0.21169		0.00		£1.57	£0.26	1.61
19	70,622	- 0.21169		0.00		£1.60	£0.26	1.65
20	70,622	- 0.21169	8.38	0.00		£1.63	£0.27	10.06
							<b>EIRR</b>	<b>3.7%</b>

Runway Option	5						
Incremental Cost	High	£16,750,000		EIRR	2.8%		
Add Terminal Cost	Yes	£2,300,000					
Annual Operating Cost Increase		£50,000					
Base Year Traffic	Service Corrected	62,650					
Uplift Assumed relative to Max	50%		Total				
Population Increase after 10 years	7%	141	2,161				
Tourism increase after 10 years	12%	2,118	19,768				
(Million GBP - Q4 2015 prices)							

Year	Pax	Subsidy Increment	Capital Cost	Operating Cost	GVA due to Construction Employment	Value Adjusted	Value Adjusted	Net Benefit in Year
						GVA due to Population Increase	GVA due to Tourism Increase	
-1	62,650	-	-9.53		0.22			-9.30
0	62,650	-	-9.53		0.22			-9.30
1	63,405	- 0.34596		-0.05		£0.11	£0.02	-0.27
2	64,169	- 0.33175		-0.05		£0.23	£0.04	-0.12
3	64,942	- 0.31736		-0.05		£0.35	£0.06	0.04
4	65,725	- 0.30280		-0.05		£0.48	£0.08	0.20
5	66,516	- 0.28807		-0.05		£0.61	£0.10	0.37
6	67,318	- 0.27316		-0.05		£0.74	£0.12	0.54
7	68,129	- 0.25807		-0.05		£0.88	£0.14	0.72
8	68,950	- 0.24279		-0.05		£1.03	£0.17	0.90
9	69,781	- 0.22734		-0.05		£1.18	£0.19	1.10
10	70,622	- 0.21169		-0.05		£1.34	£0.22	1.30
11	70,622	- 0.21169		-0.05		£1.37	£0.22	1.33
12	70,622	- 0.21169		-0.05		£1.39	£0.23	1.36
13	70,622	- 0.21169		-0.05		£1.42	£0.23	1.39
14	70,622	- 0.21169		-0.05		£1.45	£0.24	1.42
15	70,622	- 0.21169		-0.05		£1.48	£0.24	1.46
16	70,622	- 0.21169		-0.05		£1.51	£0.25	1.49
17	70,622	- 0.21169		-0.05		£1.54	£0.25	1.53
18	70,622	- 0.21169		-0.05		£1.57	£0.26	1.56
19	70,622	- 0.21169		-0.05		£1.60	£0.26	1.60
20	70,622	- 0.21169	9.53	-0.05		£1.63	£0.27	11.16
							<b>EIRR</b>	<b>2.8%</b>

### Option 5 Maximum Case

Runway Option	5							
Incremental Cost	Low	£9,194,000		EIRR	15.2%			
Add Terminal Cost	No	£0						
Annual Operating Cost Increase		£0						
Base Year Traffic	Service Corrected	62,650						
Uplift Assumed relative to Max	Max		Total					
Population Increase after 10 years	Max	280	2,300					
Tourism increase after 10 years	Max	4,350	22,000					
(Million GBP - Q4 2015 prices)								

[illegible]

Runway Option	5						
Incremental Cost	Low	£9,194,000		EIRR	12.6%		
Add Terminal Cost	Yes	£2,300,000					
Annual Operating Cost Increase		£50,000					
Base Year Traffic	Service Corrected	62,650					
Uplift Assumed relative to Max	Max		Total				
Population Increase after 10 years	Max	280	2,300				
Tourism increase after 10 years	Max	4,350	22,000				
(Million GBP - Q4 2015 prices)							

