Absolutely Positively **Wellington** City Council
Me Heke Ki Pōneke

ORDINARY MEETING

OF

WELLINGTON CITY COUNCIL

SUPPLEMENTARY AGENDA

Time: 5.30pm
Date: Wednesday, 17 December 2014
Venue: Committee Room 1
Ground Floor, Council Offices
101 Wakefield Street
Wellington

Business **Page No.**

3. General Business

AIRPORT RUNWAY EXTENSION - UPDATE AND FUNDING REQUEST FOR RMA APPROVALS PROCESS

Purpose

1. This report updates Council on the progress on the runway extension and identifies options to respond to a funding request from Wellington International Airport Limited (WIAL) for additional funding assistance with the Resource Management Act (RMA) approval process.

Summary

2. Improving Wellington's long haul connectivity is a central plank of Wellington's economic growth agenda. An extension to the runway to facilitate this has long been on the top of Wellington Employers Chamber of Commerce members' list of initiatives to help move the city and the region forward, and has been communicated to the community as part of the 2014/15 Annual Plan and early engagement on the 2015-25 Long Term Plan as one of the Big 8 ideas to stimulate economic growth in the city.

3. WIAL and WCC have partnered to fund the feasibility testing and RMA approvals process to achieve the runway extension which is the infrastructural barrier to achieving this outcome for Wellington. To date this process has significantly advanced the analysis and work required to confirm that a runway extension is indeed feasible as summarised in the following table:

Analysis	Evidence
Confirmation of the economic impact and viability of the proposed runway extension	Ernst & Young (EY) Report (attachment 2)
Confirmation of the market viability for airlines and routes for long haul services at Wellington Airport	InterVISTAS Report (attachment 3)
Confirmation that an extension to the south is possible from an engineering and geotechnical perspective	URS
Development of environmental impact assessments	NIWA
Development of visual/urban design impact assessments	Boffa Miskell
Development of traffic impact assessments	Traffic Design Group
Development of noise impact assessments	Marshal Day

4. Council commissioned PWC and AirBiz to undertake an independent peer review of the two key reports noted above – the InterVISTAS and EY reports by PWC and AirBiz (attachment 4) as these are fundamental to the economic case for the runway extension, and therefore Council's involvement. The PWC and AirBiz report is included as attachment 4.

5. The peer review could not find any errors in assumptions or process that would materially impact on the findings of the InterVISTAS or EY Reports. The key findings of the peer review are:
   - Airbiz conducted the review of the InterVISTAS report and Airbiz are of the opinion that InterVISTAS has assessed and presented a reasonable and credible view of the airline and route prospects at case study level for new long haul services.
   - PWC conducted the review of the EY report and are comfortable with the approach adopted by EY to assess potential economic benefits and cannot identify any errors in technique, logic or calculation.
6. Both Airbiz and PWC identified areas within the EY and InterVISTAS reports where further detail, explanation or greater clarity would improve the respective reports. EY and InterVISTAS along with WIAL have been advised of these areas and will address these matters.
7. WIAL has now collated enough information to confirm the viability and possibility of a runway extension to the south to proceed with confidence. However, to complete the necessary work to finalise the consent and process through the preferred Environmental Protection Agency (EPA) Board of Inquiry route there is a funding challenge.
8. The total costs to now complete the consent application, and process the application through the EPA Board of Inquiry have been estimated at $5.9 million. WIAL seek funding assistance from Council for 50% of this cost.
9. On 23 May 2013 Council approved a contribution of $1 million, or 50% of the then estimated costs of $2 million, therefore this request seeks an additional $1.95 million to bring Council's total contribution to $2.95 million (50% of the new estimate of $5.9 million).
10. The increase in estimated costs has been driven by the higher costs to process the consent through the EPA process which was not considered in the earlier estimate, and higher than estimated costs of preparing the feasibility and impact assessments.

Recommendation/s

It is recommended that the Council:

1. Receive the information.
2. Note the analysis from the Ernst and Young report shows the economic case for the runway extension is strong.
3. Note the analysis from InterVISTAS indicates a range of viable long haul routes to Asia and North America do exist to and from Wellington.
4. Note that the runway extension will go towards the south and engineering work shows that forecast costs remain within the $300-350 million initial estimates.
5. Note Council agreed to fund $1 million towards the RMA approvals process for the runway extension at its meeting of 29 May 2013.
6. Agree to commit up to $1.95 million to Wellington International Airport Limited to assist in funding the process to secure the necessary Resource Management Act approvals for the extension of the length of the Wellington Airport runway
7. Agree that the further Council contribution of up to $1.95 million will be funded from the forecast increased dividend from Wellington International Airport Limited for the

2014/15 financial year, and is contingent on confirmation that the dividend in 2014/15 is at least $1.95 million greater than budgeted in the 2014/15 Annual Plan.

8. Agree that the provision of the funding be on the conditions that:
   a. the Board of Wellington International Airport Limited agree that any costs beyond the total cost of $5.95 million will be met by Wellington International Airport Limited and that no further funding requests will be made; and
   b. the funding the Council has contributed for the RMA approval process is taken into account in the consideration of the overall funding of the project.
9. Note that in agreeing to provide funding to Wellington international Airport Limited for the Resource Management Act approval process there is no commitment from Council towards funding any runway extension which will form a separate process.
10. Agree to delegate to the Chief Executive authority to finalise and enter into a funding agreement with Wellington International Airport limited in accordance with this report.
11. Note that Wellington City Council has a separate regulatory role under the Resource Management Act and this decision has no impact on the independent discharge of that role.

Background

11. Improving international air connections is a core part of Council's economic growth agenda to transform the city and has been a strategic priority for the city and region for a long time.
12. The major barrier to materially improving the regions air connectivity is the length of the runway at Wellington airport. It has been confirmed that the runway is simply too short to allow direct flights to and from the main airway hubs in Asia and North America with new generation aircraft.
13. In May 2013 Council agreed to jointly fund the feasibility and impact assessment of extending the runway and the RMA approvals process on the basis that until the work was completed to obtain resource consent approval the runway extension would never eventuate. The resource consent process would determine whether the extension was feasible, consentable, consider the engineering solutions, the environmental impacts, the economic viability, aviation aspects and also importantly provide clarity around the cost of any extension.
14. At the time WIAL estimated that the work required to support the feasibility assessment and normal local authority RMA approvals process would be around $2.0 million, but this excluded extra costs associated with appeals, which given the size and impact of this application it is likely appeals to the Environment Court would eventuate. Council agreed to fund 50% ($1 million) of these costs at its meeting of 29 May 2013. Any costs above this were to be funded by WIAL.
15. In making this decision Council recognised that the runway extension is not a viable project for WIAL on its own and will require public funding to make the project happen. The main benefits from the runway extension will be public benefits to the national and regional economies rather than private benefits to WIAL.
16. WIAL has been working on this project since the time of Council approval and has significantly advanced the analysis and work required to confirm that a runway extension is indeed feasible and is looking now to submit a resource consent application in April 2015. Work on the aeronautical requirements, economic impact, route viability assessments, engineering options, geotechnical assessments, and the

key environmental impact investigations and impacts have either been completed or are near completion.

17. The WIAL Board has approved the decision that the most appropriate consenting path is through the EPA Board of Inquiry, rather than the local authority consenting process. This decision was based on the view that the EPA process offers more certainty, speed and possibly cost (when appeals are taken into account) than the alternative consenting route. Neither costs of the EPA process which are funded by the applicant, nor costs of appeals through the normal local authority route, were included in the original cost estimate, and both are considerable.

18. The cost incurred by WIAL to date has been $1.426m and it has been estimated that a further $1.621m is required to complete the full range of impact assessment and feasibility work required to lodge the application. WIAL has also assessed that the costs associated with processing the application through the EPA Board of Inquiry will be an additional $2.85m (the cost of the actual EPA Board of Inquiry and the costs of the advisors during the approvals process) resulting in a total cost of $5.9m to complete the process and receive a decision on the application as summarised below:

Details	$m
WIAL costs to date (engineering, aeronautical safety, environmental impact, economic impact, planning and legal advice)	$1.426
WIAL costs required to lodge consent	$1.621
EPA Board of Inquiry Costs (to be met by the applicant)	$1.750
WIAL costs of advisors and experts through the EPA Board of Inquiry process	$1.103
Total estimated cost RMA approvals process to decision	$5.900

19. This cost differs to the original estimate in May 2013 due to the strategic decision to take the EPA Board of Inquiry route for the RMA approvals process, and the extent of cost of the feasibility and impact assessments were greater than anticipated. The following table summarises a comparison of the latest estimates with those discussed in May 2013:

Cost Estimate Component ($m)	May 2013	Dec 2014	Change
Feasibility Reports / Advice	$0.5m	$1.40m	$0.90m
Consent Application/AEE/ Consultation Process*	$1.5m	$2.75m	$1.25m
EPA Process**	$0.0m	$1.75m	$1.75m
Total	$2.0m	$5.90m	$3.90m

* Local body consenting costs only included in May 2013 estimate (no environment court contingency)
** EPA costs not contemplated in May 2013 estimate

20. Given the scale and impact of the runway extension it is almost certain that appeals to the environment court would have occurred under a normal local authority approvals process. The cost of this was not factored into the original estimates and it is certain any appeals would extend the application process by years, and increase the costs.

21. The WIAL Board at its 30 October 2014 meeting approved additional funding of $1.95m to complete the RMA approvals process on the proviso that Council agreed to provide the same amount so that these costs are shared equally between Council and WIAL.

22. The CEO of WIAL has written to Council seeking matching of $1.95m to complete the consenting process. A copy of the request is attached and includes a summary of the

costs incurred to date, the expected costs to complete the process and an updated outline timeline.

23. Upon confirmation of the additional funding WIAL will complete the technical and environmental impact assessments prior to a pre-application consultation process in March 2015. The consent application is intended to be lodged in April 2015.

24. Discussions have taken place with the other Councils in the Region and they have supported the runway extension as the number one priority for growing the regional economy. The issue was raised by the Mayors in a special meeting with the Prime Minister in February and WIAL presented to the Mayoral Forum recently where regional support was evidenced.

Discussion

Project Feasibility – Summary of key analysis from InterVISTAS, Ernst and Young and others

25. The work completed by WIAL to date has confirmed that:
    - There is a strong economic case for the runway extension both from a regional and national economic perspective. The work completed by EY indicates the present value of the direct economic benefit to the Wellington Region to be up to $684m, and nationally up to $1.75m, between 2020 and 2060 and save international travel time for Wellington region based travellers;
    - InterVISTAS, who are recognised experts in the aviation industry, have assessed the potential long haul routes and confirmed that viable routes exist for airlines to operate long haul flights direct to and from Wellington to Asia with the possibility of seasonal services to North America; and
    - A 350 metre runway extension to the South is feasible from an aeronautical and engineering perspective and that the estimated cost of the runway extension remains in the indicated range of costs.

26. Officers commissioned a peer review of the EY economic impact report and the InterVISTAS route viability report by PWC and Airbiz to provide a high degree of confidence that these reports are robust and that the conclusions are supported by good processes.

27. PWC is a leading business and financial consultancy firm and Airbiz is an independent international specialist aviation consultancy firm with over 30 years of experience in advising aviation business route development and aviation management consulting (and many other aviation specialist areas). Both firms have credentials to be able to provide a high level of comfort over the original work, which was also performed by highly regarded firms in their areas of expertise.

28. The peer review could not find any errors in assumptions or process that would materially impact on the findings of the InterVISTAS or EY Reports.

29. The key findings of the peer review are:
    - Airbiz conducted the review of the InterVISTAS report and Airbiz are of the opinion that InterVISTAS has assessed and presented a reasonable and credible view of the airline and route prospects at case study level for new long haul services.
    - PWC conducted the review of the EY report and are comfortable with the approach adopted by EY to assess potential economic benefits and cannot identify any errors in technique, logic or calculation.

30. Both Airbiz and PWC identified areas within the EY and InterVISTAS reports where further detail, explanation or greater clarity would improve the respective reports. EY and InterVISTAS along with WIAL have been advised of these areas and will address these matters.

31. The economic impact and route viability work commissioned by WIAL together with the findings of the peer review undertaken on behalf of Council provide a strong case for the runway extension and support continuing the resource consent process and the associated financial investment required to complete the consenting process.

32. Attempts have been made to attract long haul flights direct to Wellington utilising the existing runway and offering the potential of incentives to airlines to operate direct flights. These have not been successful as the load restrictions are such that the economics are simply not viable for airlines even with the potential for financial incentives to support the route. The runway extension is the critical component of achieving direct long haul services to Wellington and materially improving Wellington's international air connections.

33. In May 2013, the decision was made to commence work on obtaining a resource consent for the runway extension. To get real progress against this strategic priority the potential for the runway extension needed to move beyond being an idea to being an informed process with all of the supporting work to develop a robust business case. This remains the case.

Economic Growth Agenda

34. The desire to improve Wellington's international air connections has been a key strategic objective of Council and the Region for a long time. It is a key part of Council's economic growth agenda and is one of the Big 8 ideas.

35. The runway extension is the key project to deliver on improved international air connectivity. It is expected that an extended runway will unlock the city's and region's economic potential by:
    - Increased visitor numbers to the city and region
    - Increasing productivity through reduced travel time for locals and visitors
    - Growing key industries
    - Makes Wellington more attractive to skilled migrants, businesses and students
    - Providing opportunities for airfreight to be serviced out of Wellington

36. These factors combine to contribute to the economic benefits outlined by EY in the economic impact report prepared for WIAL, and peer reviewed by PWC.

Funding Considerations and Options

37. WIAL are seeking funding support for 50% of the total costs (on the same basis as in May 2013) due to the escalation of the estimated costs of this process. This requires Council to provide a further $1.95 million of funding to WIAL to continue the RMA approvals process to bring our contribution up to $2.95 million (50% of the total estimated costs of $5.9 million).

38. Council has two main options to consider:
    - Fund after consideration through the 2015-25 Long Term Plan; or
    - Fund now through the forecast surplus created by the 2014/15 WIAL dividend (estimated to be $13.4m compared to the $11.0m budgeted in the 2014/15 Annual Plan, creating a surplus of $2.4m from the WIAL dividend).

39. Funding the $1.95 million through rates in the 2015-25 Long Term Plan would increase the 2015/16 rates or increase the quantum required to balance the 2015/16 rates to targeted levels (as our current draft plan is already $1 million over the target limit). It would also delay making the funding decision.

40. Funding now through the forecast WIAL dividend surplus will not require a rates increase or new borrowings and allows WIAL to continue with its plan to lodge the RMA application in April 2015. It is noted that the increased dividend from WIAL would otherwise have been available to Council in any case.

41. Officers favour funding this through the forecast WIAL dividend surplus in the 2014/15 year as it allows WIAL the ability to proceed swiftly in progressing the RMA approvals process and does not require a rates increase. However Officers recommend that Council approval is contingent on confirmation of the dividends increased.

42. WIAL has a 31 March balance date and therefore there is a high degree of certainty that the increased dividend of $13.4 million for 2014/15 will eventuate as indicated. No other significant unfavourable variances to budget are forecast for the 2014/15 financial year at this time.

43. A third option open to Council is to decline the request from WIAL and provide no additional funding. This would require WIAL to meet $4.9 million of the total estimated costs compared to Councils contribution of $1 million.

44. Should Council decline the request from WIAL, it would send a strong signal to WIAL (and Central Government) that Council is not committed to this process. It is likely that WIAL would not continue with the consenting process without Council agreeing to be a funding partner. WIAL state that they cannot fund the runway extension without public funding support and they would be reluctant to continue to invest in the RMA approval process without a strong commitment from Council.

45. WIAL and Council will work together to obtain regional and central government funding support. The project needs to be advanced and hold consents to progress these funding discussions to adequately demonstrate the project is feasible, viable and able to achieve the benefits of long haul connectivity.

46. If a consent is granted under the RMA approvals process WIAL and Council will have a 15 year (a longer consent lapse period will be requested) opportunity to deliver the runway extension which allows time to develop and consider the funding proposal for the runway extension that we expect to include local, regional and central government funding.

47. Officers will ensure that when seeking regional support for the runway extension and allocating a funding share across the region, account will be taken of Wellington City Council's support provided in this RMA approvals process that has not yet been sought from the region. To do so now would delay the process by a considerable length of time.

48. There have been initial discussions with Government regarding funding. Government has asked for a full business case to properly assess the proposal. An approved resource consent is a key component of the business case and forms a vital part of the approach to Government.

Community Engagement

49. The desire to improve Wellington's international air connections has been something the Council has been working towards for over a decade and has featured in Council's annual and long-term plans as far back as the 2006/16 long-term plan.

50. The need to improve connections to the world was also discussed with the community, and adopted, as part of the Wellington 2040 and the Economic Development strategies. More recently, the option of supporting the construction of a longer runway was communicated as part of Council's Big 8 Ideas and the early engagement on the 2015/25 Long Term Plan as also covered in the economic growth agenda.

51. The airport runway extension has long been the number one priority of the Wellington Employers Chamber of Commerce members' list of initiatives to help move the city and the region forward, sending a signal to WIAL and the Council that there is strong support from the business community. There was 89% support for a runway extension in their latest member survey.

52. WIAL has set up a separate website about the runway extension and provide feedback. Pre-application public consultation will be performed by WIAL in early 2015.

Next Actions

53. On the basis that the funding request from WIAL is approved then the next steps will be for WIAL to complete the work required for the consent application, carry out the consultation process through February and March 2015 with a view to lodging the RMA consent application in April 2015.

Attachments

Author	Kiri Rasmussen, Manager, Economic Development Projects
Authoriser	Derek Fry, Director City Growth & Partnerships

SUPPORTING INFORMATION

Consultation and Engagement

The specific request for additional funding has not been consulted on, however the proposal to progress this project as one of the Big 8 ideas has been communicated as part of the 2014/15 Annual Plan and the pre-consultation on the 2015-25 LTP.

Treaty of Waitangi considerations

None directly from this funding decision. The project itself is a key issue to Mana Whenua who will be consulted with by WIAL. Further WIAL will undertake an extensive cultural and environmental impact assessment as part of its application.

Financial implications

The amount of financial assistance sought by WIAL is $1.95m. It is proposed that this be funded in the 2014/15 financial year from the additional amounts received from the WIAL dividend for the year. The WIAL dividend for 2014/15 is budgeted within the Council annual plan at $11.0m. WIAL has advised that it expects the dividend payable to Council for the 2014/15 financial year will be $13.4m a forecast favourable increase of $2.4m compared to the Council 2014/15 Annual Plan. It is noted that WIAL has a 31 March balance date and so are now almost three quarters of the way through their financial year.

It is proposed that the additional funding sought by WIAL for the consenting process be funded directly from the increased 2014/15 dividend from WIAL and that Council approval is contingent on the increase dividend is received. This allows Council to make a decision that will not delay the consenting process and does not require Council to seek any additional funding from ratepayers or increase debt levels.

Policy and legislative implications

None

Risks / legal

Aside from the normal decision making processes, there are no legal considerations with respect to the request for funding.

The WIAL Board has approved an equivalent amount of $1.95m on the condition that matching funding is obtained from Council. Failure to provide matching funding could result in the resource consent process not being completed. A secondary risk is around timing, any delays in approving funding will impact on the project timetable accordingly as WIAL cannot commit further funding without certainty that Council funding is confirmed as being available.

Climate Change impact and considerations

Climate change and other environmental impacts of the runway extension itself will be considered as part of the work required for any application for resource consent. The funding request will enable all of the requisite work to be completed.

Communications Plan

None required

28 November 2014

Kevin Lavery
Chief Executive
Wellington City Council
WELLINGTON

Dear Kevin

WELLINGTON AIRPORT RUNWAY EXTENSION – CONSENTING PROJECT FUNDING

As discussed at our meeting of 2 October 2014 and at subsequent meetings between our respective officers, we have completed the feasibility assessment for the runway extension and are now in a position to detail the estimated costs for completing, lodging and processing the required Resource Management Act (RMA) approvals for the extended runway. The purpose of this letter is to request a further $1.95m from WCC to be able to complete the consent process. The WIAL Board, at their 31 October 2014 meeting, have also approved an additional $1.95m in line with the previous funding split.

The initial budget for which WIAL and WCC each contributed $1m allowed the development of a detailed proposal on the economic benefits, market size and a robust series of engineering and key scientific options analysis. In particular, the initial budget has allowed the following work to be undertaken:

1. The economic impact report by consultancy, EY, showing the direct economic benefit to the Wellington region, between 2020 and 2060, will be up to $684 million and up to $1.75 billion to New Zealand;
2. InterVISTAS, global experts in route development, have confirmed the commercially viable routes for airlines;
3. Determined the aeronautical requirements of an extended runway;
4. Work by engineering firm URS evaluated both northern and southern extension options and identified the southern reclamation option as preferred, on a combined engineering complexity and cost basis;
5. Determined the geotechnical environment of the southern end of the runway;
6. Allowed the initial development of the ConnectWellington website, the cornerstone tool for public engagement and later formal consultation phases; and
7. Allowed the commencement of the key environmental impact investigations and assessments into the physical impact of the extended runway on the Lyall Bay marine ecology and coastal wave and sediment movement patterns.

The initial budget of $2m (split 50:50 WIAL:WCC) was an early estimation of the likely consenting costs based on the knowledge to hand at the time and to be processed via a local government led process. At that stage, the process was very much in a feasibility testing phase with an assumption that much of the required technical information was to hand for the purposes of the later consenting phase.

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The subsequent decision to pursue the EPA Board of Inquiry consenting path has considerably altered the necessary budget, not simply through the additional processing costs associated with the EPA (estimated at nearly $2m alone), but also, as this process does not allow *de novo* appeals, there is an onus on applicants to produce considerably more detailed applications. This increased level of detail requires more intensive work by our technical consultants, the costs of which are well above the early estimates.

It is noted that the decision to pursue the EPA path has not been taken lightly; in fact the benefits gained from the increased level of detail required for the EPA path will result in a considerably more robust consultation and consent process, will avoid perceived or potential conflicts of interest arising from a local government led process, and is likely to deliver the consents years earlier than previously contemplated.

The combined impact of the additional costs associated with the technical consultants and the EPA processing estimates results in a revised total project cost of approximately $5.9m.

From this point, additional funds are therefore needed to complete the remaining effects assessments from the various technical consultants detailed in the attached cashflow summary and will allow the full impact assessment of an extended runway to be determined, reported, publically consulted, lodged with and processed by the Environmental Protection Agency (EPA).

Following our discussions, the WIAL Board approved an additional $1.95m, half of the anticipated expenditure, at their 31 October 2014 meeting on the proviso that the other half is met by the WCC. Based on the economic benefits of an extended runway to Wellington City and beyond, for the purposes of consenting the project, these costs are best shared equally by WIAL and WCC.

The process to lodging the consents is to complete the technical studies and environmental impact assessments in January and February 2014. The formal public consultation phases will follow in February and March. Subject to the outcomes of the public consultation it is intended that the consents are lodged with the EPA in April 2015. It is anticipated that from lodging, the consent process would be completed within 11-14 months depending on the time taken by the EPA to assess and publically notify the proposal. A summary timeline has also been appended for your reference.

I understand that the release of the required $1.95m in funding for this project would require approval of the full Council. If it is required, we are more than happy to follow up with another presentation to the Council on the benefits to Wellington of an extended runway.

I look forward to hearing from you.

Yours sincerely

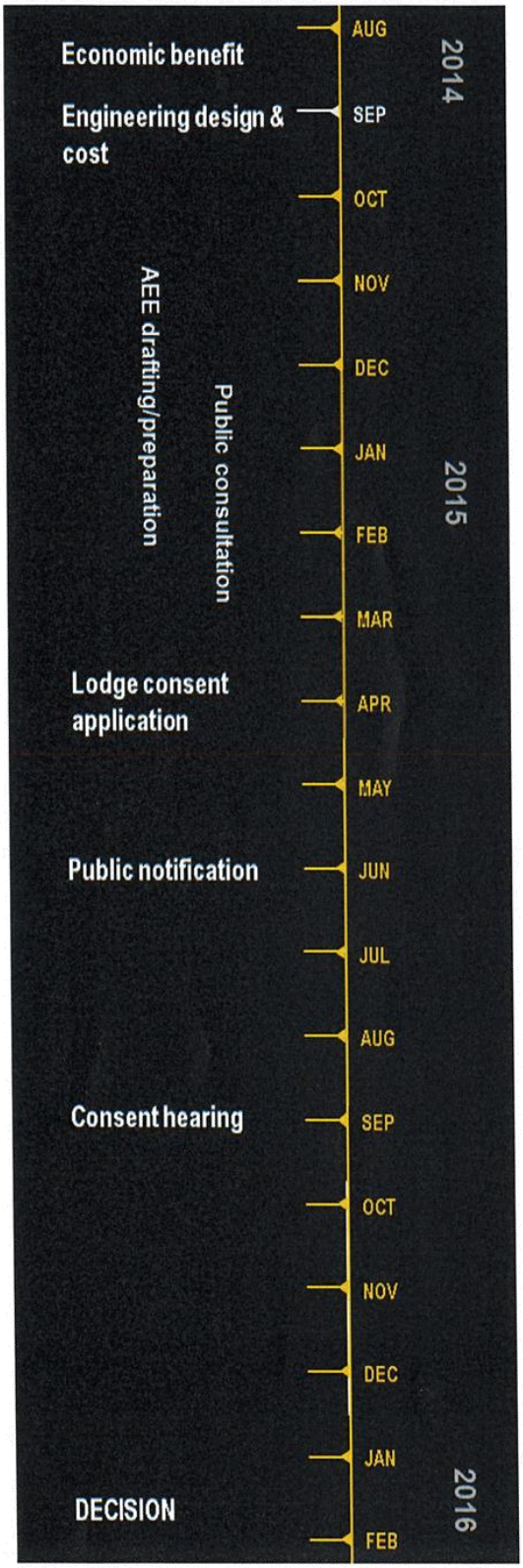
Steve Sanderson
Chief Executive
Wellington International Airport Limited

Item 3.3 Attachment 1

Estimate Cashflow Summary to Lodge Consents

Supplier	Item	Lodge Budget	2014			2015					2015/2016	
		(000)	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Processing	Total
Work to date	-	$1,426	$1,426	-	-	-	-	-	-	-	-	$1,426
Engineering/Geotech		$756										
Aeronautical Safety		$141										
Website/Preliminary Consultation		$50										
Environmental Baseline		$130										
Planning Advice		$140										
Legal Advice		$59										
Economic Impact		$75										
Project Management		$75										
Mitchell Associates	Planning	$195	$10	$15	$25	$25	$30	$30	$30	$30	$135	$330
Lane Neave	Legal	$250	$10	$15	$15	$40	$40	$40	$50	$40	$350	$500
URS	Engineering	$190	$80	$80	$30	-	-	-	-	-	$75	$265
NIWA	Marine Ecology	$263	$34	$48	$125	-	-	$56	-	-	$75	$338
NIWA	Coastal Studies	$274	-	-	$212	-	$62	-	-	-	$75	$349
Raukawa Consultants	Cultural	$50	-	$8	$21	$21	-	-	-	-	$15	$65
Boffa Miskell	Landscape	$89	-	-	$10	$20	$40	$19	-	-	$30	$119
Boffa Miskell	Urban Design	$57	-	-	$10	$15	$15	$17	-	-	$15	$72
Traffic Design Group	Traffic	$96	-	-	$10	$16	$40	$30	-	-	$25	$121
Marshall Day	Noise	$59	-	-	$10	$14	$20	$15	-	-	$25	$84
Kevin Jones	Archaeology	$8	-	-	$1	$3	$3	$1	-	-	$5	$13
WIAL	Cap. Items	$90	$30	-	-	$30	-	-	$30	-	$30	$120
EY	Economics	-	-	-	-	-	-	-	-	-	$25	$25
McGregors	Cost/Benefit	-	-	-	-	-	-	-	-	-	$20	$20
Astral	Aeronautical	-	-	-	-	-	-	-	-	-	$20	$20
EPA	Processing	-	-	-	-	-	-	-	-	-	$1,750	$1,750
Project Contingency	-										$183	$183
Cumulative Total		**$3,047**	**$1,590**	**$1,756**	**$2,225**	**$2,409**	**$2,659**	**$2,867**	**$2,977**	**$3,047**	**$2,853**	**$5,900**

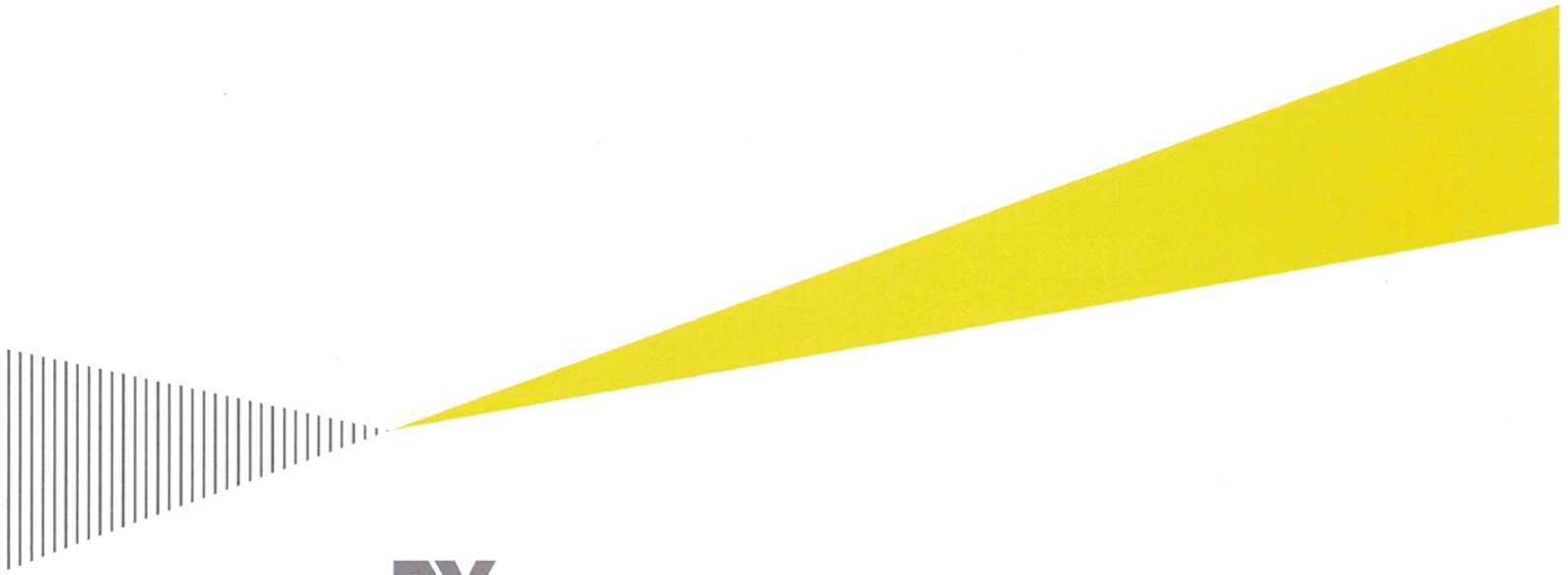
Summary Timeline



Item 3.3 Attachment 2

Wellington International Airport Limited

Economic impact of the proposed runway extension



EY
Building a better
working world

Ernst & Young was engaged on the instructions of Wellington International Airport Limited ("Wellington Airport") to assess the economic benefits of an extension of the runway at Wellington International Airport ("Project"), in accordance with the terms of engagement dated 18 September 2013.

The results of Ernst & Young's work, including the assumptions and qualifications made in preparing the report, are set out in Ernst & Young's report dated 24 February 2014 ("Report"). You should read the Report in its entirety including the applicable scope of the work and any limitations. A reference to the Report includes any part of the Report. No further work has been undertaken by Ernst & Young since the date of the Report to update it.

Unless otherwise agreed in writing with Ernst & Young, access to the Report is made only on the following basis and in either accessing the Report or obtaining a copy of the Report the recipient agrees to the following terms.

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Item 3.3 Attachment 2

1. Executive Summary

This report assesses the economic benefits of an extension of the runway at Wellington International Airport. The analysis undertaken in this report was completed in February 2014.The purpose of this extension is to enhance the international connectivity of Wellington by providing the capacity for the airport to service

- direct long-haul international flights, and
- connecting long-haul flights serviced by larger aircraft via Australia (using 5th freedom air service rights).

Airports play a crucial role in a globally connected economy such as Wellington and New Zealand's. They enable the air transportation of people and goods; provide an important hub for business investment and economic development to occur around; and increase business competitiveness and attractiveness. New Zealand's economic geography makes this role even more crucial.

Wellington's economic structure and role as the capital city of New Zealand mean that constraints on the international connectedness of Wellington are a national issue, with the impacts of additional costs and foregone economic activity felt beyond the Wellington region. Section 3 sets this out in more detail.

Strategic demand analysis

In assessing the scale of net direct economic impact that would be realised within New Zealand and the Wellington region as a result of the runway extension, the demand for three distinct markets has been analysed:

- Direct service to an Asian hub
- Direct service to a North American hub
- Service via Australia from a long-haul carrier not currently servicing the Wellington market

These strategic routes were considered under low, medium and high demand scenarios. Sections 4.2 and 4.3 set out the assumptions and limitations to the analysis.

Without a runway extension, the option of long-haul flights directly from Wellington Airport does not exist and connecting via other airports adds time and cost to travel. Notwithstanding the current limitations, there is already a developed market for long-haul services in the region, with large numbers of passengers currently travelling internationally to/from Wellington through connecting to a long-haul service at another airport:

- 295,000 long-haul passengers fly to/from the Wellington region, and a further 167,000 fly to/from regions adjacent to Wellington per annum. This is 462,000[1] in total or, on average, 633 passengers per day travelling in each direction
- Every year, 161,000 passengers fly to/from Asia, 151,000 to/from Europe, 125,000 to/from the Americas, and 26,000 to/from the Middle East/Africa
- Typically, a daily long-haul service is viable with 80% load (i.e. approximately 220 passengers)
- International flights typically operate with load factors of around 80%[2]

Section 4.4 sets out the approach that was taken to the strategic demand analysis. The level of existing demand for indirect international services to and from Wellington gives confidence that there is significant demand for direct long-haul services.

New services make connections more efficient, where they were previously unavailable or complex. This stimulates the markets that the connections serve and generates economic growth. There are many examples where new connections have provided strong economic growth. For example, Hawaiian Airlines began direct services between Honolulu and Auckland in March 2013, in a market that was already served by Air New Zealand. Hawaiian visitors to New Zealand are 78% higher in the 12 months to December 2013 than they were in the 12 months to December 2012.[3]

Under all scenarios, services are likely to be commercially viable on Asian and North American routes from an extended runway becoming operational in 2020. The level of demand across these two strategic routes is sufficient to mean that initially, on average, a long-haul flight on one or the other of these routes would arrive/depart Wellington each day.

In the medium and high scenarios, there is sufficient demand to support additional long-haul capacity that operates via Australia.

Over time, as a result of global demand growth for air-services, and as the impact of induced demand on the Wellington route begins to take effect, a steady growth in the number of international services that will be commercially viable through Wellington Airport is expected. This would see between 16 and 33 additional flights per week by 2060 in the low and high scenarios respectively.

Section 5 provides more detail on the strategic demand analysis.

Economic impacts

This study captures the direct economic impacts which are expected to occur to the Wellington region and New Zealand economies as a result of the induced aviation movements to Wellington enabled by the runway extension. The following economic impacts were quantified:

- International tourism - number of tourist nights and expenditure
- Business passengers – productivity savings from reduced travel times[4]
- International students – increased numbers of students and associated expenditure
- Freight – productivity improvements from reduced journey times
- Aviation and airports – economic gains to the airport and aviation industry, including retail operations

In addition, a range of other benefits were considered but not quantified. Section 4.5 sets out the approach taken to assessing the economic benefits and further detail can be found in the Technical Annex.

Section 6 sets out the level and nature of positive direct economic impacts that would be felt from 2020 when the runway construction is expected to be completed. The benefits from the first year of operation (2020) range from:

Table 1: Quantified economic benefits (value added)

Year	Distribution of benefits	Low	Mid-case	High
In 2020	Wellington regional economy	$29m	$35m	$42m
	New Zealand economy	$67m	$99m	$125m
In 2060	Wellington regional economy	$55m	$86m	$120m
	New Zealand economy	$72m	$178m	$259m

Over the 40 year assessment period in this report, assuming a 6% discount factor[5], this gives a net present value of direct economic benefits of between $714m and $1,751m at a national level, and $389m and $684m at a regional level. Based on publicly available data relating to the multiplier effects of the direct economic impacts related to air services, the indirect and induced economic impact flowing from this increase in aviation and associated activity would, at least, equal the direct impact. This means that the Net Present Value of the total economic impact can be estimated to range between $1,785m and $4,379m at a national level and $974m and $1,709m at a regional level.

Additional international tourism expenditure is the greatest driver of the benefits to the New Zealand and Wellington economies, both in absolute terms ($1,239m and $289m respectively[6]) and as a proportion of total benefits (93% and 57% respectively). Increased international students and business productivity benefits contribute to the Wellington region, particularly. There is potential for freight productivity benefits but these are heavily curtailed by the lack of freight capacity available in passenger jets. The runway extension is not expected to support dedicated freight air services.

A range of additional qualitative benefits are likely to flow from enhancing the international connectivity at Wellington Airport through a runway extension. These include:

- Benefits to economic competitiveness and productivity, such as easier access to knowledge sharing through face-to-face meetings, an international labour market, customers, suppliers and knowledge sharing around the world.
- Investment attractiveness through improved connectivity and the higher profile of Wellington globally.

2. Purpose of report

2.1. Purpose of report

Wellington International Airport Limited engaged EY to assess the economic benefits of an extension of the runway at Wellington International Airport. This infrastructure would enable airlines to operate to destinations further than Australia. This would provide enhanced international connectivity and result in the airport being able to service long-haul international flights.

The current physical constraints on the Wellington Airport site mean that wide-bodied jets, typically used for long-haul flights, are unable to land and take-off with full passenger loads when operating long-haul sectors. This means it is commercially unviable for airlines to provide direct international connections (beyond the Australian market) from Wellington. As a consequence, passengers travelling to/from the Wellington catchment must travel via an additional flight connection through another airport (typically domestically via Auckland) which in turn adds time and monetary costs and suppresses travel demand.

For the purposes of this study, EY has assumed that:

- an extended runway would remove the current physical constraints that prevent wide-bodied jets, typically used on long-haul flights from operating with viable payloads at Wellington Airport
- direct international services would only be provided to/from Wellington, if demand is sufficient to render the services commercially viable.

This report evaluates the economic impact to New Zealand and the Wellington region of such services under a range of potential demand scenarios.

2.2. Nature of report

This report is an economic impact report. It measures the impacts of a change in infrastructure provision at Wellington Airport namely a runway extension as described above, in terms of economic activity. . "Economic impact" studies have been defined as follows[7]:

An "economic impact" should be reserved for the narrow results where an industry, event, or policy has the result of either: 1) bringing new revenues into the region that would otherwise not occur in the region or 2) keeping revenues in the region that would otherwise be lost to the region. Economic impacts are defined as the net changes to the economic base of a region that can be attributed to the industry, event, or policy that would otherwise not be there

This report is not a cost-benefit analysis. Cost benefit analysis ("CBA") is an assessment tool used in determining whether a project provides a net benefit to society as a whole. The key principle of CBA is to convert the project's costs and benefits into dollar terms and decisions over whether the project is desirable can be informed by whether the project delivers benefits that are over and above its costs. It includes a wider range of project benefits, including the social benefits (such as the time and cost reductions for leisure travellers) but some benefits that are included in an economic impact assessment are excluded. A CBA also includes an assessment of economic, social and environmental costs such as construction and whole-of-life operating costs; congestion and noise.

[7] Watson, Wilson, Thilmany and Winter (2007). Determining Economic Contributions and Impacts: What is the difference and why do we care? Journal of Regional Analysis and Policy 37 (2): 140-146.