					GVA due to Construction Employment	Value Adjusted GVA due to Population Increase	Value Adjusted GVA due to Tourism Increase	Net Benefit in Year
Year	Pax	Subsidy Increment	Capital Cost	Operating Cost				
-1	62,650	-	-5.75		0.22			-5.53
0	62,650	-	-5.75		0.22			-5.53
1	64,161	- 0.33189		-0.05		£0.22	£0.04	-0.12
2	65,709	- 0.30310		-0.05		£0.45	£0.08	0.18
3	67,294	- 0.27361		-0.05		£0.69	£0.12	0.49
4	68,917	- 0.24341		-0.05		£0.94	£0.16	0.81
5	70,580	- 0.21248		-0.05		£1.20	£0.20	1.14
6	72,282	- 0.18080		-0.05		£1.47	£0.25	1.49
7	74,026	- 0.14836		-0.05		£1.75	£0.30	1.85
8	75,811	- 0.11514		-0.05		£2.04	£0.35	2.22
9	77,640	- 0.08112		-0.05		£2.34	£0.40	2.60
10	79,513	- 0.04627		-0.05		£2.65	£0.45	3.00
11	79,513	- 0.04627		-0.05		£2.70	£0.46	3.07
12	79,513	- 0.04627		-0.05		£2.76	£0.47	3.13
13	79,513	- 0.04627		-0.05		£2.81	£0.48	3.19
14	79,513	- 0.04627		-0.05		£2.87	£0.49	3.26
15	79,513	- 0.04627		-0.05		£2.93	£0.50	3.33
16	79,513	- 0.04627		-0.05		£2.99	£0.51	3.39
17	79,513	- 0.04627		-0.05		£3.05	£0.52	3.46
18	79,513	- 0.04627		-0.05		£3.11	£0.53	3.54
19	79,513	- 0.04627		-0.05		£3.17	£0.54	3.61
20	79,513	- 0.04627	5.75	-0.05		£3.23	£0.55	9.43
							<b>EIRR</b>	<b>12.6%</b>

[illegible]

Runway Option	5						
Incremental Cost	Medium	£12,370,000		EIRR	10.4%		
Add Terminal Cost	Yes	£2,300,000					
Annual Operating Cost Increase		£50,000					
Base Year Traffic	Service Corrected	62,650					
Uplift Assumed relative to Max	Max		Total				
Population Increase after 10 years	Max	280	2,300				
Tourism increase after 10 years	Max	4,350	22,000				
(Million GBP - Q4 2015 prices)							

					GVA due to	Value Adjusted	Value Adjusted	
					Construction	GVA due to	GVA due to	
Year	Pax	Subsidy Increment	Capital Cost	Operating Cost	Employment	Population Increase	Tourism Increase	Net Benefit in Year
-1	62,650	-	-7.34		0.22			-7.11
0	62,650	-	-7.34		0.22			-7.11
1	64,161	- 0.33189		-0.05		£0.22	£0.04	-0.12
2	65,709	- 0.30310		-0.05		£0.45	£0.08	0.18
3	67,294	- 0.27361		-0.05		£0.69	£0.12	0.49
4	68,917	- 0.24341		-0.05		£0.94	£0.16	0.81
5	70,580	- 0.21248		-0.05		£1.20	£0.20	1.14
6	72,282	- 0.18080		-0.05		£1.47	£0.25	1.49
7	74,026	- 0.14836		-0.05		£1.75	£0.30	1.85
8	75,811	- 0.11514		-0.05		£2.04	£0.35	2.22
9	77,640	- 0.08112		-0.05		£2.34	£0.40	2.60
10	79,513	- 0.04627		-0.05		£2.65	£0.45	3.00
11	79,513	- 0.04627		-0.05		£2.70	£0.46	3.07
12	79,513	- 0.04627		-0.05		£2.76	£0.47	3.13
13	79,513	- 0.04627		-0.05		£2.81	£0.48	3.19
14	79,513	- 0.04627		-0.05		£2.87	£0.49	3.26
15	79,513	- 0.04627		-0.05		£2.93	£0.50	3.33
16	79,513	- 0.04627		-0.05		£2.99	£0.51	3.39
17	79,513	- 0.04627		-0.05		£3.05	£0.52	3.46
18	79,513	- 0.04627		-0.05		£3.11	£0.53	3.54
19	79,513	- 0.04627		-0.05		£3.17	£0.54	3.61
20	79,513	- 0.04627	7.34	-0.05		£3.23	£0.55	11.02
							<b>EIRR</b>	<b>10.4%</b>