2.3. Disclaimer on demand scenarios

This report presents a series of demand scenarios. The calculation of demand scenarios for long-haul services as a result of the runway extension has been based on inputs sourced from publicly available sources. The methodology applied within this analysis conforms to our understanding of market precedents. The results of this analysis are broadly consistent with international aviation demand and services provided globally.

This study relies on information and data from a range of sources, including:

- Current international passenger demand movements through Wellington airport (either via other New Zealand or Trans-Tasman airports)
- Projected increases in international movements to New Zealand as sourced from Statistics New Zealand Migration
- The calculation of the level of induced demand as a result of the provision of international services was supported by publicly available literature
- Quality of service index - InterVISTAS consulting group[8]
- Stimulated/induced demand - The International Air Transport Association (IATA)[9] information collected as part of the stakeholder consultation process

The extrapolated growth in flight movements depends on a number of assumptions regarding:

- forecast economic conditions in Wellington, New Zealand and globally[10]
- passenger behaviour and preferences
- commercial factors affecting airlines and their choice of routes and services
- Wellington region's relative and changing attractiveness compared with other locations within New Zealand, and
- the types of services that would be operated at Wellington Airport (i.e.: low-cost or full business service offerings)

The demand scenarios are based on existing traffic data and forecast growth rates sourced from Statistics New Zealand and Sabre Airport Data Intelligence. The analysis has been prepared for economic impact assessment and should be viewed within the context and purposes of this study and should not be relied upon for any other purpose.

[8] [illegible]

[9] http://www.iata.org/ABOUT/Pages/index.aspx and [illegible] as_North_West_Globally_via_Singapore.pdf

[10] [illegible]

3. Introduction

3.1. The role of airports in supporting economic and social development

Airports have long served as a popular and important mode of transportation, particularly for long distance and international travel. As the world's economy has become more inter-linked, demand for air transport has responded accordingly. This supports the growth of high-value service sectors that place a premium on face-to-face communications, as well as the timely movement of high-value freight. On average, air passenger numbers have doubled every 15 years since 1970 and are forecast to double again over the next 15 years.[11]

But the economic and social impact of airports is much greater than simply providing a means to get from one location to another. Understanding this wider impact of airport development on a regional and national economy is crucial to appreciate the value of these investments.

Airports play a number of roles in the economic and social fabric of a country. These roles include:

- Enabling air transportation of people and goods both between domestic and international locations. These connections support tourism activity, including international students; international trade and business activity; and immigration. They also support vital social connections through allowing visits between friends and relatives.
- Providing an important hub around which business investment and economic development occurs. This includes firms located close to the airport because they have a clear relationship with the airport; firms and activities which are heavily dependent on air transport; and firms and activities who are located there because of the proximity to a range of other businesses.
- Increasing business competitiveness and investment attractiveness. Efficient provision of air services allows businesses to reduce their transaction costs in terms of operating, expanding into new markets and being able to access a wider pool of labour. The presence of a well-connected airport can be a critical factor in attracting international investment.

[11] Airbus Global Market forecast 2013-2032

Air services to and from Wellington Airport are currently limited by the length of the airport runway. At 1,945 metres, the operating length available to aircraft is insufficient to accommodate wide-body aircraft serving routes beyond Australia. Even for services to and from Australian airports, both narrow-body and wide-body aircraft face load restrictions which can affect the ability to operate economically viable services. A runway extension would reduce the restrictions in place, creating the potential for economically viable direct flights to a range of destinations to be operated.

This report evaluates the economic impact to New Zealand and the Wellington region of such services under a range of potential demand scenarios

Figure 1: Economic benefits of aviation

Investments in increasing the capacity of airports have resulted in significant economic benefits on a national basis internationally. An investment of C$1,805 million at Vancouver airport was estimated to have led to a 5.4% increase in connectivity for Canada as a whole. As such, this raised Canada's long-term productivity by 0.04%. Assuming that the number of hours worked remains constant, this implies an annual boost to Canadian GDP of C$348 million (an economic rate of return of 19.3%).

(Source: IATA)

3.2. Airports play a particular role in the New Zealand economy

The aviation industry is critically important in New Zealand for the national economy for domestic transport and to connect New Zealand with its global trading partners. This reflects the characteristics of New Zealand's economic and social geography, including:

- A long, thin, sparsely populated country. The population is highly urbanised and is concentrated in a small number of major cities distributed throughout the length of the country. There are few alternative transport choices available for inter-city domestic journeys.
- An island nation that is geographically isolated from other countries, including key trading partners.
- An open, export-oriented, economy, including exports of services such as education (international students) and tourism.
- A highly diverse and internationally mobile population, with business and immigration connections with the Asia-Pacific region as well as strong established and on-going ties to Australia and Europe.

Air transport is therefore the only viable passenger transport mode for most time-critical travel between major domestic destinations and for all international destinations. These services are crucial for New Zealand to compete in the global economy, be attractive as a business, tourist and migrant destination, and enhance the quality of life for its residents.

3.3. Wellington's role in the New Zealand economy

Wellington has particular characteristics and plays a unique role in the New Zealand economy:

- Wellington is the main gateway to the lower North Island and central New Zealand and is New Zealand's second largest city as measured by urban population[12]
- As the capital of New Zealand, it is the seat of central Government and the location of most consular representation in New Zealand, as well as the location of the New Zealand Stock Exchange
- The Wellington region is the second-largest regional contributor to the New Zealand economy ($26.8bn or 14% of New Zealand's GDP in 2010), behind Auckland[13]
- Central New Zealand[14] generates $53.5bn in GDP, almost 30% of New Zealand's total. Over the period 2007-2010 (latest information available), GDP growth in central New Zealand was 30% higher than the New Zealand average and almost twice as high as the upper North Island.[15]
- Wellington's regional GDP per employee (a measure of productivity) is higher than the national average but productivity growth has been lower on average over the last decade.[16] Median annual earnings and average annual earnings growth are higher than the national figures.
- 47% of the region's workforce is employed in knowledge intensive occupations (compared to a national average of just over 33%)[17]
- The Wellington region has significant tertiary education and research infrastructure, including four universities and three institutes of technology/polytechnics[18]

Wellington's airport itself is a major contributor to the regional economy – contributing around $1.45 billion per year, employing about 1,500 people directly and sustaining nearly 9,990 full-time-equivalent jobs in the region.[19]

Reflecting the importance of Wellington to the New Zealand economy, constrained international connectivity in Wellington is a national issue. Additional costs and foregone economic activity, arising from the aviation constraints at Wellington will have adverse flow-on impacts beyond the Wellington region. In particular, the impacts will be felt in reduced or more costly mobility of people to and from regional areas that are within the catchment of Wellington airport and the flow-on effects that this has at a national level.

[12] Statistics New Zealand urban/rural [illegible]

[13] Statistics New Zealand Regional GDP

[14] 2012 Wellington Region – [illegible]
http://www.gw.govt.nz/assets/IWRS/Publications/Wellington-Region-Annual-Economic-Profile-2012-Updated-in-v1.pdf

[15] Wellington Regional Strategy 2012 – Growing a Sustainable Economy Wellington Regional Strategy

[16] Wellington Regional Strategy 2012 – Growing a Sustainable Economy Wellington Regional Strategy

[17] 2025 The Master Plan, January 2013, Wellington Airport

3.4. Wellington's role in New Zealand's tourism market

Tourism (domestic and international) is a valuable sector that contributes $1.4 billion each year to the Wellington region's economy[20].

- Wellington is New Zealand's most popular domestic destination[21], and has experienced the highest growth in domestic tourism expenditure over the 2009-2012 period; domestic spending over that period increased by $592m, of which $227m occurred in the Wellington region[22]
- Wellington has a large and culturally diverse population with New Zealand's second highest concentration of people who were born overseas (22.4%) behind Auckland (35%) and ahead of Canterbury (17.4%)[23]. This characteristic generates a significant amount of visiting friends and relatives (VFR) inbound travel
- Wellington has 4.3 million international visitor nights per year and international visitors contribute $536 million to the Wellington economy each year
- Wellington hosts around 11% of New Zealand's multi-day Australian conference delegates and 13% of non-Australian international delegates (the second highest region in New Zealand). Around 25% of non-Australian delegates are hosted at conferences within central New Zealand.[24]
- Wellington's and New Zealand's top international visitor market is Australia. One third of Wellington's international visitors come from Australia and it is a market that continues to grow. Since September 2010, Australian visitors to Wellington airport have increased by 26%[25], four times as fast as the total increase in Australian visitors to New Zealand. Around 10% of Australian visitor electronic transactions occur in the Wellington region and this has been growing by, on average, 11% per annum since December 2008[26]
- By contrast, less than 5% of Chinese visitor transactions currently occur in the Wellington region. Furthermore, while New Zealand has experienced transaction growth of 17.2% pa from December 2008 to September 2013 Wellington has only experienced growth of 3.2%pa over the same period.

There is potential for significant growth in Wellington's international tourism market, particularly from markets in Asia. These tourism markets continue to show steep growth driven by a growing middle class, increased disposable income and mobility, and increased freedom to travel. A range of diverse entry points to the New Zealand market provides the option of more choice of tourism offerings and the ability to provide a wider range of opportunities for visitors.

For example, the Chinese government recently announced their intentions to increase five-fold the number of residents travelling overseas from 82 million in 2012 to 400 million by 2018. This would mean an increase from around 200,000 Chinese visitors to New Zealand to 1 million visitors, if New Zealand holds its current market share. This is equivalent to an additional 80 return flights per week between New Zealand and China over current traffic levels. New Zealand's ability to capture these visitors will in part be related to the country's capability to offer diverse and accessible visitor experiences.

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[20] Tourism Wellington
[21] Lateral Branson "Mood of the New Zealand Traveller" [illegible]
[22] Statistics New Zealand Tourism Expenditure
[23] 2006 Census [illegible]
[24] Ministry of Business Innovation & Employment Convention Activity Survey YE Sep13
[25] Statistics New Zealand migration data (YE Sept 2010 vs YE Sept 13)
[26] Ministry of Business Innovation & Employment Regional Tourism Indicators to Sep13

Item 3.3 Attachment 2

Boeing forecast a long-term demand for 35,280 new airplanes between 2013 and 2032, valued at $4.8 trillion.

They projected that:

- 14,350 of these new airplanes (41 percent of the total new deliveries) will replace older, less efficient airplanes, reducing the cost of air travel and decreasing carbon emissions.
- The remaining 20,930 airplanes will be for fleet growth, stimulating expansion in emerging markets and innovative airline business models.
- The number of wide-body aircraft in operation (suitable for long-haul flights) will increase significantly; particularly in the Asia-Pacific region from around 1,500 aircraft now to 4,000 in 30 years.
- The biggest increase will be seen in small wide-body aircraft (A330/B787/A350) which will increase from 600 in Asia-Pacific currently to over 2,000 in year 2032.
- Small wide-body aircraft are most suited to Wellington's long-haul markets. Boeing is forecasting a significant increase in these aircraft operating, with only a small proportion being identified for fleet replacement. There will be a large number of new aircraft suitable for an extended runway in Wellington that will be looking for new markets to operate in.

Source: Boeing 2013 market outlook

3.5. Wellington's current long-haul market

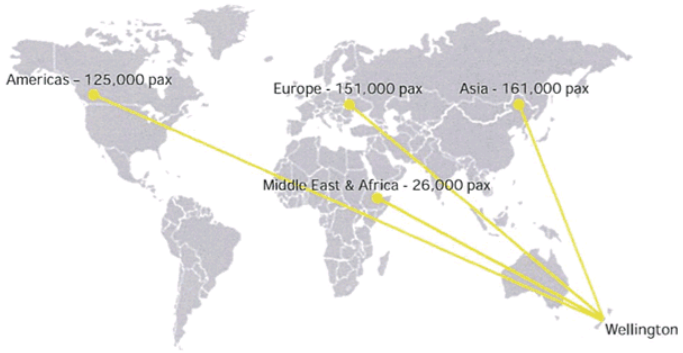
Wellington currently has a large and growing long-haul market. Statistics NZ migration data and airline booking information provide accurate estimates on the level of existing demand for air travel between the Wellington catchment and offshore destinations. Market size estimates for the year to August 2013 show 462,000 passengers travelling between central New Zealand and long-haul destinations[27].

Of these:

- 161,000 are travelling to/from Asia with the largest markets being China, Thailand, India, Japan, Singapore and Indonesia
- 151,000 to/from Europe; with the largest markets being UK, Germany, France, Italy
- 125,000 to/from the Americas; virtually entirely to the US and Canada
- 26,000 to/from Africa/Middle East

A typical long-haul aircraft of 275 seats carries around 220 passengers (at 80% load). This means the current long-haul market equates to around 633 passengers per day each way.

Figure 2: Current long-haul passenger demand from Wellington Airport



Wellington Airport's close proximity to the majority of its catchment demand, and excellent domestic air links to regional New Zealand gives a large potential market for long-haul services to access.

[27] Statistics New Zealand Migration Data, Sabre Ad

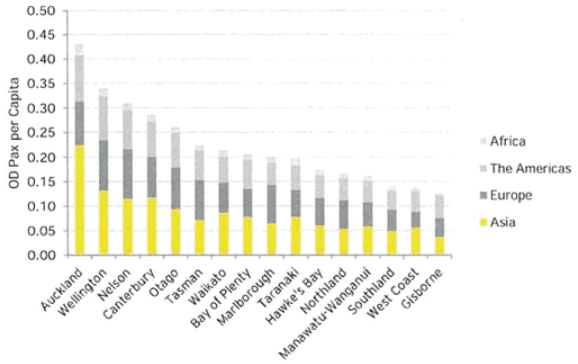
3.5.1. New Zealand Resident Travel

New Zealand residents have traditionally had a higher propensity to fly than many other countries as a result of a strong migrant population with European origins, relatively high incomes and productivity, strong links with Australia, and geographic isolation. Residents in central New Zealand already have a high propensity to travel to long-haul destinations and improved accessibility of these destinations would increase the number of trips made.

Figure 3 below shows that:

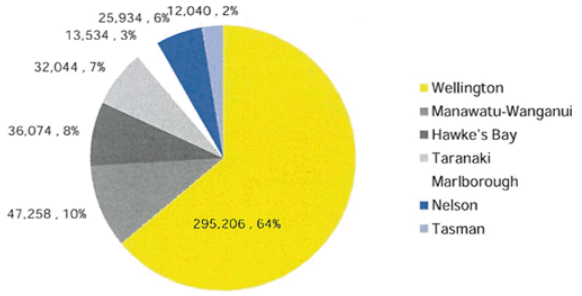
- residents from the Auckland region have the highest propensity to travel to long-haul destinations with around 430 long-haul trips for every 1,000 residents. This is likely to be due, in part, to the large number of long-haul destination options which residents in the region can access. It also reflects the large proportion of Auckland residents originally from Asia who will be visiting friends and relatives.
- Wellington (340 per 1,000) and Nelson (310 per 1,000) residents have the second and third highest propensities to travel long-haul, even though both regions currently have relativity poor connectivity to direct long-haul services.

Figure 3: Propensity for Long-Haul Travel by Region



Within the central New Zealand catchment, around 64% of the long-haul trips are to/from the Wellington region. The second largest generator of demand is Manawatu-Wanganui, contributing a further 10% of long-haul demand. 75% of the catchment market (342,000 passengers) is within two hours' drive of Wellington Airport.

Figure 4: Catchment of Wellington Airport's current long-haul passengers



Source: Statistics New Zealand Migration Data, Sabre ADI

Currently more than 50% of residents from the Manawatu/Wanganui region (the second-largest generator of catchment long-haul demand) use Wellington for flights to Australia[28], even though half of the flights leave between 6-7am or arrive after 11pm with no connecting internal flights. The current timing of existing long-haul flights to/from New Zealand are primarily determined by schedules at an airline's primary hub. These services operate at times which would allow good connectivity with the Wellington catchment either via air or road.

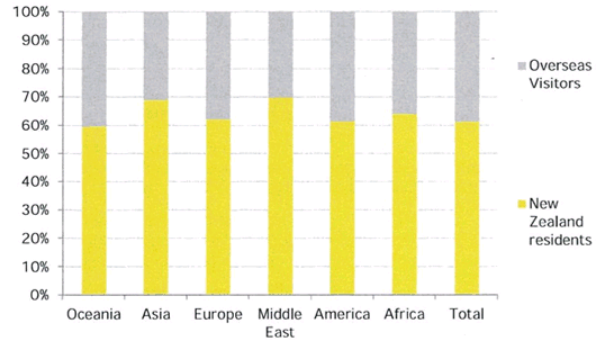
[28] Statistics New Zealand Migration data

Item 3.3 Attachment 2

3.5.3. Visitor Travel

Wellington's current long-haul market has a higher proportion of resident than visitor travel. On average overseas visitors make up around 35% of Wellington's long-haul market (30% Asia, 40% Europe and 35% Americas). By contrast, the long-haul visitor proportion for New Zealand is 65%[29] (63% Asia, 69% Europe, and 60% Americas). This illustrates the high propensity for central New Zealand residents to travel, but a relatively undeveloped overseas visitor market.

Figure 5: Resident/Visitor split of international travel



Source: Statistics New Zealand Migration Data, Sabre ADI

An improvement in international accessibility to central New Zealand, and the associated market development initiatives, would increase visitors to the region, with significant potential to bring the proportion of inbound visitors closer to the New Zealand average.

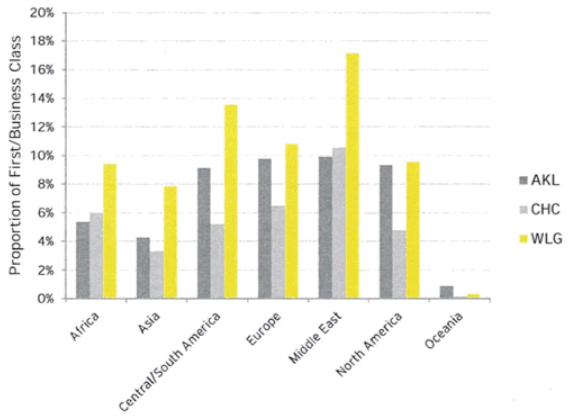
[29] Statistics New Zealand International Travel and Migration October 2013

3.5.4. A High-Yielding Market

The Wellington market is high-yielding with a significant proportion of business/first class travellers. A market with a high proportion of premium travellers is attractive for an airline.

On average around 10% of long-haul travellers to/from central New Zealand are premium passengers, a higher proportion than Auckland and Christchurch.[30] The majority of these premium passengers fly economy between Auckland and Wellington, as the domestic air services market provides no other alternative. This can be an influencing factor for some high yielding passengers to choose not to fly through to Wellington.[31] However, they may, in the future, contemplate a return journey to Wellington should a full business service offering be available.

Figure 6: Proportion of First/Business Class Travellers by New Zealand Airport and Region (2012)



Source: Sabre ADI

[30] Sabre ADI
[31] Source – informal discussions between Wellington airport and Wellington businesses.

3.5.5.Connectivity

Connectivity with overseas markets is a key driver for business activity. Table 2 shows the number of countries and population of these countries that are in direct and 1-stop access to New Zealand's largest cities.

Table 2: Countries and Population within 1-Stop of a New Zealand airport

City		Countries	Population (m)	% of world population
Auckland	Direct	18	2,275	32%
	Within 1 stop	56	5,222	74%
Christchurch	Direct	4	156	2%
	Within 1 stop	41	4,587	65%
Wellington	Direct	2	24	0%
	Within 1 stop	22	2,476	35%

Source: Statistics New Zealand Migration Data

Businesses in Auckland have direct access to countries containing around 30% of the world's population and can travel 1-stop to around three-quarters of the world.

By contrast, Wellington businesses have direct access to New Zealand's largest trading partner, Australia, and 1-stop access to around a third of the world's population.

Christchurch's 1-stop access to 65% of the world's population illustrates the significant accessibility improvements that can be gained with a long-haul service to a large hub (in this case Singapore Airlines via the Singapore hub).

Passengers having to travel an additional domestic sector incur additional time and financial costs, which have the added impact of suppressing travel and constraining growth.

As shown in Table 2, currently the majority of Wellington's long-haul market must travel via another domestic airport (usually Auckland Airport) to leave New Zealand internationally. Table 3 shows that over 85% of central New Zealand's long-haul market does not leave from its closest international airport. By contrast, fewer than 1% of Auckland's catchment and around 55% of Christchurch's catchment use airports other than their closest.

Table 3: Proportion of long-haul flights where residents use their closest international airport

	Auckland	Wellington	Christchurch
Africa	99.3%	28.5%	73.8%
Asia	99.6%	15.9%	52.1%
Europe	99.5%	9.9%	60.3%
The Americas	99.8%	11.7%	11.3%
Total	99.6%	13.7%	45.2%

Source: Statistics New Zealand Migration Data

4. Approach

4.1. Scope of the analysis

This analysis assesses the net direct economic impact that would be realised within New Zealand and Wellington as a result of the enhanced international connectivity at Wellington Airport achieved through a runway extension.[32] A high-level estimate of the likely scale of indirect and catalytic impacts is presented but has not been modelled.

Economic benefits of increased aviation movements

Direct – Employment and income generated as a result of the operations of the airport and airline services

Induced – "Offsite" organisations that support the operations and passenger flows as a result of the airport operations

Indirect – Income generated as a result of spending of incomes generated through the direct and induced economic activity

Catalytic – Income generated as a result of improved productivity and additional business activity attracted to the region.

In assessing the scale of impacts, we analysed the demand for three distinctive markets which would become accessible with an extended runway at Wellington Airport:

- Direct service to an Asian aviation hub
- Direct service to a North American hub
- Service via Australia from a long-haul provider not currently able to service the Wellington market

These strategic routes were considered under low, medium and high demand scenarios.

4.1.1. Wellington Airport catchment

Based on existing travel patterns (discussed in Section 3), Wellington Airport services a geographic area wider than the Wellington region, as defined by local government boundaries. For the purposes of this study, EY defined a "Wellington catchment" which is a broader geographical area which can be understood as encompassing central New Zealand. Over 1.1 million residents live within this catchment including New Zealand's second, fifth and eighth largest urban populations of Wellington/Kapiti, Napier/Hastings, and Palmerston North[33].

This catchment is an estimate of the area where Wellington Airport would be the closest airport with long-haul connectivity. As the location moves further away from Wellington Airport, EY has assumed that a decreasing proportion of potential passengers would use Wellington Airport as a long-haul gateway.

The scale of economic benefits has been calculated at the level of the Wellington region and the New Zealand economy.

4.2. Assumptions to the analysis

A number of assumptions have been incorporated into the analysis including:

- Long-haul international flights would not occur in Wellington in the absence of a runway extension
- The runway is operational at the existing Wellington Airport location from 2020 and long-haul services can begin immediately
- Increases in the number of international passengers travelling to Wellington will grow in line with projected increases in total increases in international passenger movements to New Zealand[34]
- There is no material change in the technological advancement of aeroplanes (i.e. ability to operate with significantly shorter take-off and landing distances), or change in fleet other than that which is currently projected
- Diverted passenger movements from other New Zealand airports (i.e.: international passengers to/from Wellington who would have transited through Auckland or Christchurch) would not adversely impact on the viability of either the domestic or international services

[32] [illegible]

[33] [illegible]

[34] Tourism NZ

There is no net difference in the expenditure or profits retained within New Zealand regardless of the airline an individual uses. In other words there is no net impact on New Zealand's economy with regards to which airline carrier provides the service (i.e. it does not take into account the benefit of Air New Zealand services over that of other service providers)

Wellington is seen by the international tourist market as a distinct destination for induced aviation demand rather than purely a complementary service to Auckland/Christchurch – i.e.: improved connectivity to Wellington will induce international tourism. Over the last 3 years, Australian visitors to Wellington airport have increased by 26%, stimulated by increases in capacity on Wellington's only direct international services. This rate of increase is almost twice as fast as experienced at Auckland airport, and four times as fast as the total increase in Australian visitors to New Zealand. [35]

Airports and airlines operate in a competitive market with manageable barriers to market entry. The modelling assumes sufficient supply to meet projected demand based on market growth forecasts and the expected traffic capture rate of direct services.

4.3. Limitations to the analysis

The following limitations apply to the study:

- The study focuses on the economic impacts of services enabled by the runway extension and does not include an assessment of the economic impacts of the construction itself.
- There will be social impacts for neighbouring areas, including additional noise, from the runway extension and the additional traffic it generates. The detailed consideration of these effects was outside of the scope of this analysis. However, these wider impacts would be considered in detail through the resource management approvals processes.

4.4. Approach

In order to determine the economic impacts of enhancing international connectivity for the Wellington region, we had to understand:

- The level of demand for long-haul services (strategic demand) at the level of the catchment
- The economic benefits that would flow from long-haul services – these were assessed both quantitatively at the level of Wellington region and New Zealand and qualitatively (where quantification was not possible or likely to be inaccurate).
- The likely scale of indirect and induced benefits. These were not quantified in this study but a comparator with other studies provides an indication of the likely quantum of benefit

Our approach to the analysis for each of these stages is set out below. Further detail can be found in the technical annex.

[35] Statistics New Zealand migration data (YESept 2010 vs YESept 13)

4.4.2. Strategic demand analysis

In order to assess the scale of economic benefits from a runway extension, it was necessary to analyse the likely response for the supply of and demand for long-haul air services to/from Wellington.

4.4.2.1. Passenger demand

Without a runway extension, the option of long-haul flights directly from Wellington Airport does not exist and the opportunity for 5th freedom services via Australia using larger aircraft is restricted. Yet there are already large numbers of passengers who travel internationally to/from Wellington and do so through connecting to a long-haul service at another airport – usually Auckland Airport, but also Christchurch, Melbourne, Brisbane and Sydney airports.

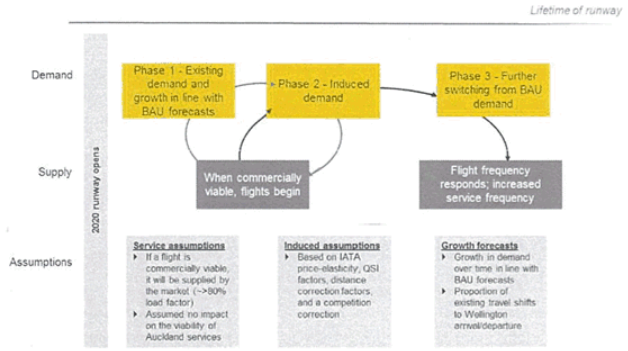
Figure 7 summarises the approach that was taken to assessing the likely level of demand for long-haul services. The methodology applied within this analysis conforms to our understanding of market precedents. Further discussion of this is set out in Section 5 of this report.

A critical assumption was the load-factor that would be required for viability.

> Long-haul services: The number of long-haul international services that would be provided from Wellington airport to the proposed destinations was determined over the analysis period based on the above calculated level demand assuming that the service would require a loading greater than 80% to be commercially viable[36] (the equivalent of approximately 220 passengers on a 275-seat aircraft). Furthermore it was assumed that a minimum of three services per week would be required before a viable service would commence (i.e. a total of 660 passengers per week in each direction).

> Fifth-freedom services: Airlines schedule services to optimise connecting traffic through their hubs, and this can sometimes result in extended time on the ground in Australia allowing the airline to operate a service to New Zealand within their schedule. In these cases, the cost of flying the Tasman sector is primarily the incremental fuel and crew (the aircraft ownership/depreciation cost will have been apportioned to the Australian long-haul sector). This significantly reduces the break even cost of the incremental trans-Tasman service. An airline can choose to operate the route at lower fares and/or lower load factors relative to point-to point trans-Tasman services to still return a profit, and in turn significantly stimulate the short-haul and long-haul markets. An extended runway would enable most wide-bodied aircraft to connect to Wellington on Trans-Tasman sectors. We have assumed that this service would only require a 65% passenger loading to be commercially viable, consistent with existing fifth-freedom services[37] .

Figure 7: Approach to assessing strategic demand



Phase 1: Levels of existing PAX demand and growth

- The base level of demand for international aviation services to and from Wellington to a range of international destinations was based on current demand (based on information from Statistics New Zealand and Sabre Airport Data Intelligence), and projected business-as-usual increases in demand, by New Zealand residents and international tourists (BAU). This base-level demand includes both people who would fly into/out of Wellington directly from overseas, as well as those who would continue to fly into Wellington from other parts of New Zealand.
    - To estimate the proportion of the base demand that could fly into/out of Wellington directly, a number of factors were considered including existing and induced demand for the service, competition, relative distance of a proposed route and the number of services being proposed to the relevant destination (on a weekly basis)

Phase 2: Induced PAX demand

- The provision of additional international aviation services and improving the connectivity (through reduced time and/or cost) between countries will induce a level of international tourism demand. The induced demand for aviation services for each route, and both primary and secondary markets, was determined based on the International Air Transport Association (IATA) induced demand curve. This curve models the demand response to the introduction of a new service that connects markets with direct travel options in place of indirect flights. A number of factors underpin the historically observed demand response, including:
    - Increased convenience of a direct or one-stop long-haul service compared with one-stop or two-stop services
    - Increased profile as the direct destination in a source market. Much of this will happen by virtue of the route now existing as an option e.g. it will be more prevalent in internet searches; travel agent advice; departure boards at international airports. In addition, as part of route marketing, airlines servicing the destination are likely to actively promote it as a new destination and provide connectivity through large networks.
- The induced demand for a long-haul service via Australia was determined based on alternative price changes, and the relative price elasticity of passengers, which would result from increased competition on this route, as well as consideration of long-haul markets which would be more accessible with the service.
- In estimating the level of induced demand, competitive factors were also taken into account to reflect the reality that passengers would continue to have the choice of which route they choose to fly. This 'correction' took into account the relative competitiveness of a service to/from Wellington airport to an aviation hub in Asia or North America based on the relative connectivity between this service (number of stops, and total distance travelled) and alternatives to the final destination of the passenger. Furthermore, a 'cap' was placed on the proportion of the existing market that an airline could capture, given some passengers would have a preference to travel on connecting services, where these may be cheaper or provide alternative benefits that direct services may not.

Phase 3 -Further PAX switching/increased demand.

- Over time, we would expect to see increased frequency of services as supply increases in response to increasing levels of demand. A more frequent service would appeal to a wider range of passengers and provide increased attractiveness relative to connecting to an onward flight.

Induced demand – the evidence

All new routes stimulate the point-to-point markets they serve. In many cases they provide an air connection that was not physically available previously, or was perceived as being complex or unavailable. They bring new destinations into the catchment residents' set of choices which generates demand from new users. Passengers who travel occasionally within the market increase their propensity to travel as associated costs (time and monetary) are significantly reduced. New marketing initiatives by airlines and other tourism agencies bring awareness to the service and the new opportunity for travellers.

The stimulation effect varies from market to market, and it is different between network carriers and low cost airlines. Market stimulation percentages in the thousands of percent are frequently observed where low cost services are introduced on new point to point markets.

To model and predict growth expectations, the International Air Transport Association has developed a generic stimulation curve designed to predict the behaviour of markets to the introduction of a new operation. The curve is a culmination of an assessment of a multitude of new routes started from Munich Airport which tracked the market response to the introduction of new services using the IATA airline network. The curve illustrates the level of stimulation that a new route would be expected to attract, given the size of the existing indirect market. The smaller the indirect market prior to new service introduction, the larger the stimulation effect experienced when the direct service is introduced. The IATA curve indicates that small indirect markets can be stimulated by 300%, and even relatively sizeable markets of 20,000 can benefit from a stimulation of some 200%. Much larger markets such as ones over 100,000 indirect passengers tend to be stimulated by between 4% and 8%.

Analysis of new direct services to New Zealand shows a close correspondence to the IATA curve, and there are many examples where there has been significant increase in inbound travel as a result of new services, even when a market is served to New Zealand via another airport:

> Air Asia X commenced a 4/week service between Christchurch and Kuala Lumpur in April 2011. Malaysian visitors to New Zealand increased from 20,700 in 2010 to 33,300 in 2012 (+60%) - the market had remained flat over the previous 10 years. This growth in visitors occurred even though the New Zealand-Malaysia market was already served by direct services to Auckland and Christchurch also had good connectivity to Malaysia via Singapore.
>
> Hawaiian Airlines began direct services between Auckland and Honolulu in March 2013. The market was already being directly served by Air New Zealand, but a significant amount of stimulation has still occurred with a new airline offering differential products and appealing to a different set of (predominantly American based) loyal passengers. Since commencement, Hawaiian visitors to New Zealand have increased by 40% (Stats NZ migration data).
>
> China Southern began Auckland-Guangzhou in April 2011 – Chinese visitors to New Zealand have doubled from 115,000 in 2010 to 236,000 in the year to Sep13, and even visitors from Shanghai already served by Air New Zealand have been stimulated via connecting on the China Southern service.

City to city market impacts have experienced a much larger stimulation of visitors than shown here given their pre-stimulated market was a proportion of the New Zealand total.

Source: Statistics New Zealand Migration Data

4.4.2.2. Freight

Most aviation freight is carried on passenger services via direct routes to key trading partners in Asia and North America. The lack of wide-body aircraft servicing Wellington means that aviation freight within the central New Zealand area is typically trucked via road to/from Auckland, adding time and cost to, what is by its nature, time-critical cargo.

The total movement of export and import freight that is generated from the Wellington catchment area that could be exported via Wellington Airport (rather than Auckland airport) was calculated based on:

- the macro economic output within the Wellington airport catchment;
- the proportion of total expenditure nationally that is import/export related; and
- the proportion of exports/imports from New Zealand that are transported by aviation services to those areas that would be serviced with the introduction of long-haul services at Wellington Airport.

This analysis found that, from a macro economic sense, there would appear to be the potential to increase the amount of goods that are imported/exported to/from the region via air. The scale of benefits from air freight transportation is subject to the length of the runway extension, the types of aircraft that would be operated and the destinations they would be flying to. For example, New Zealand's largest trading partner, Australia, could be served by passenger aircraft that could carry a full freight payload (25 tonnes), or with dedicated freight aircraft that could carry more than twice this amount.

This analysis took a conservative approach and assumed that:

- approximately 10 tonnes of dedicated freight cargo capacity per flight would be available
- the provision of services would be in response to passenger demand (as discussed above)
- no operation of dedicated freight services

In this context, and given the projected number of flights, only marginal economic benefit would be provided to the region and wider catchment. However, a longer extension, better performing aircraft and closer destinations could significantly increase the freight capability.

While we recognise there are a range of other factors that would be taken into account in the demand for aviation freight services (including the scale, reliability and price of services), given the marginal benefit that this service will provide to the economy we have not undertaken further analysis.

4.4.2.3. Sensitivity testing

In order to understand the sensitivities around demand, a range of scenarios were considered – Low, Medium and High. The demand assumptions are the key variant in these scenarios.

Item 3.3 Attachment 2

4.5. Economic impacts

This analysis involved the measurement of all changes in direct, incremental expenditures (and productivity changes) to the Wellington and New Zealand economies which are expected to occur as a result of induced aviation movements to Wellington as a result of improving the international connectivity of the city. These direct impacts were captured in terms of both output and value-added (defined as the economic value of the additional output).

In order to determine the expenditure impacts of proceeding with the development and the associated increase of aviation capacity in the region beyond underlying growth expectations and existing expansion plans, the following economic impacts were quantified:

International tourism (induced) – an increase in the number of tourists that visit New Zealand as a result of improved connectivity to New Zealand and increased expenditure in the Wellington region.

Business passengers – productivity savings to existing business travellers based in the Wellington catchment as a result of reduced waiting and flying time from avoiding the need to transit through hubs such as Auckland

International students (subset of international tourists) – an increase in the number of students that would choose to study in Wellington as a result of improved transport connectivity

Freight – Productivity improvements realised by Wellington regional businesses as a result of more efficient access to international markets. These businesses would have otherwise had to truck goods to/from Auckland airport

Aviation benefits – economic gains to the airport and aviation industry associated with greater induced demand for aviation and airline operations, including retail operations.

Different impacts from different passengers

The number of passengers that would use direct international services subsequent to the development of a runway extension can be divided into two categories:

Diverted travel movements – are those people that would have otherwise come to New Zealand and Wellington but now choose to do so via Wellington Airport (i.e.: would have otherwise have come to New Zealand via Auckland or Christchurch airports or an Australian airport)

Induced travel movements - are those persons that would have not travelled to New Zealand had it not been for the provision of direct international services to Wellington airport

Diverted travel movements will impact on the regional economic benefits but may not have a national impact (as these passengers would already have come to New Zealand).

Induced travel movements will impact on both regional and national economic benefits, as these passengers are bringing additional expenditure to the New Zealand economy.

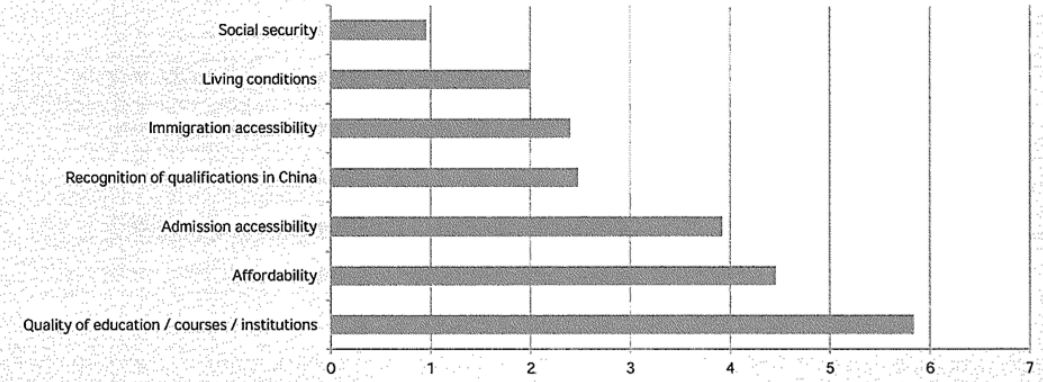
International students' decision-making

There is limited research into the impact of international connectivity on the decision-making processes that international students undertake when choosing where to study. A recent EY study of Chinese students undertaken for Education NZ (*Market Research on International Education of China*, EY for Education NZ, July 2013) provides recent market-based research of the decision-making process undertaken by Chinese students and their families in considering overseas study at a school, undergraduate and postgraduate level.

Key factors affecting choice of destination

The EYU study concluded that the balance between perceived value and cost are key drivers. A number of factors are taken into consideration when making the decision to study abroad, as set out in the figure below. Quality of education/courses/institutions and affordability are the most significant factors.

Figure 8: Key factors affecting your choice of education destination



Subject choices and Wellington's comparative advantage

The most popular fields of study for the Chinese students are economics, management, and finance majors, followed by engineering, architecture and IT. Students attach more importance to the choice of schools before they choose a major. The academic excellence and research capabilities in science related majors are not widely known by Chinese students.

Likely impact of improved connectivity

International connectivity/ease of travel does not come up but awareness and profile of countries and institutions are important. The study concludes that the Chinese, generally, have low awareness of NZ, especially as an education destination. The increased profile for Wellington from international connectivity will also impact positively on the profile of Wellington as a destination for study. Increased recognition of Wellington's tertiary institutions in international rankings will also be critical.

The table below highlights how these benefits are incorporated into the analysis of the net impacts of the runway extension to Wellington and New Zealand respectively. All sources and data used to calculate these benefits set out in the Technical Annex.