Runway Option	5						
Incremental Cost	High	£16,750,000		EIRR	9.5%		
Add Terminal Cost	No	£0					
Annual Operating Cost Increase		£0					
Base Year Traffic	Service Corrected	62,650					
Uplift Assumed relative to Max	Max		Total				
Population Increase after 10 years	Max	280	2,300				
Tourism increase after 10 years	Max	4,350	22,000				
(Million GBP - Q4 2015 prices)							

Year	Pax	Subsidy Increment	Capital Cost	Operating Cost	GVA due to Construction Employment	Value Adjusted GVA due to Population Increase	Value Adjusted GVA due to Tourism Increase	Net Benefit in Year
-1	62,650	-	-8.38		0.22			-8.15
0	62,650	-	-8.38		0.22			-8.15
1	64,161	- 0.33189		0.00		£0.22	£0.04	-0.07
2	65,709	- 0.30310		0.00		£0.45	£0.08	0.23
3	67,294	- 0.27361		0.00		£0.69	£0.12	0.54
4	68,917	- 0.24341		0.00		£0.94	£0.16	0.86
5	70,580	- 0.21248		0.00		£1.20	£0.20	1.19
6	72,282	- 0.18080		0.00		£1.47	£0.25	1.54
7	74,026	- 0.14836		0.00		£1.75	£0.30	1.90
8	75,811	- 0.11514		0.00		£2.04	£0.35	2.27
9	77,640	- 0.08112		0.00		£2.34	£0.40	2.65
10	79,513	- 0.04627		0.00		£2.65	£0.45	3.05
11	79,513	- 0.04627		0.00		£2.70	£0.46	3.12
12	79,513	- 0.04627		0.00		£2.76	£0.47	3.18
13	79,513	- 0.04627		0.00		£2.81	£0.48	3.24
14	79,513	- 0.04627		0.00		£2.87	£0.49	3.31
15	79,513	- 0.04627		0.00		£2.93	£0.50	3.38
16	79,513	- 0.04627		0.00		£2.99	£0.51	3.44
17	79,513	- 0.04627		0.00		£3.05	£0.52	3.51
18	79,513	- 0.04627		0.00		£3.11	£0.53	3.59
19	79,513	- 0.04627		0.00		£3.17	£0.54	3.66
20	79,513	- 0.04627	8.38	0.00		£3.23	£0.55	12.11
							<b>EIRR</b>	<b>9.5%</b>



Runway Option	5						
Incremental Cost	High	£16,750,000		EIRR	8.3%		
Add Terminal Cost	Yes	£2,300,000					
Annual Operating Cost Increase		£50,000					
Base Year Traffic	Service Corrected	62,650					
Uplift Assumed relative to Max	Max		Total				
Population Increase after 10 years	Max	280	2,300				
Tourism increase after 10 years	Max	4,350	22,000				
(Million GBP - Q4 2015 prices)							

					GVA due to	Value Adjusted	Value Adjusted	
Year	Pax	Subsidy Increment	Capital Cost	Operating Cost	Construction Employment	GVA due to Population Increase	GVA due to Tourism Increase	Net Benefit in Year
-1	62,650	-	-9.53		0.22			-9.30
0	62,650	-	-9.53		0.22			-9.30
1	64,161	- 0.33189		-0.05		£0.22	£0.04	-0.12
2	65,709	- 0.30310		-0.05		£0.45	£0.08	0.18
3	67,294	- 0.27361		-0.05		£0.69	£0.12	0.49
4	68,917	- 0.24341		-0.05		£0.94	£0.16	0.81
5	70,580	- 0.21248		-0.05		£1.20	£0.20	1.14
6	72,282	- 0.18080		-0.05		£1.47	£0.25	1.49
7	74,026	- 0.14836		-0.05		£1.75	£0.30	1.85
8	75,811	- 0.11514		-0.05		£2.04	£0.35	2.22
9	77,640	- 0.08112		-0.05		£2.34	£0.40	2.60
10	79,513	- 0.04627		-0.05		£2.65	£0.45	3.00
11	79,513	- 0.04627		-0.05		£2.70	£0.46	3.07
12	79,513	- 0.04627		-0.05		£2.76	£0.47	3.13
13	79,513	- 0.04627		-0.05		£2.81	£0.48	3.19
14	79,513	- 0.04627		-0.05		£2.87	£0.49	3.26
15	79,513	- 0.04627		-0.05		£2.93	£0.50	3.33
16	79,513	- 0.04627		-0.05		£2.99	£0.51	3.39
17	79,513	- 0.04627		-0.05		£3.05	£0.52	3.46
18	79,513	- 0.04627		-0.05		£3.11	£0.53	3.54
19	79,513	- 0.04627		-0.05		£3.17	£0.54	3.61
20	79,513	- 0.04627	9.53	-0.05		£3.23	£0.55	13.21
							<b>EIRR</b>	<b>8.3%</b>









## STATES OF ALDERNEY

P.O. Box 1001, Alderney, Channel Islands GY9 3AA

Deputy P Ferbrache  
President  
States Trading Supervisory Board  
Brickfield House  
St Andrew  
Guernsey, GY6 8TY

23<sup>rd</sup> October 2018

Dear Deputy Ferbrache

### Alderney Airport Runway Rehabilitation Project

I refer to your letter dated 5<sup>th</sup> October 2018 regarding the above matter, which was considered by the Policy & Finance Committee at its meeting on 23<sup>rd</sup> October.

Members are most grateful to your Committee for all its work to get the project to this stage, and for taking this report to the States of Deliberation with positive recommendations. The Policy & Finance Committee commends your Committee on this policy letter and offers its wholehearted and unanimous support for the report and its recommendations.

If there is anything that we can do to assist the debate in the States of Deliberation, other than our two Representatives speaking in favour and supporting the report, then do please let us know. We are more than happy to offer whatever support we can to this very important infrastructure project for Alderney and its community.

Yours sincerely

James Dent

Chairman, Policy and Finance Committee  
States of Alderney

cc. Policy and Finance Committee Members, States of Alderney  
Andrew Muter, Chief Executive, States of Alderney  
Malcolm Matthews  
Colin Le Ray, General Manager of Ports, States of Guernsey



Committee *for*  
Economic Development

Market Building  
PO Box 451  
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Deputy Peter Ferbrache  
President  
States Trading Supervisory Board  
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26<sup>th</sup> October 2018

Dear Deputy Ferbrache,

**Re: Alderney Airport runway rehabilitation project**

Thank you for your letter dated 5<sup>th</sup> October in which you request feedback on a draft policy letter recommending a preferred option for the rehabilitation of Alderney's airport runway.

The Committee *for* Economic Development considered this matter at its recent meeting, and is of the view that the States Trading Supervisory Board's (STSB) recommended option (Option 3) is the most appropriate course of action, given the business case information provided and in the context of the States of Guernsey's obligation under the Alderney (Application of Legislation) Law, 1948 to provide, amongst other 'transferred services', an airfield for Alderney.

The Committee noted that, subject to States approval, the rehabilitation works are planned to take place mainly during the second year of the Public Service Obligations (PSOs) for the Alderney-Guernsey and Alderney-Southampton routes. As such, it is important that the works are planned in such a way as to have a minimal impact on day-to-day airport operations.

The Committee understands that the runway is envisaged to remain open throughout the refurbishment works. However, should this arrangement need to change in any way, I should be grateful if STSB would consult with both the Committee and the PSO operator in advance and at the earliest opportunity, so that any necessary and reasonable adjustments to the PSO services can be made with sufficient notice and with minimal inconvenience to passengers.

For factual accuracy, Paragraph 8.2 of the draft policy letter (on page 24) should be corrected to reflect the recent publication of the Invitation to Tender (ITT) for the Alderney PSOs (the ITT document was published on 11<sup>th</sup> October; the submission deadline for bids is 6<sup>th</sup> December).

In conclusion, the Committee *for* Economic Development is supportive of STSB's draft policy letter and recommendation, given the business case information provided and in the context of the States of Guernsey's obligation to provide an airfield for Alderney.

Yours sincerely,

A handwritten signature in dark ink, appearing to be 'CP', followed by a long horizontal flourish.