Table 4: Quantified economic benefits

Form of benefit	Benefit to Wellington region	Benefit to New Zealand
Tourism expenditure	Proportion of induced international PAX spend within region Diverted international PAX to region and additional nights/expenditure	Induced international PAX spend throughout NZ
Business productivity benefit	Reduced flying and waiting time for NZ business persons travelling internationally	Same as benefit to Wellington
Student tourism	Additional international students choosing to study in Wellington Expenditure on studies and living expenses over the year	A small proportion of the total number of international students that would switch to studying in Wellington would be from other destinations outside of New Zealand (i.e.: Australia). The expenditure of these students would represent a benefit to the New Zealand economy as they would be 'new' to New Zealand.
Freight productivity benefits	Effective reduced transportation time of freight within Wellington region Limited by the potential supply of freight related services	Same as benefit to Wellington
Aviation related expenditure	Expenditure on aviation related services (airport and airlines) associated with additional PAX	Same as benefit to Wellington (assumed no net loss of PAX throughput and related aviation expenditure for Auckland or Christchurch)

In addition to those benefits that could be quantified, a wider range of benefits was also considered. These were either unable to have monetary values attached to them, or to do so would have been misleading and incorrect, given data limitations. These benefits were identified through a literature review and through informal stakeholder engagement carried out with a small number of Wellington stakeholders.[38]

The other benefits that were considered include:

- Business competitiveness and investment
- Connectivity to new markets and opportunities
- Trade and investment in Wellington and New Zealand
- International promotion of the Wellington and New Zealand "brand"
- Migration to Wellington

[38] [illegible]

5. Strategic demand analysis

5.1. Strategic Demand Analysis

In order to be viable, a long-haul air service would require 220 passengers per day to use the service in each direction. This passenger volume represents an industry average load factor of 80%[39] on a medium sized wide-body aircraft capable of accommodating 275 total passengers. Existing travel patterns show that the Wellington passenger market contains a high proportion of business travellers relative to other New Zealand centres, making it an attractive market from an airline profitability perspective. Given this economic incentive, the analysis assumes that services would be viable where market demand is sufficient to sustain a minimum service level of three flights per week at 80% load factors.

As set out in Section 2 of this report, this report considers a series of demand scenarios.

5.1.1. Application of methodology

Section 4 sets out the approach taken to the strategic demand analysis and some key results are set out below in Table 5. This shows that:

By 2020, on current trends, approximately 104,000 passengers will be travelling to an Asian hub and a further 74,000 passengers to a North American hub.

Assuming a load factor of 80% to be viable (equivalent to approximately 220 passengers), sufficient underlying demand exists in the Wellington catchment to support the provision of 4 flights per week to an Asian hub and 3 flights a week to a North American hub. In other words, the level of demand across these two strategic routes is sufficient to mean that, on average, a long-haul flight on one or the other of these routes would arrive/depart Wellington each day.

The induced demand that would be generated from the provision of an additional service provided by a long-haul carrier flown via an Australian airport was calculated based on the elasticity of price based on an assumed level of competition that would be realised in the market.

As induced demand begins to grow, airlines are likely to respond by providing additional routes and/or service frequency.

5.1.2. Detailed analysis of services and capacity

Under all scenarios, services are commercially viable on Asian and North American routes from 2020, with at least a daily return service when the demand for combined strategic routes is assessed. In the medium and high scenarios, additional capacity is also viable on the Trans-Tasman route, assuming this route connects to onward long-haul services. Given the current airline operators within the Australasian market, this study assumed the Trans-Tasman capacity is provided through a new competitor to the Trans-Tasman market.

In the medium scenario, these additional services across all the routes would result in an additional capacity of 297,000 passengers per annum in 2020 with approximately 240,000 passengers utilising these direct services.

Over time, as a result of global demand growth for air-services, and as the impact of induced demand on the Wellington route begins to take effect, a steady growth in the number of international services that will be commercially viable through Wellington Airport is expected. This would see between 16 and 33 additional return flights per week by 2060 in the low and high scenarios respectively.

Christchurch Airport – an indicator of the sustainability of international services

Christchurch has a slightly smaller urban and catchment population than Wellington Airport, a smaller economic footprint, and is predominately a lower yielding leisure market. Conversely, Christchurch attracts more overseas visitors as the gateway to the (lower) South Island, partly due to the existence of long-haul services to Asia (Singapore Airlines, Emirates) and one-stop connections to Europe.

Item 3.3 Attachment 2

Table 5: Additional Services and capacity for wide-bodied aircraft to/from Wellington airport

	Low scenario			Medium Scenario			High Scenario		
	2020	2040	2060	2020	2040	2060	2020	2040	2060
Total number of services (per week)									
Asia	4	7	10	4	8	12	4	9	15
Trans-Tasman	0	0	0	3	4	5	4	7	10
North America	3	4	6	3	5	7	3	5	8
TOTAL	7	11	16	10	17	24	11	21	33
Total capacity ('000 seats pa)									
Asia	119	207	296	119	237	356	119	267	445
Trans-Tasman	0	0	0	89	119	148	119	207	296
North America	89	119	178	89	148	207	89	148	237
TOTAL	208	326	474	297	504	711	327	622	978
Total demand ('000 PAX pa									
Asia	104	177	255	105	191	289	107	219	357
Trans-Tasman	0	0	0	60	81	109	93	139	206
North America	74	105	154	75	121	178	76	124	193
TOTAL	178	282	359	240	393	576	276	482	756

Figure 8: Forecast number of services - Medium Scenario

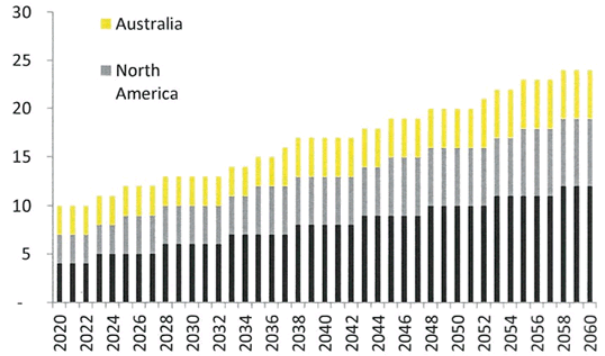
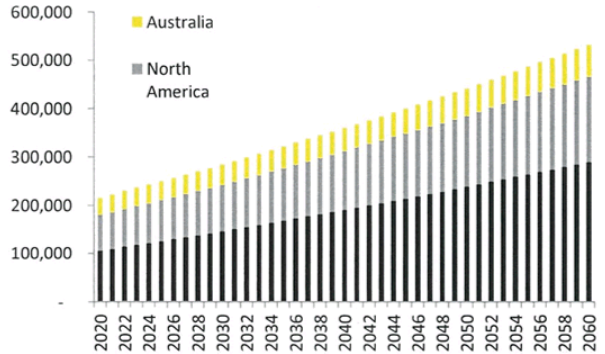


Figure 9: Forecast number of passengers - Medium Scenario



5.1.3. Australasian comparators for passenger demand

As indicated in Section 4, we consider that the methodology applied within this analysis conforms to our understanding of market precedents. The results of this analysis are broadly consistent with international aviation demand and services provided globally.

Table 6 sets out the passenger throughput and growth in international passengers of a number of Australasian airports of a similar size to Wellington Airport.

Table 6: Passenger throughput at comparably-sized Australasian airports

Airport	Domestic PAX ('000)	International PAX ('000)	Total	International PAX growth in last 10 years
Adelaide	6461	709	7171	243%
Gold Coast	4993	882	5805	649%
Cairns	3640	516	4156	-31%
Darwin	1612	313	1925	251%
Christchurch	4156	1324	5481	30%
Wellington	4640	727	5367	63%

This table supports the contention that international services can be successfully supported with similar levels of total passenger throughputs as seen in Wellington.

Furthermore the demand for these services has shown continued and significant growth over the last 10 years (with the exception of Cairns as a result of the sharp decline in Japanese air capacity and passenger travel experienced in 2009).

Canberra International Airport – expansion of international services

Canberra Airport has recently completed the development of a new international terminal which will soon commence operations.

The airport, servicing the predominantly public serviced based population of just over 350,000 people currently realises just over 3 million passenger flights per annum with around 163,000 people visiting the ACT from overseas each year, a significant portion of whom are international students from south-east Asia studying in Canberra.

The airport operator, in conjunction with the State Government, has invested heavily to lobby for international flights in and out of Canberra, with their first goal to secure six return flights to New Zealand each week by the time the airport's western concourse is open, which is intended to be followed by flights between Canberra and Singapore.

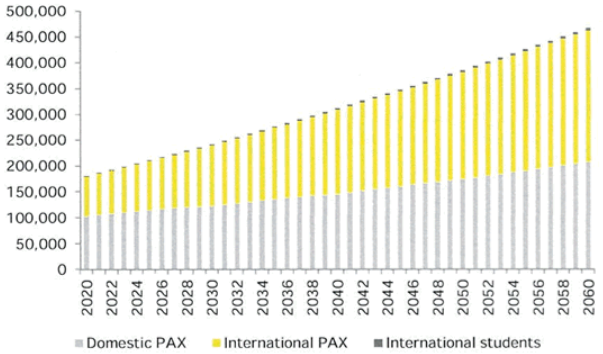
"Direct access from Singapore would not only provide the opportunity to grow the value of the education market to the ACT, but also make it easier for visiting friends and relatives of students to access Canberra."

ACT Minister for Economic Development; The Honourable Andrew Barr

5.1.4 Passenger types

Over the analysis period, as a result of increased international tourism, the proportion of international tourist movements relative to total movements would change dramatically. Currently approximately only 40% of international aviation movements to/from the Wellington catchment are from international tourists[40]. This is expected to rise to around 50% by 2030 and to around 60% in 2060.

Figure 10: Passenger demand by type from Asian and North American service– medium demand scenario



Of these passenger movements, in 2020 approximately 77,000 would be international tourists. Of these, approximately 1,500 of these movements would be undertaken by international students.

5.1.5. Freight demand

The strategic freight analysis found that there was sufficient demand from exporters/importers within the region to exceed the level of supply that would be provided by additional long-haul flights.

It was estimated that with the level of supply of long-haul services into and out of Wellington conservatively (see Section 4.4.2.2) result in up to 7,000 tonnes of goods exported/imported annually in 2020 rising to 25,000 tonnes per annum by 2060.[41] 25,000 tonnes is equivalent to 3,800 truck movements (at average load of 6.6 tonnes[42] which could be served via Wellington, rather than travelling further with longer time/higher cost to/from Auckland.

Freight assessment

Wellington airport currently underserves the region's businesses with the movement of imports and exports.

As can be seen in the table below Central New Zealand[1] currently contributes to approximately 30% of GDP, whilst the ports in the region move only 7% of the exports and imports out of the country with only negligible international freight movements (notably to Australia)

Table 7: New Zealand freight characteristics

Region	Proportion of GDP	Proportion of exports via port	Proportion of exports via air
Northern	51%	85%	82%
Central	29%	7%	0%
Southern	20%	9%	18%

Source: Stats NZ

Note: 2010 GDP estimates, 2012 export/import estimates

By not providing the necessary infrastructure to support the export industry would have wide ranging impacts on industries within the region (i.e.: cost of goods transported via land to Auckland)

Notably failure to provide a sufficient service could result in an increase in the cost of production and thus will be negatively impacting on the international competitiveness of the products produced within the region. Furthermore this will also increase the cost of living within the region.

[40] Statistics New Zealand Migration Data, Sabre ADI

[41] Medium case estimate

[42] Booz Allen Hamilton. Development of National Freight Matrix, Land Transport Research Project 2005)

Item 3.3 Attachment 2

6. Economic Impact Results

6.1. Introduction

This section sets out the economic impact arising from the demand scenarios set out in the section above.

6.2. Direct Impacts - quantified

Positive economic impacts will be felt from 2020 when the runway is constructed. Table 6 summarises the scale of impacts.

Gross value add: A productivity metric that measures the difference between output and intermediate consumption. Gross value added provides a dollar value for the amount of goods and services that have been produced, less the cost of all inputs and raw materials that are directly attributable to that production. The sum of value-add in an economy is equivalent to GDP, In other words the value of the economic inputs of labour, capital and some indirect taxes.

Expenditure: A measurement of the size of the economy based on the value of final goods and services consumed by households, government and the rest of world (exports), plus spending on investment goods and changes in the value of inventories.

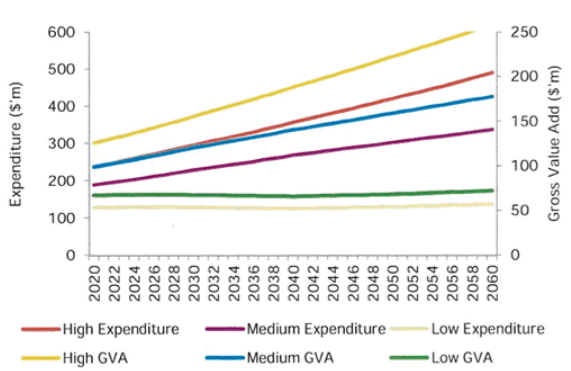
Table 8: Estimated direct economic impact of runway extension ($m 2013)

	2020	2040	2060	NPV
Expenditure				
Low				
Wellington region	51	70	94	676
New Zealand	127	124	136	1,358
Medium				
Wellington region	63	107	154	959
New Zealand	188	267	337	2,523
High				
Wellington region	76	139	214	1,225
New Zealand	238	357	490	3,323
Gross value add				
Low				
Wellington region	29	40	55	389
New Zealand	67	65	72	714
Medium				
Wellington region	35	60	86	534
New Zealand	99	140	178	1,327
High				
Wellington region	42	78	120	684
New Zealand	125	188	259	1,751

6.2.1. National economic impacts

At a national level, increased international connectivity to Wellington will result in between $127m and $238m additional expenditure in the national economy in 2020 and between $67m and $125m additional Gross Value Add in the national economy in 2020. Over the analysis period, this is expected to increase to between $136m and $490m in expenditure and $72m and $259m in Gross Value Add.

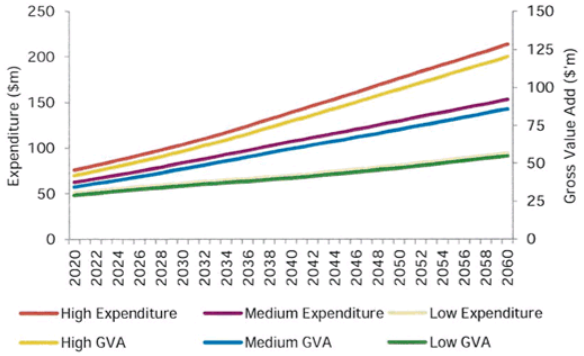
Figure 11: New Zealand economic impacts



6.2.2. Regional economic impacts

The development of the runway is expected to result in between $51m and $76m additional expenditure in the Wellington regional economy in 2020. This is expected to increase to between $94m and $214m by 2060. This will result in between $29m and $42m Gross Value Add retained in the region by 2020 and increase to between $55m and $120m by 2060. [43]

Figure 12: Wellington runway extension economic impacts



Over the 40 year assessment period in this report, assuming a 6% discount factor[44], this gives a net present value of Gross Value Add between $714m and $1,751m at a national level, and $389m and $684m at a regional level.

[43] All values are in 2013 dollar terms

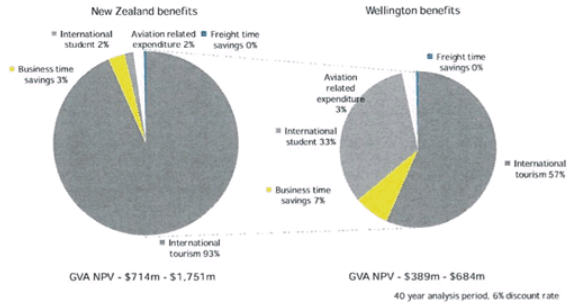
[44] Source: NZ Transport Guidelines, published by NZTA

Item 3.3 Attachment 2

6.3. Forms of Economic Benefits

As the previous section has established, the runway extension brings economic benefits to both the Wellington regional economy, as well as the national economy. However, the forms of benefits and proportional impact play out differently at a regional and national level.

Figure 13: Forms of economic benefits for New Zealand and the Wellington Region



Additional international tourism expenditure is the greatest driver of the benefits to the New Zealand and Wellington economies, both in absolute terms ($1,239m and $289m respectively[45]) and as a proportion of total benefits (93% and 57% respectively).

- The greater share of tourism benefits accrues nationally, rather than to the Wellington region, because, on average, tourists will spend the majority of the time and expenditure outside of the Wellington region (approximately 80%)[46].Wellington will be the gateway for these tourists to enter New Zealand. With increased ease of access to the Wellington region than previously available, international tourists will be more likely to spend more days and, as a consequence a greater proportion of their expenditure, within the region than if they entered the country via Auckland or Christchurch).
- Clearly, international visitors can already visit Wellington via onward connections from other airports and many already do, with Wellington already capturing 4.3 million international visitor nights per year. However, the existence of direct services to Wellington will induce more tourist traffic than if the only option remained a connecting flight. Direct flights open up the opportunity of new itineraries throughout central New Zealand that provide a different/ more accessible tourism experience than currently available. And the opportunity to provide full business services through to Wellington and reduced travel time will also increase its relative attractiveness.

- Wellington also benefits significantly from attracting more international students to the region.
  - There is limited research into the impact of international connectivity on the decision-making processes that international students undertake when choosing where to study.
  - For the purposes of this study, EY has assumed that, of those students who choose to study in Wellington because of the enhanced international connectivity, a large proportion of these would be diverted from elsewhere within New Zealand. In other words, these students would have studied in New Zealand anyway, but the relative attractiveness of Wellington over Christchurch or Auckland has increased. The expenditure of these students would not be of additional benefit to New Zealand but would be of regional benefit.
  - We have assumed that there would be a small uplift in the total number of students that are newly attracted to New Zealand to study (i.e. net impact at a national level), drawn particularly through the increased profile of Wellington as a destination. This will be realised through the increased competitiveness of Wellington and its Universities as a place to study but also increasing the available international student placements that would be made available at other Universities across New Zealand

[45] NPV GVA terms (40 year analysis period, 6% discount rate) Medium case estimate
[46] New Zealand Tourism

Given the significance of international students to the regional economy and the national goals to increase international student numbers, this is an area where further primary research into the drivers of students' decision-making would be valuable.

As highlighted above, there is clearly a level of unmet demand for aviation freight services within the Wellington catchment. The length of the runway extension and the destinations served by large aircraft will determine the extent to which this freight demand can be satisfied. Notwithstanding this, additional international airfreight will be able to be transported via passenger services which will go some way to supporting the international competitiveness of high value export businesses within Wellington.

The activity of Wellington businesses in overseas markets is currently restricted by poor accessibility and a lack of connectedness, although it is not possible to quantify the scale or impact of these restrictions. This report does not attempt to quantify the benefits of enhanced connectivity to business, but improved connectivity to world markets (particularly the growing economies in Asia) would be expected to enhance the opportunities for New Zealand businesses overseas and for investment in central New Zealand.

Countries with less than 1% of the world's population can fly directly to Wellington (compared with 32% to Auckland), and only 35% are within 1-stop of Wellington (via Auckland or Sydney).

A direct service to Singapore would double the proportion of the world's population that can access Wellington in one-stop (from 35% to 65%),

A direct service to China would have direct links to countries forming 20% of the world's population.

Table 9: Countries and population within one-stop of New Zealand airports

		Countries	Population (m)	% of world population
Auckland	Direct	18	2,275	32%
	Within 1 stop	56	5,222	74%
Christchurch	Direct	4	156	2%
	Within 1 stop	41	4,587	65%
Wellington (current)	Direct	2	24	0%
	Within 1 stop	22	2,476	35%
Wellington (Singapore service)	Direct	3	29	0%
	Within 1 stop	41	4,587	65%
Wellington (China service)	Direct	3	1,374	20%
	Within 1 stop	32	4,296	61%

6.4. Qualitative benefits

A range of additional benefits are likely to flow from enhancing the international connectivity at Wellington Airport through a runway extension. Many of these relate to the role that airports play in supporting particular types of economic activity – particularly those that are dependent on aviation services. Although these benefits may be viewed as generic to increasing aviation capacity anywhere, they are likely to be particularly pertinent the Wellington context. In particular:

Through enhancing international connectivity, the runway extension enables a distinctly new level of air service, including the potential for business class service for the full long-haul journey, and an increased degree of connectivity than previously available to/from Wellington. However, this needs to be considered in the context that international connectivity already exists but is limited, or more costly, due to the need to include a short additional connecting flight as part of an itinerary

The structural make-up of the Wellington economy, with a high proportion of knowledge-intensive industries, means it is well-placed to benefit from enhanced international connectivity

New Zealand already has a strong presence in the global tourism and international student markets. Wellington's 'brand' is weaker than other New Zealand destinations (particularly Auckland and Queenstown) so

has a level of untapped potential that greater promotion of a direct link to the city could exploit.

- An economically stronger and more internationally connected Wellington is of benefit to the New Zealand economy. It helps to provide increased economic resilience and reduces some of the pressures on the infrastructure and capacity of Auckland.

Economic competitiveness and productivity

Integrated transport networks help businesses to access larger markets. Aviation is a key driver in the sharply increasing globalisation of the services sectors globally.

There are also a range of qualitative benefits that enhanced international connectivity allows businesses to benefit from. These include:

- Knowledge sharing benefits through increased ease of knowledge transfer through face-to-face meetings
- Access to an international labour market
- Access to customers, suppliers and knowledge-sharing around the world
- Attractiveness to investment

Quantifying these benefits was outside of the scope of this study.

The benefits of international connectivity are most important for sectors characterised by internationalised, high-value products and services which are dependent on mobile workforces and face-to-face relations. These include high-tech sectors, such as the digital and film industry, and financial and business services, as well as government. These all have a strong presence in the Wellington regional economy.

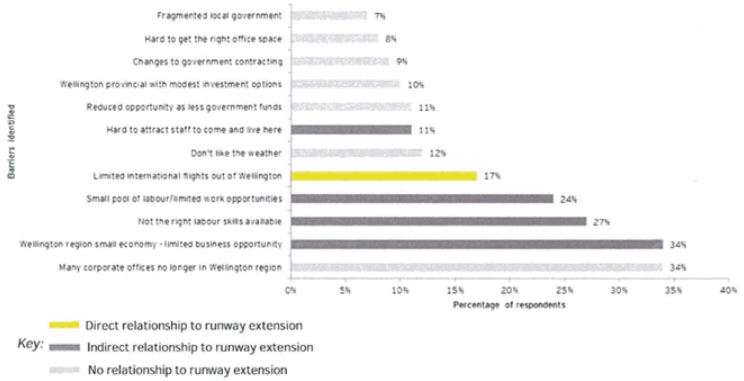
For sectors such as these, the ability to hold face to face meetings with overseas contacts is crucial to doing business effectively. A number of studies have concluded that developments in communication technology, such as video conferencing, have not replaced the perceived importance of developing strong personal relationships with clients for firms.[47]

A detailed study for the International Air Transport Association by Oxford Economic Forecasting[48] demonstrates the importance that businesses place on air services:

- Nearly 85 per cent of firms reported air services were important for their sales
- More than half of the firms surveyed believed their ability to compete internationally would be very severely or moderately affected by constraints on the availability of air transport.

In a recent study of knowledge-intensive Wellington businesses[49], 17% of those interviewed identified a shortage of international connections as a barrier to doing business effectively. Figure 14 sets out the main challenges that were identified.

Figure 14: Three top barriers to doing business in Wellington



Source: Strategic issues for employment and design of work in the Wellington region- early results. Report prepared for Victoria University by Judy Oaken.

[47] Cited in analysis undertaken for Mayor of London, "A new airport for London Part 1", January 2011.

[48] Oxford Economic Forecasting, *The Economic Contribution of the Aviation Industry in the UK*, October 2006

[49] *Strategic issues for employment and design of work in the Wellington region*

Extending the runway to allow for long-haul flights, directly addresses this barrier. However, in addition to this direct impact, the study identified a range of other factors which enhanced international connectivity is likely to help to address through opening Wellington up more directly to international labour and economic markets:

> Limits on business opportunity from the small size of the Wellington regional economy
>
> Not the right labour skills available
>
> Small pool of labour/ limited work opportunities
>
> Hard to attract staff to come and live here

The Wellington Employers' Chambers of Commerce regularly carries out surveys of its members seeking their views on what's holding Wellington back. These surveys support the findings of the study discussed above. For example, in the August survey in 2013, 16% mentioned the runway extension/direct flights to Asia/long-haul flights as a factor (192 respondents to survey).

Investment and connectivity

Connectivity and the quality of transport infrastructure are often identified as a key driver of investment attractiveness

> The *Globalization and World Cities Research Network*[50] research ranks cities based on their level of connectivity. Unsurprisingly, Auckland is ranked as New Zealand's most connected city. Wellington ranks a level lower than Adelaide – a city with a similar sized population but less significant role in the national economy. The level of international aviation services expected from the runway extension in Wellington is likely to be at least the level of international connectivity that Adelaide currently has.
>
> There are a range of significant investments planned in the Wellington region over the medium term. These include a Convention Centre and a film school. The runway extension will not be the critical factor to justify investment in these initiatives. However, should Wellington have greater international connectivity, this is likely to increase the benefits that these other investments will deliver, and the investments themselves may help to contribute to the demand for long-haul flights and the consequent economic benefits that will flow from the additional passenger traffic.
>
> Constraints to international connectivity can damage the competitive position of individual companies based in Wellington and reduce the attractiveness of Wellington for foreign direct investment. Firms make location decisions based on accessibility to domestic and international destinations. High-profile domestic examples, such as the clothing design and retail firm Icebreaker's decision to relocate its marketing department to Auckland have been attributed to the better connectivity of Auckland.[51]
>
> From a global perspective, New Zealand is a small market. Globalisation through improved connectivity and the reduction of tariffs and trade barriers has allowed New Zealand business to expand into larger fast growing markets particularly in Asia. International connectivity is becoming increasingly important, and Wellington's relatively poor connectivity puts it at a disadvantage relative to New Zealand's other main centres and international competitors when seeking to attract business/investment from overseas and vice versa.

6.5. Indirect/induced impacts

As part of this analysis, EY also analysed publically available data of the multiplier effects of the direct economic impacts of a number of airports, both international and domestic.

Table 10 indicates the extent of the direct impacts of each airport and how the airport also contributes to the economy through indirect and induced impacts, adding to the total impact that an airport has on the economy.

Table 10: The multiplier effects of airports

Airport	PAX (millions)	Direct Economic Impact per annum ($ billions)	Total Economic Impact per annum ($ billions)	Indirect Multiplier Effect
North America				
Phoenix	40.6	8.2	33.0	4.0
Houston	40.2	7.4	22.4	3.0
Kansas	10.2	1.1	5.5	5.0
Sacramento,	8.7	0.5	3.2	6.2
John Wayne	8.6	1.1	5.6	5.1
Florida	7.5	2.3	3.8	1.7
Europe				
BRUSSELS	18.8	0.6	1.9	3.0
Budapest	8.9	0.4	1.7	4.5
Asia & Middle East				
Dubai, AE	51.0	6.2	22.0	3.5
NEW DELHI	35.0	3.7	9.1	2.5
Australasian				
SYDNEY	32.2	8.0	16.5	2.1
BRISBANE	20.4	3.2	5.4	1.7
PERTH	9.4	1.4	2.9	2.1
Auckland	12		19	
Wellington	5	0.75	1.4	1.9
Christchurch	5.5		1.7	

Source: Compiled by EY from York Aviation Study (2004) and publicly available documents

The data summarised in Table 10 supports the conclusion that there is a positive relationship between passenger throughput at an airport and that airports directly and indirectly contribute to the wider economy. An average airport will have a total economic impact of approximately three to four times the size of its direct economic impact due to indirect and induced effects.

Based on the above information, it is difficult to draw any firm conclusions regarding the precise multiplier regarding the level of induced and indirect economic impacts of airports. There seems to be a large degree of variability in terms of the size of the indirect/induced effects between different airports. Australasian experience suggests slightly lower indirect effects of around double the direct economic benefits.

In the context of Wellington airport, this means that an indicative estimate of the scale of induced and indirect economic impacts from the enhanced international connectivity opened up by the runway extension is likely to be in the region of $970m to $1,700m in addition to the direct benefits.[52]

7. Technical annex

7.1. General assumptions

Date of commencement

Long-haul Commercial flights would commence in 2020 once the runway extension was completed. This assumes a level of existing demand in line with current travel patterns and expected growth, as contained in Tourism NZ forecasts.

Evaluation period

In accordance with NZTA transport economic evaluation guidelines a 40 year analysis period was taken into account (from the commencement of operations)

Discount rate

In accordance with NZTA transport economic evaluation guidelines a 6% discount rate was applied to this analysis to determine the net present value of benefits over the analysis period.

Prices

All values within this evaluation are presented in real 2013 New Zealand dollar terms. No real increases in the value of expenditure over the analysis period have been included within this analysis.

Scope of evaluation

Only those benefits that would be achieved as a result of the operations of long-haul flights were taken into account within this evaluation (i.e.: the economic impacts of construction were excluded).

7.2. Economic benefits assumptions

The methodology for the calculation of the economic impacts for each of the market segments analysed is described in detail below.

7.2.1. International Tourism

Additional expenditure within the Wellington and New Zealand economies as a result of additional tourist visits will benefit the wider economy. The methodology to calculate the number of induced tourists to New Zealand is set out in section 5 of the report.

The direct benefit that would be realised by the national economy would be as a result of an induced tourism activity i.e. those that would not have travelled to New Zealand before they had the option to travel to Wellington. The Wellington economy will realise the benefits both from those that are induced to travel as well as those that have transferred their existing travel from elsewhere within New Zealand or Australia (i.e.: will spend more time in the region rather than elsewhere within New Zealand as a result of direct access).[53]

The economic benefit of these additional tourists has been calculated using the Tourism NZ expenditure per tourist by their airport of origin data, as set out in the table below.

Table 11: Tourist spend in New Zealand by origin

Tourist expenditure by origin	Total expenditure per person
Africa	$3,600
Canada	$4,400
China	$3,400
Japan	$3,300
Korea	$2,700
Middle East	$3,600
Other America	$3,600
Other Asia	$3,500
Other Europe	$4,000
UK	$3,500
US	$3,300

Source: Tourism New Zealand – International Visitor Survey ((December 2013)

[53] Note that the total number of international student movements has been removed from the calculated [illegible]

An average spend per passenger for each of the three alternative routes was calculated by EY based on the Tourism New Zealand International Visitor Survey (as outlined above) and the origin of those tourists which was calculated using the 2030 medium demand scenario.

Table 12: Total expenditure by service

Tourist expenditure by origin	Total expenditure per person
Asia	$ 3,600
Middle East via Australia	$ 2,400
US	$ 3,400

Source: EY assumption based on Tourism New Zealand – International Visitor Survey (December 2013)

It has been assumed that based on Tourism New Zealand information that 18% of total expenditure by those induced international tourists that enter New Zealand via Wellington Airport will be realised within the Wellington region (i.e.: the remaining 82% will be spent elsewhere within New Zealand).

With regards to those international tourists that would have travelled to New Zealand regardless of direct access at Wellington airport it has been assumed that the provision of direct services to the region will result in these tourists spending more time (and thus money) within the region at the expense of expenditure elsewhere within New Zealand. Therefore this benefit is only realised within the Wellington economy and there is no net impact on the national economy.

It is assumed that in the medium case, these tourists will spend an additional 10% (7.5% and 12.5% in the low and high case respectively) of their total trip in New Zealand within the Wellington region.[54] This is the equivalent of between 1 and 2.5 additional days spent in the region, consistent with travel patterns at other New Zealand entry/exit points.

International Students

It has been assumed that the provision of direct international aviation services will impact on the choice of city that international students make. This analysis has assumed that the provision of a direct international service from Wellington would result in a higher proportion than currently of international students choosing to study in Wellington, in preference to another New Zealand city.[55]

Currently 1.3% of total international passenger movements to Wellington are for educational purposes.[56] Given that a number of international students travelling to Wellington would do so via Auckland it has been assumed that a total of 2% of passenger movements would be undertaken by international students.[57] Furthermore it is assumed that an international student will make 2 trips per year back to their home country.[58]

We have also assumed a small increase in 'new to New Zealand' students. This analysis assumes that 10% of the total increase in students studying in Wellington (2% as stated above) would have otherwise undertaken their studies outside of New Zealand.

The Wellington regional economy would benefit through the additional expenditure by these students over the year, through school fees and living expenses. It has been calculated from the Infometrics report[59] that the average international student within New Zealand spends approximately $25,000 per annum. Within this analysis it has been assumed that student expenditure within a given year would be $27,500 and $22,500 within the high and low cases respectively.

Local business travel time savings

The productivity benefit that would be achieved by reducing the effective travel time (effective wait and transfer and additional in air time in Auckland/Christchurch on international flights to/from Wellington as well as the return) of domestic business travellers would result in a benefit to Wellington and New Zealand as a whole. The 'effective time' is the time spent on-ground waiting for the connection, including transfer times, as well as additional in flight time on Auckland/Christchurch on domestic flights to/from Wellington.

It has been assumed within this analysis that 15% of total domestic based international passenger movements that originate from Wellington are primarily for business reasons.[60] Furthermore it has been assumed that an international passenger would realise up to 2 hours (1 and 3 hours in the low and high

[54] EY assumption based on discussion with stakeholders

[55] [illegible]

[56] Statistics New Zealand

[57] EY assumption

[58] EY assumption based on [illegible]

[59] The Economic Impact of [illegible] Fee-Paying Students [illegible]

[60] Statistics New Zealand

scenarios) in waiting/transfer time savings per international trip and approximately 50 minutes of in air time (difference between direct services and connecting services air-travel time) as a result of a direct service.[61] Given that this benefit is only included in this evaluation for New Zealand based business travellers flying internationally it has been assumed that all of those persons would be within close proximity to Wellington City.

A business value of time of $32.25 per hour was calculated based on the Australian CASA aviation business value of time (both on-ground and in-air) converted into New Zealand 2013 dollars.[62]

Aviation related expenditure

The increased movement of passengers and freight through Wellington airport will have a direct benefit to the region through increased expenditure at the airport (i.e. landing charges and ground support services) and via the airlines.

It has been assumed that there will be a direct benefit to the economy associated with aviation related services of $40 per passenger over the evaluation period.[63]

It has been assumed that the majority[64] of this expenditure, supporting the operations of Wellington airport and associated airlines, would be realised within the Wellington region.

The estimated split of expenditure that would be realised within the Wellington economy rather than the wider NZ economy as a result of increased aviation movements has been based on the New Horizons report on the Aviation industry for NZ Trade & Enterprise.[65]

Freight productivity improvements

Improving the flow of import/export freight movements within New Zealand would result in a productivity gain that would benefit the country as a whole. It has been assumed within this evaluation that the provision of international freight services from Wellington airport would result in a diversion of the movement of aviation export/import freight from Auckland or Christchurch.

The benefit associated with the improvement of freight has been calculated from the effective reduction in travel time of transporting export freight to Wellington Airport rather than Auckland (or Christchurch) and vice versa for imports.

The following assumptions have been incorporated within this analysis:

- Trucks transporting this freight can carry up to 12.5 tonnes and would travel an average of 50km per hour
- There is no change in wait or processing time of freight at Wellington airport compared to the alternative airports of Auckland or Christchurch.
- The value of time of freight would be $45 per tonne per hour, based on the NZTA economic evaluation guidelines taking into account the differential in the value of freight that is transport via land and that which is transported via air.[66]

61 EY assumption
62 EY calculation based on Australia's Civil Aviation Safety Authority economic evaluation guidelines
63 EY calculation based on BERL estimate of the aviation expenditure economic benefit of Wellington Airport in Wellington Airport Masterplan (2010)
64 90% - EY Assumption
65 New Horizons: A report on New Zealand's Aviation Industry – New Zealand Trade & Enterprise, [illegible]

66 Sydney Aviation Corridor Study (2013)

Item 3.3 Attachment 2

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ED 1311

InterVISTAS
a company of Royal HaskoningDHV

Viability Assessment of Long Haul Service at Wellington Airport

PREPARED FOR
Wellington International Airport Ltd

PREPARED BY
Inter*VISTAS* Consulting Inc.

July 2014

InterVISTAS
a company of Royal HaskoningDHV

Contents

InterVISTAS
a company of Royal HaskoningDHV

Executive Summary

Due to Wellington Airport's runway length, long haul routes operated with wide-body aircraft are generally unable to be operated to and from the airport, limiting Wellington and the region to domestic and nearby international flights. Wellington Airport has engaged InterVISTAS to independently ascertain the potential demand from the airlines' perspective for a longer runway before embarking on a project to expand the runway. InterVISTAS has extensive experience in strategic airline route and fleet planning, with globally recognized industry experts, and great familiarity with the New Zealand aviation landscape.

The initial part of this assessment is to determine the market demand for new long haul services at Wellington Airport. Current demand for the Wellington market consists of three distinct sources:

1) **Current Wellington Airport (WLG) Traffic –** Passengers currently using WLG and connecting via Auckland and Australia.

2) **Market Leakage –** Demand to/from areas where WLG is the closest airport, but passengers are currently using other airports due to absence of long haul services at WLG.

3) **Regional Connectivity –** Demand from other regions in New Zealand that could access a WLG long haul service by making flight connections at WLG.

Demand from each of these three sources was quantified, for the current year as well as future years, using data from Statistics New Zealand and Diio (a well-established third party provider of aviation data). Together these three components represent the current demand for services at Wellington Airport (WLG). Overall, the current long haul demand from the Wellington catchment area is estimated at 420 passengers per day each way (or 307,000 annual passengers). The largest markets are the United States and the United Kingdom with market sizes of 141 passengers per day each way (or 103,000 annual passengers) and 100 passengers per day each way (or 73,000 annual passengers), respectively, for travel to/from Wellington Airport.

Given that many of New Zealand's key markets could be accessed with a single WLG long haul route and network connectivity, the aggregate levels of current demand that Wellington exhibits would be of interest to potential airlines.

Figure ES 1 - Total Potential WLG Demand by Market Country

Rank*	Market	Market Size (Passengers Per Day Each Way)		
		WLG	Total Catchment	NZ Connections**
1	United States	93.5	140.8	209.9
2	United Kingdom	65.0	99.6	123.7
3	China	28.6	37.7	84.1
4	Thailand	17.7	27.2	56.9
5	Japan	15.0	24.4	86.0
6	Canada	14.5	24.2	32.7
7	India	17.9	23.5	19.6
8	Indonesia	15.0	21.7	25.3
9	Singapore	12.8	16.6	86.7
10	Hong Kong	10.8	16.1	45.7
11	France	10.4	14.7	15.4
12	Germany	10.0	13.8	25.3
13	Malaysia	8.1	12.4	11.6
14	Philippines	9.1	12.4	12.3
15	Vietnam	8.2	11.8	6.2
Other		83.4	124.6	167.0
Total (ex Oceania)		**420.1**	**621.5**	**1,008.4**

** Rank based on market size estimate for total catchment area.*
*** Demand from AKL and HLZ has been excluded.*
Source: Diio FMg and Statistics New Zealand, YE March 2014.

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In terms of current options for Wellington long haul travel, the vast majority of traffic is routed via Auckland. This is especially true in the case of North America, where back-haul connections over Australia add considerable time and distance. In addition to the increased travel time and higher fares associated with connections over Auckland and Sydney, limited capacity on these routes often limits the actual available space for long haul traffic. As a result, the observed levels of long haul demand for Wellington are likely constrained.

In terms of identifying potential new long haul routes for Wellington Airport, a number of variables were considered. Some are obvious like market size, but some are perhaps less clear, and reflect the nuances of today's aviation industry. In addition to local market size, airline planners also look at the connecting market demand, the primary alliance affiliation of the country, and whether New Zealand is already served by their airline, as well as other strategic considerations. These principles helped to narrow a long list of potential markets down to five with the most potential: Singapore Airlines to Singapore, Cathay Pacific to Hong Kong, United Airlines to Los Angeles, Emirates to Dubai (via Melbourne), and Malaysia Airlines to Kuala Lumpur. In addition, it should be noted that Thai Airways to Bangkok also has potential, as its results were comparable with Malaysia to Kuala Lumpur. Furthermore, the Chinese markets and carriers hold potential for future direct services, given China's significant growth in demand, airline capacity and networks. However, due the relatively small current demand levels and less connecting opportunities at their hubs, these routes were not included in the route forecast stage of this project, as the aforementioned five routes were deemed to hold greater potential in the near-term.