**Deputy Charles Parkinson**

President



Committee *for the*  
Environment & Infrastructure

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Deputy P Ferbrache  
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3 October 2018

Dear Deputy Ferbrache

Thank you for your letter of 5 October 2018 inviting the Committee *for the* Environment & Infrastructure (the “Committee”) to comment on the States Trading and Supervisory Board’s draft policy letter, Alderney Runway Rehabilitation Project. The Committee welcomes this opportunity to provide its observations and contribute towards your deliberation on this matter.

The Committee’s purpose is to protect and enhance the natural and physical environment and develop infrastructure in ways which are balanced and sustainable in order that present and future generations can live in a community which is clean, vibrant and prosperous. In terms of its mandate one of the Committee’s roles is to advise the States and to develop and implement policies on matters relating to its purpose, including: infrastructure, including but not limited to water, wastewater, the ports and the airports. With this context the Committee wishes to limit its comments to four main areas which I have set out below.

In the first instance my Committee notes that:

- the States of Guernsey’s obligation under the Alderney (Application of Legislation) Law, 1948 to provide an airfield for Alderney as part of the transferred services;
- the States has also designated the Guernsey-Alderney route as a lifeline route and that air connectivity is essential for the economic and social well-being of the people of Guernsey;
- the alternative ferry service will not be viable and is inconsistent with the legislation to which the States of Deliberation is morally bound; and
- the pavement condition of the existing paved runway 08/26, taxiway and apron are now deteriorating to the extent whereby ongoing patch repairing will neither

provide an acceptable surface for the safe operation of aircraft, nor be economical over the medium term.

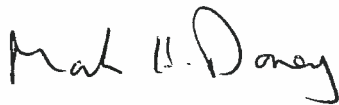
In short the Committee is of the view that the current runway is at end of life and the preferred way forward, Option 3 is both essential and timely. Indeed it is critically important that this project is commenced without delay.

Following on from this the Committee notes that the existing runway was last resurfaced in 1999 with an expected life through to 2011-14. It is understandable therefore that many in Alderney are concerned with the lengthy period of time to progress what is in effect a straightforward capital replacement project. The Committee therefore would hope the Policy & Resources Committee internal processes will, in the future, be proportionate.

The Committee would also hope that the project would be implemented in an environmentally sensitive way. For example we would hope STSB would take the opportunity to maximise the use of energy efficient airfield lighting (including LED) where that it is permitted under the appropriate aviation regulations. There may also be an opportunity for rainwater capture and attenuation in developing the drainage design as this would provide an opportunity for improved water capture for the public water supply and provide enhanced environmental protection in the event of a pollution event on the airfield. The Committee would also hope that the temporary works sites pay due attention to the short-term environmental impacts of noise, dust, traffic, vibration, light and pollution throughout the construction period.

Finally the Committee notes the multiplier effect and the indirect economic benefits that this large capital expenditure project will have on Alderney's economy and welcomes the impact this investment will have on the local community's economic and social well-being.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Mark H. Dorey', written in a cursive style.

**Deputy M Dorey**  
Vice-President  
Committee *for the* Environment & Infrastructure

**THE STATES OF DELIBERATION**  
**of the**  
**ISLAND OF GUERNSEY**

**STATES TRADING SUPERVISORY BOARD**

**ALDERNEY AIRPORT RUNWAY REHABILITATION**

Deputy Gavin St Pier  
The President, Policy & Resources Committee  
Sir Charles Frossard House  
La Charroterie  
St Peter Port

12<sup>th</sup> November, 2018

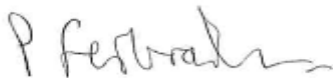
Dear Sir,

**Preferred date for consideration by the States of Deliberation**

In accordance with Rule 4(2) of the Rules of Procedure of the States of Deliberation and their Committees, the STSB requests that the Propositions be considered at the States' meeting to be held on 30<sup>th</sup> January 2019.

It is important that the Policy Letter for the rehabilitation of the Alderney Airport Runway is considered without further delay, so that the rehabilitation work can commence in sufficient time for it to be completed before the recent urgent remedial works reach the end of their life.

Yours faithfully,



P T R Ferbrache  
President  
States Trading Supervisory Board

J C S F Smithies  
Vice President



J Kuttelwascher  
Member

S J Falla MBE  
J C Hollis  
Non-States Members