Regarding the impact of new services on demand levels, it is generally accepted in the airline industry that some amount of market stimulation (i.e., market growth) will occur. This acceptance is based on analysis of new route launches in various markets and the impact these have had on traffic levels. When new service is added it provides more options for travellers which, in turn, results in additional demand. Specifically, new services provide additional travel options, lower prices and increased market visibility, which in turn results in demand from passengers that would not have travelled before deciding to do so due to the improvement in air access. It is important to note that stimulation does not occur only in the local market, but occurs in connecting markets where travel times and/or airfares are improved. Additionally, new service by foreign carriers generally results in a higher level of inbound stimulation (i.e. new visitors), as foreign carriers usually have a stronger market presence in their home country. Recent examples of new services by foreign carriers into New Zealand indicate that the visitor component of the incremental traffic is around 75%. This higher proportion of visitors would be beneficial for the New Zealand tourism industry and the New Zealand economy as a whole.

In order to gauge the potential for stimulation at WLG, a number of recent stimulation examples were reviewed. As such, when conducting the route forecasts, stimulation rates were based on the recent examples, as well as benchmarking against other similar markets.

Of the five routes examined in this study, four routes (WLG-Singapore, WLG-Hong Kong, WLG-Kuala Lumpur, WLG-Melbourne) are forecast to achieve positive segment profit margins on an annual basis, while the fifth route (WLG-Los Angeles) is segment profitable on a seasonal basis (during the northern winter season). Overall, the results from these detailed route forecasts indicate that there are a number of airlines that hold good potential for a viable long haul service from Wellington. In addition, each flight is expected to feed passenger traffic into the respective airline hubs or connecting cities, generating additional network revenue for the airline and improved access for Wellington to many key long haul markets.

At the same time, each airline in the study is expected to experience minimal cannibalization from their current services in New Zealand and neighbouring Australia. With regard to the impact on

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current WLG services, a portion of the traffic on the new service is expected to be diversion from Auckland and Sydney flights (anything that is not market stimulation must be, by definition, diversion from existing WLG services). However, in the context of current traffic levels, a long haul WLG service would not significantly impact existing Wellington or other New Zealand operations. Moreover, a new WLG long haul service is expected to result in up to 45,000 incremental passengers at Wellington Airport, many of which would be new visitors to New Zealand. Based on recent examples of new services by foreign carriers into New Zealand, it is estimated that around 75% of the incremental traffic could be visitors, resulting in 16,900 new visitors for New Zealand.

Based on analysis of five route/airline options, it is our conclusion that there is sufficient passenger demand for the market to sustain Wellington long haul service. The market demand from the drive catchment area combined with the lack of direct long haul service provides ample opportunity for a new carrier to enter the Wellington long haul market. As such, by the time of the runway extension opening, there are a number of viable long haul opportunities for the Wellington market with the best potentially supporting a daily service to Asia as well as the possibility of a direct service to North America.

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1 Introduction

1.1 About InterVISTAS

InterVISTAS is a company of Royal HaskoningDHV, an independent, international project management, engineering, and consultancy service provider with its headquarters in Amersfoort, the Netherlands. Ranking globally in the top 10 of independently owned, non-listed companies and top 40 overall, Royal HaskoningDHV's 7,000-person staff provides services across the world from more than 100 offices in over 35 countries. It carries out more than 30,000 projects every year in aviation, planning, transport, infrastructure, water, maritime, industry, energy, mining, and buildings. As part of the Royal HaskoningDHV team, this alliance complements InterVISTAS' portfolio with services in infrastructure development, engineering, design, and program management in the aviation sector.

InterVISTAS has extensive experience in strategic airline route and fleet planning, great familiarity with the New Zealand aviation landscape and globally recognized industry experts. Furthermore, InterVISTAS has extensive expertise in using a number of network analysis and planning tools and databases. InterVISTAS has worked with airlines all around the world, including Air New Zealand.

1.2 Project Background

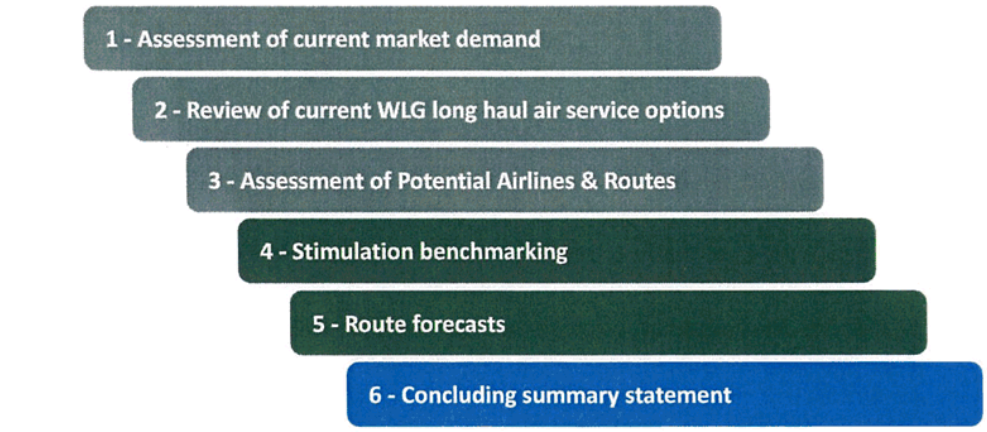
At present, Wellington Airport's runway is 1,945 metres long. As a result, long haul routes operated with wide-body aircraft are generally unable to be operated to and from the airport, limiting Wellington and the region to domestic and nearby international flights (e.g., Australia and Fiji). Other cities in New Zealand, including Auckland and Christchurch, do not have these limitations, and thus, both enjoy nonstop service to a number of cities worldwide.

Expansion of the runway is constrained by Lyall Bay on the southern end and Evans Bay on the northern end, and hence, will be an expensive exercise. Therefore, Wellington Airport has engaged InterVISTAS to independently ascertain the potential demand, from the airlines' perspective, for a longer runway before embarking on the expansion project.

1.3 Objective

The objective of this project is to assess the commercial viability of long haul service at Wellington Airport (assuming adequate runway length for wide-body aircraft operations).

This study has been carried out based on the following six components:



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2 Market Demand

2.1 Terminology and Definitions

O/D traffic or origin and destination traffic is the industry standard for measuring air service demand. O/D traffic measures the number of passengers either starting or ending their journey at the intended airport or city. To accomplish this, ticketing data is examined at an itinerary level instead of on a flight or segment level. For example, consider two passengers travelling from Wellington to Brisbane – one takes a nonstop flight and the other connects over Auckland. Both passengers would be counted as Wellington-Brisbane O/D passengers.

However, it should be noted that, when a passenger purchases two separate itineraries, creating a "self-connection", that passenger would be mistakenly counted as two separate O/Ds. As an illustration, suppose a passenger wishes to travel from Wellington to London and books two individual tickets, the first with Qantas for Wellington-Sydney-Singapore, and the second with Singapore Airlines to complete the journey from Singapore to London. In this instance, what should have been a Wellington-London O/D passenger would be counted as a Wellington-Singapore O/D passenger and also as a Singapore-London O/D passenger. Such occurrences would skew the market size data to reflect a larger market size between Wellington and the intermediary point and a smaller market size for Wellington and the true final destination. This is dealt with in more detail later in this section.

2.2 Current Wellington Demand

Current demand for the Wellington market consists of three distinct sources:

4) **Current Wellington Airport (WLG) Traffic –** Passengers currently using WLG and connecting via Auckland and Australia.

5) **Market Leakage –** Demand to/from areas where WLG is the closest airport, but passengers are currently using other airports due to absence of long haul services at WLG.

6) **Regional Connectivity –** Demand from other regions in New Zealand that could access a WLG long haul service by making flight connections at WLG.

Together these three components represent the current demand for services at Wellington Airport (WLG).

2.3 Current Wellington Airport (WLG) Traffic

When it comes to quantifying demand for long haul service at Wellington Airport (WLG), the most obvious and easiest approach is to look at the traffic that is currently using the airport. Although there are not any direct long haul services at WLG, current passengers are still using the airport to access long haul markets via connecting services. Since market demand is measured on an O/D (origin-destination) basis, regardless of routing, this demand is captured in the current market demand databases.

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For this project, InterVISTAS made use of three O/D data sources: Sabre Airport Data Intelligence (ADI), Diio Mi and the Statistics New Zealand international resident departure data (by New Zealand region of residence and main country of destination[1]).

The Sabre and Diio market size estimates are based on travel agency ticket sales that are collected by the ticket clearing houses. Specifically, Diio uses data from the ARC (Airline Reporting Corporation) and IATA BSP (Billing and Settlement Plan) ticket clearing houses and Sabre uses data from its own GDS (Global Distribution System). Using this information from the travel agents, both Diio and Sabre make adjustments using proprietary models to account for direct airline bookings that are not included in their databases. The Statistics New Zealand data is based on exit customs data and provides a very accurate picture of outbound international demand.

Although Diio and Sabre both provide fairly accurate market size information, the fares reported by Sabre appear to be biased upwards. Given that the Diio fares seem to be generally more accurate, the Diio database has been used as the foundation of the current WLG market demand in this study. As a testament to the quality of this data source, it should be noted that Diio is used by 400 airlines, airports, manufacturers, policy makers, travel professionals and destination marketers worldwide (Diio's airline customers account for 70 per cent of the world's capacity).

Although the Diio market sizes are generally quite accurate at the aggregate level, InterVISTAS often makes adjustments to certain markets or geographies to account for discrepancies (note, airlines often do the same based on external and/or internal data sources). In the case of the WLG data, InterVISTAS has used the Statistics New Zealand data to make adjustments to account for two ticket itineraries and "trip break" rules.

[1] Statistics New Zealand International Travel and Migration data series April 2013-March 2014

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Figure 1 - Long Haul Market Demand for WLG

Rank	Market	WLG Market Size (Passengers Per Day Each Way)*	Average One-way Fare (USD)
1	London	52.6	$1,276
2	Los Angeles	30.6	$984
3	San Francisco	15.3	$984
4	Bangkok	13.8	$628
5	Singapore	12.8	$663
6	Tokyo	11.3	$1,007
7	Shanghai	11.2	$838
8	Denpasar Bali	11.0	$653
9	Hong Kong	10.8	$933
10	Honolulu	9.4	$686
11	Paris	9.0	$1,175
12	Manila	8.7	$707
13	Mumbai	7.1	$734
14	New York	6.8	$1,225
15	Vancouver	6.8	$1,018
Other		202.9	$1,030
Total (ex Oceania)		**420.1**	**$972**

** WLG market size based on Wellington region and proportion of Manawatu-Wanganui drive market.*
Source: Diio FMg, YE March 2014 and Statistics New Zealand.

Additionally, when considering the viability of air services, it is important to note that airline network planners evaluate total demand when conducting their route forecasts. As such, when looking at the viability of a specific route, demand for connecting markets that are available at each end of the route must be considered in addition to the nonstop market. For example, Figure 2 provides an overview of the connections that are possible for Singapore Airlines (and Star Alliance) at Singapore Changi Airport (SIN). In addition to the local Wellington-Singapore O/D market, a WLG-SIN flight could connect Wellington passengers to beyond markets such as London, Hong Kong and Bangkok. Specifically, a WLG-SIN service would draw from not only the local Wellington-Singapore market of 12.8 passengers per day each way (PDEW), but from a total market demand of 218 PDEWs.

Note: The demand potential may actually be larger, as demand for travel to/from secondary markets will often use ground transportation to access nearby gateways. For example, if better service becomes available to London Heathrow a passenger travelling to Manchester may be inclined to fly to London Heathrow and then take the train to Manchester as opposed to connecting over another European gateway and then flying to Manchester Airport; a change in the airline destination of the trip.

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Figure 2 - Singapore Connections

Source: Innovata Schedules July 2013.

2.4 Market Leakage

In addition to drawing traffic from the immediate Wellington area, WLG has the potential to draw traffic from the entire Central New Zealand area. As shown in the following figure, based on current capture of trans-Tasman traffic, WLG has the potential to draw from an area as far north as New Plymouth and as far south as the northern tip of the South Island – an area with an estimated population base of 1.1 million people. The vast majority of travel would be drawn from the Wellington and Manawatu-Wanganui region's within a 2-hour drive of the airport, which generates 70% of the catchment's long haul demand.

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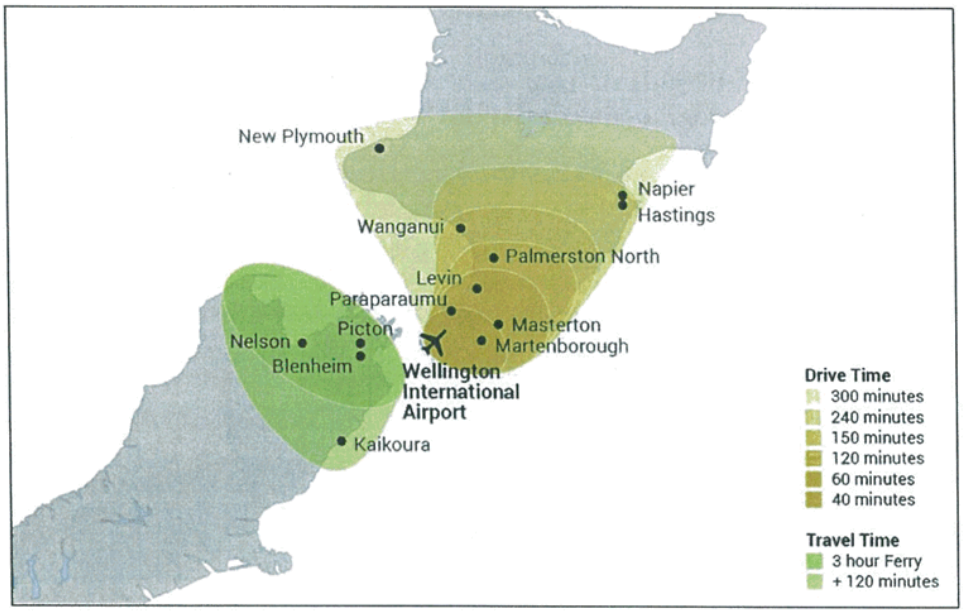
Figure 3 - Wellington Catchment Map



Although the catchment includes areas that are up to a 5 hour drive from WLG, the majority of the current demand is concentrated in the more immediate Wellington area, defined by a 2 hour drive time radius.

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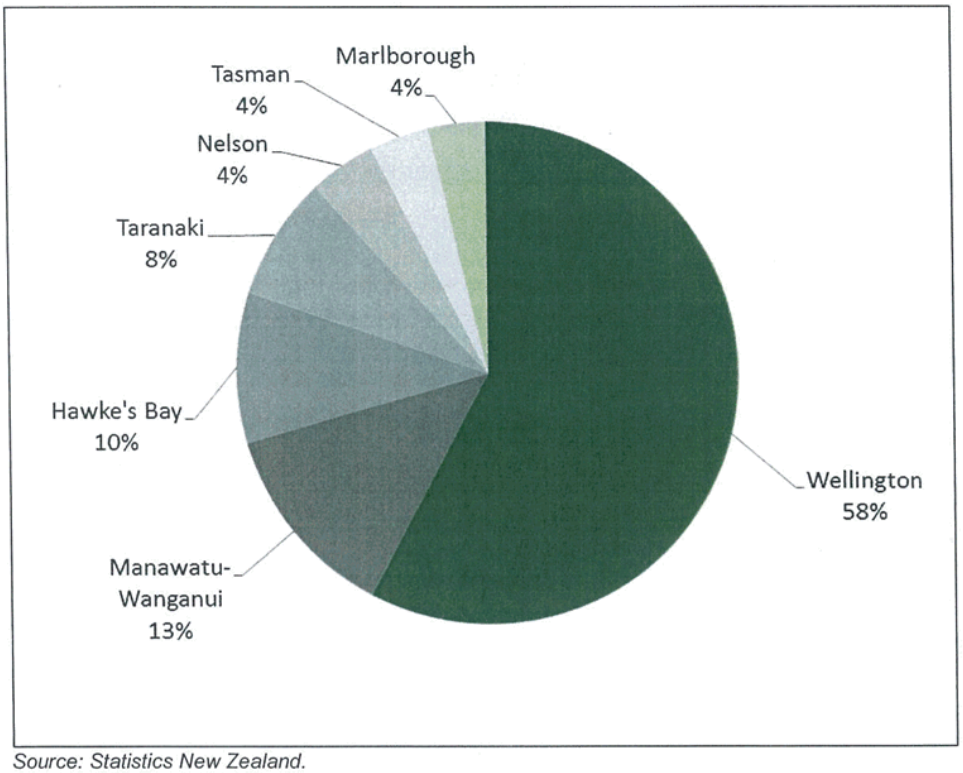
Figure 4 - Central New Zealand Resident Long Haul Demand by Region



Source: Statistics New Zealand.

It is important to note that a portion of this total catchment demand is already captured in the WLG numbers shown in section 2.3 (e.g., if someone drives from Palmerston North to WLG to travel on a WLG-SYD-SIN itinerary). Statistics New Zealand data shows that around 58% of the Manawatu-Wanganui SYD/MEL/BNE market use Wellington Airport for their international departure predominantly as drive access, and a similar drive capture could be expected for suitable long haul services. Traffic that is using an airport outside of the catchment area (including the non-drive Manawatu-Wanganui market) would be classified as "market leakage" (e.g., if someone flies from Palmerston North to AKL to travel on an AKL-SIN itinerary). The extent that WLG can draw traffic from this area will largely be dependent on the level of available service and the competitive options, which this study assesses.

Given the lack of long haul services at WLG, the airport inevitably sees a material share of its traffic potential leaking to competitive airports. Keeping this leakage of traffic at Wellington Airport might help to support additional long haul flights. As such, effective route forecasting requires a complete understanding of the market potential considering all passengers to and from the catchment area, regardless of the choice of airport. In order to quantify this leakage potential, InterVISTAS has made use of the Statistics New Zealand international departure data in combination with point-of-sale data from the Diio Mi database.

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Figure 5 - Long Haul Market Demand for WLG and Total Catchment

Rank*	Market	WLG Market Size (Passengers Per Day Each Way)**	Total Catchment Market Size (Passengers Per Day Each Way)***
1	London	52.6	81.4
2	Los Angeles	30.6	44.5
3	San Francisco	15.3	23.7
4	Bangkok	13.8	21.0
5	Tokyo	11.3	17.8
6	Singapore	12.8	16.6
7	Hong Kong	10.8	16.1
8	Shanghai	11.2	16.1
9	Denpasar Bali	11.0	15.8
10	Honolulu	9.4	15.6
11	Paris	9.0	12.7
12	Manila	8.7	11.8
13	Vancouver	6.8	11.5
14	Kuala Lumpur	6.7	10.1
15	Manchester	6.4	8.9
Other		203.8	297.9
Total (ex Oceania)		**420.1**	**621.5**

** Rank based on market size estimate for total catchment area.*
*** WLG market size based on Wellington region and proportion of Manawatu-Wanganui drive market.*
**** Includes WLG Market.*
Source: Diio FMg, YE March 2014 and Statistics New Zealand.

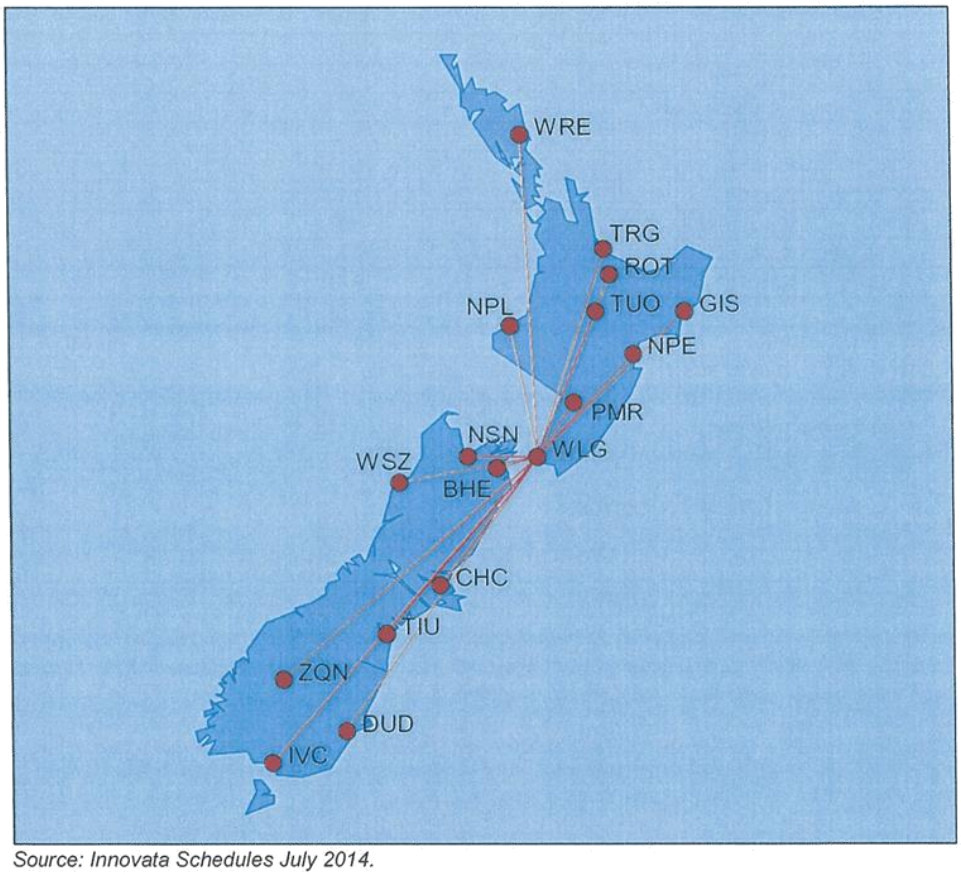
2.5 Connectivity Potential

WLG's location at the southern tip of the North Island provides it with a geographical advantage over other cities in New Zealand to facilitate domestic connections between the two islands and to provide international service with feed, especially from the South Island. The combination of the 500,000 people in the Wellington urban area, the one million residents of the South Island, and a large amount of people in Wellington's catchment area on the North Island create a sizeable base for new long haul flights and additional domestic flights to support them.

Wellington's runway limitations for long haul international flights force many customers to connect over Auckland and/or international gateways. Most notably, travellers from the South Island, while physically closer to Wellington than Auckland, opt to bypass Wellington and go directly to Auckland for long haul flights. However, if Wellington could accommodate the wide-body aircraft used for long haul flights, it could play a bigger role in New Zealand's links with foreign nations. For example, South Island regions covered by Timaru and Westport (gateway to the West Coast glaciers) airports only have direct domestic flights to Wellington and so for passengers that are not prepared to drive to Christchurch, Wellington provides the best international gateway for travel. In the case of Christchurch, it should be noted that, in markets where there is already a direct service from Christchurch Airport, passengers are expected to continue to make use of those services. However, if WLG were to attract a unique service, it is expected that some of the Christchurch demand would connect over WLG as they currently do over AKL.

Although there is the possibility to connect traffic from all over New Zealand, the actual degree to which WLG is able to capture this demand will be determined by the route forecasting model. Specifically, a long haul service at WLG will still have to compete with the numerous options that are available to access long haul markets (e.g. services via AKL, CHC, SYD etc.). As shown in the results section of this report, the New Zealand connectivity, while important to account for, only contributes marginally to the performance of the potential WLG long haul services (the only exception being the United LAX flight which is forecast to connect a moderate amount of traffic at WLG due to the absence of USA services at CHC).

Figure 6 - Possible Connections from Wellington (WLG NZ Service except AKL and HLZ)



Source: Innovata Schedules July 2014.

As shown in the following figure, the current WLG international flights (BNE, SYD and MEL) carry traffic from outside the immediate Wellington area. Specifically, around a quarter of NZ residents travelling on WLG's Tasman services are from outside the Wellington region. Furthermore, these flights have demonstrated that WLG services can serve a large portion the total New Zealand market (currently capturing 16.5% of New Zealand resident travel to the international destinations served from Wellington Airport). Almost all Wellington region traffic (90%) flies directly out of WLG, while 58% of the Manawatu-Wanganui Tasman market flies out of Wellington, predominantly accessing the

airport by driving. Wellington Airport also captures 12-17% of the central New Zealand market (drive and air access) and 15-22% of the upper South Island (predominately air access).

Figure 7 - Proportion of NZ Resident Travel to BNE/SYD/MEL via Wellington

New Zealand Region	Proportion of Current WLG Tasman Traffic	Proportion of Regional Market
Auckland	0.8%	0.3%
Bay of Plenty	0.5%	1.5%
Canterbury	0.9%	1.1%
Gisborne	0.2%	5.4%
Hawke's Bay	2.2%	16.6%
Manawatu-Wanganui	12.2%	58.1%
Marlborough	1.1%	22.6%
Nelson	0.8%	16.9%
Northland	0.1%	0.5%
Otago	1.4%	5.4%
Southland	0.6%	7.8%
Taranaki	1.3%	12.1%
Tasman	0.7%	15.1%
Waikato	0.4%	0.8%
Wellington	75.2%	89.7%
West Coast	0.1%	4.7%
Not Applicable/ Not Stated/ Not Captured	1.6%	16.4%
Grand Total	**100.0%**	**16.5%**

Source: Statistics New Zealand.

2.6 Summary of Current Demand

A summary of WLG's current demand from the three different components is shown in the following tables. Overall, Wellington has a large long haul market for a city of its size, with 420 passengers per day each way (or 307,000 annual passengers) travelling to/from the airport and 622 passengers per day each way (or 454,000 annual passengers) generated by the total catchment. The largest markets are the United States and the United Kingdom with market sizes of 141 passengers per day each way (or 103,000 annual passengers) and 100 passengers per day each way (or 73,000 annual passengers), respectively, for travel to/from Wellington Airport.

Given that many of these key markets could be accessed with a single WLG long haul route and network connectivity, these levels of demand would be of interest to potential airlines.

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Figure 8 - Total Potential WLG Demand by Market City

Rank*	Market	Market Size (Passengers Per Day Each Way)		
		WLG	Total Catchment	NZ Connections**
1	London	52.6	81.4	90.6
2	Los Angeles	30.6	44.5	60.6
3	San Francisco	15.3	23.7	29.3
4	Bangkok	13.8	21.0	44.7
5	Tokyo	11.3	17.8	56.0
6	Singapore	12.8	16.6	86.7
7	Hong Kong	10.8	16.1	45.7
8	Shanghai	11.2	16.1	38.4
9	Denpasar Bali	11.0	15.8	16.8
10	Honolulu	9.4	15.6	24.4
11	Paris	9.0	12.7	13.1
12	Manila	8.7	11.8	10.3
13	Vancouver	6.8	11.5	14.0
14	Kuala Lumpur	6.7	10.1	7.7
15	Manchester	6.4	8.9	15.8
Other		203.8	297.9	454.4
Total (ex Oceania)		**420.1**	**621.5**	**1,008.4**

** Rank based on market size estimate for total catchment area.*
*** Demand from AKL and HLZ has been excluded.*
Source: Diio FMg and Statistics New Zealand, YE March 2014.

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Figure 9 - Total Potential WLG Demand by Market Country

Rank*	Market	Market Size (Passengers Per Day Each Way)		
		WLG	Total Catchment	NZ Connections**
1	United States	93.5	140.8	209.9
2	United Kingdom	65.0	99.6	123.7
3	China	28.6	37.7	84.1
4	Thailand	17.7	27.2	56.9
5	Japan	15.0	24.4	86.0
6	Canada	14.5	24.2	32.7
7	India	17.9	23.5	19.6
8	Indonesia	15.0	21.7	25.3
9	Singapore	12.8	16.6	86.7
10	Hong Kong	10.8	16.1	45.7
11	France	10.4	14.7	15.4
12	Germany	10.0	13.8	25.3
13	Malaysia	8.1	12.4	11.6
14	Philippines	9.1	12.4	12.3
15	Vietnam	8.2	11.8	6.2
Other		83.4	124.6	167.0
Total (ex Oceania)		**420.1**	**621.5**	**1,008.4**

** Rank based on market size estimate for total catchment area.*
*** Demand from AKL and HLZ has been excluded.*
Source: Diio FMg and Statistics New Zealand, YE March 2014.

2.7 Market Growth

Given that any potential long haul service at WLG would be initiated a number of years in future (i.e. after the runway extension is complete), it is necessary to consider future market growth.

A key component in estimating future market growth is the country`s GDP and population forecasts. It is generally accepted that air travel in a particular country closely relates to that country's GDP and population growth; as GDP and population grow, air travel volumes also grow. For this study, all relevant market sizes were grown from current base market sizes (year end March 2014) to 2019 forecasted market sizes using city pair weighted averages of the GDP and population growth rates.

Annual growth rates for the top WLG markets are shown in the figure below. Overall the average estimated growth rate for Wellington long haul traffic is 3.0% per year. As a point of comparison, Diio estimated that the WLG long haul market grew by 4.8% for 2013 vs. 2012.

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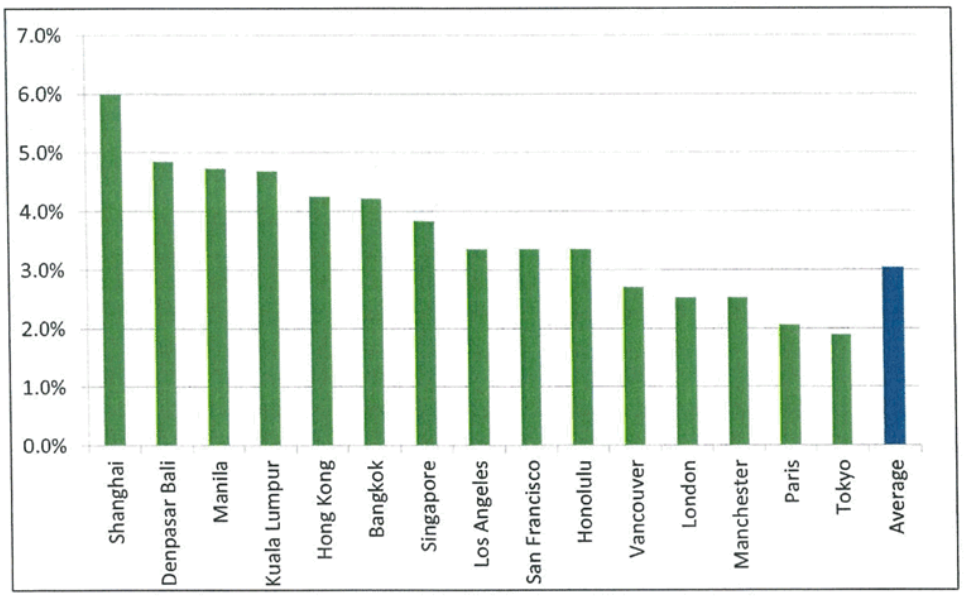
Figure 10 - Annual Growth Rates for Top WLG Long Haul Markets (2014-2019)



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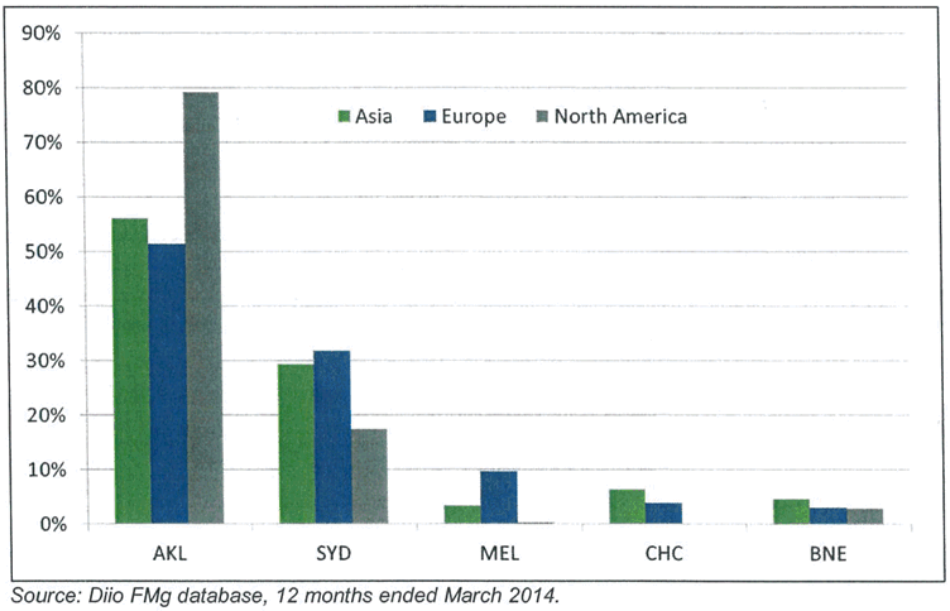
3 Review of Current Wellington Long Haul Air Service Options

In terms of current options for Wellington long haul travel, the vast majority of traffic is routed via AKL. This is especially true in the case of North America where back-haul connections over Australia add considerable time and distance.

Figure 11 - Current Routings for WLG Long Haul Traffic



Source: Diio FMg database, 12 months ended March 2014.

Although routings via AKL are not very circuitous in terms of trip distance, the connection time at AKL adds considerably to the elapsed trip time. Furthermore, given that online connections (i.e., itineraries that carry the same airline code on all sectors) via AKL are only available with Air New Zealand and its alliance partners, the argument could be made that there is a lack of competitive options for Wellington travellers. As shown in the following figure, this constraint on available service options combined with the added costs associated with an additional flight sector seems to be resulting in higher fares at WLG relative to AKL. Furthermore, given that some carriers common rate the fares at AKL and WLG (i.e., they charge the same airfare for travel from AKL and WLG), the average fare premium is likely skewed downwards by this practice. Therefore, for the carriers that are not common rating fares, it is possible that the differential between AKL and WLG is somewhat higher than what is suggested by the market averages.

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Figure 12 - WLG vs. AKL Travel Options

Market	WLG Connecting Seats Per Day Each Way*	WLG Circuity of Routings*	Travel time from WLG vs. AKL*	Airfare Premium WLG vs. AKL**
London	4,610	7%	19%	15.1%
Los Angeles	1,732	17%	48%	9.4%
Singapore	2,329	1%	39%	-4.7%
Hong Kong	1,124	2%	31%	9.6%
Bangkok	874	1%	30%	3.5%
San Francisco	999	11%	47%	5.1%
Shanghai	885	3%	28%	-3.6%
Manila	96	2%	-2%	-11.5%
Denpasar Bali	480	1%	-13%	9.2%
Tokyo	192	8%	45%	4.3%
Honolulu	396	26%	95%	33.5%
Paris	1,887	4%	20%	16.9%
Vancouver	497	18%	42%	1.2%
Johannesburg	339	13%	-20%	8.0%
New York	3,160	23%	8%	-2.9%

** Based on the average for the month of May 2014.*
*** Based on 12 months ended March 2014.*
Sources: Sabre Profit Essentials, May 2014 and Diio FMg database, 12 months ended March 2014.

In addition to the increased travel time and higher fares associated with connections over AKL and SYD, limited capacity on these routes often limits the actual available space for long haul traffic. As a result, the observed levels of long haul demand are likely constrained further.

Furthermore, when the WLG market is compared to the CHC market, it is evident that yields are relatively high for WLG travel to key long haul markets. Although there may be the belief that higher yields are due to differences in airport costs at WLG, these costs account for a very small amount of the total cost associated with long haul itineraries, and therefore have little if any material impact on long haul fares.

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Figure 13 - WLG vs. CHC Travel Options

Market	WLG Connecting Seats Per Day Each Way*	WLG Circuity of Routings*	Travel time from WLG vs. CHC*	Airfare Premium WLG vs. CHC**
London	4,610	7%	7%	30.0%
Los Angeles	1,732	17%	-10%	20.3%
Singapore	2,329	1%	40%	3.2%
Hong Kong	1,124	2%	-8%	10.9%
Bangkok	874	1%	0%	8.1%
San Francisco	999	11%	-3%	11.6%
Shanghai	885	3%	-9%	10.9%
Manila	96	2%	-2%	-22.6%
Denpasar Bali	480	1%	-7%	7.4%
Tokyo	192	8%	-18%	-9.6%
Honolulu	396	26%	-17%	20.8%
Paris	1,887	4%	9%	29.1%
Vancouver	497	18%	-4%	-0.8%
Johannesburg	339	13%	-24%	4.5%
New York	3,160	23%	-8%	24.8%

** Based on the average for the month of May 2014.*

*** Based on 12 months ended March 2014.*

Sources: Sabre Profit Essentials, May 2014 and Diio FMg database, 12 months ended March 2014.

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4 Assessment of Potential Airlines & Routes

A number of variables go into selecting potential new long haul destinations from Wellington. Some are obvious like market size, but some are perhaps less clear, and reflect the nuances of today's aviation industry. In addition to local market size, airline planners also look at the connecting market demand, the primary alliance affiliation of the country, and whether New Zealand is already served by their airline, as well as other strategic considerations.

As a country, New Zealand is fortunate to have a plethora of air services to points in multiple continents. To date, Auckland and Christchurch have been the beneficiaries of overseas flights. In spite of their popularity among travellers, even Auckland and Christchurch often require connections to build sufficient demand for long haul flights. Air New Zealand, of course, captures a significant percentage of the national outbound market by flying to many domestic points, pooling New Zealand origin traffic, and connecting them to flights to the Americas, China, Japan, etc. Given that Air New Zealand currently has a dominant share of the Wellington international market and has established a successful hub operation at AKL, it is unlikely that they would consider launching a long haul service from WLG. Furthermore, it would likely be difficult, from an operational standpoint, for Air New Zealand to cycle a long haul wide-body aircraft through to WLG.

Another major force in the New Zealand market is the Australian carriers. Qantas and, to a lesser degree, Virgin Australia, bring traffic from Auckland, Wellington, and Christchurch, combine it with Australian origin traffic, and launch flights to a number of long haul destinations. Because these flights require connecting traffic to make them work financially, airlines flying to/from New Zealand, Wellington included, do not want to fly too far and overfly a number of cities which would have likely connecting traffic for Wellington. Hence, besides New Zealand and Australian gateways, the nearest Asian hubs make the most sense for nonstop service to Wellington.

Therefore, a number of Asian hubs top the list for the possibility of adding service to Wellington. Singapore, Hong Kong, and Kuala Lumpur all offer substantial service to Australia and New Zealand to feed their flights to Europe, Asia, and the Americas. All three of the airlines from those countries, Singapore, Cathay Pacific, and Malaysia, respectively, offer hundreds of flights daily which Wellington could connect to with the implementation of a flight.

Another somewhat obscure rationale for selecting a possible hub for new service is the primary frequent flyer affiliation for New Zealand. In today's aviation world, most connections are made by alliance partners. Therefore, in New Zealand, since Air New Zealand is a member of the Star Alliance, New Zealanders are predisposed to travel abroad using a Star partner, whether it is Air New Zealand or not. In fact, Air New Zealand's biggest competitors at Auckland are its alliance partners. Air New Zealand customers want to get their Airpoints and receive other benefits, and to some extent, they do not care if they fly Air New Zealand or not, but they will fly their partners to earn their points. Hence, even though Air New Zealand does not offer long hauls out of Wellington, there are a number of customers who are enfranchised in the Airpoints program from domestic or trans-Tasman travel that will want to continue to earn Airpoints when they have a long business trip or are going on holiday. In addition, Star partners can count on code-sharing with Air New Zealand from any New Zealand gateway to expand their "network" throughout the country. Therefore, a number of Star partners might look at Wellington as a complement to their own service and/or Air New Zealand service to Auckland or Christchurch, not as a competitive action to Air New Zealand's Auckland services. In addition to its Star Alliance partners, Air New Zealand also has a partnership arrangement with Cathay Pacific.

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Although Australia does not have any Star Alliance partners, there are a number in Asia including Thai Airways and Singapore Airlines, both of which currently serve New Zealand. Also, Qantas enjoys some support in New Zealand due to its trans-Tasman flights, but not to the degree that Air New Zealand has. That being said, Qantas with its partnership with Emirates has been able to increase its market share in the WLG long haul market. As such, it would make sense for a foreign Star Alliance airline to enter the market in order to increase the alliance's market share.

The final qualification is whether the airline already serves New Zealand. Although Wellington is the national capital and the second largest city of New Zealand, it is not as well-known internationally as Auckland and Christchurch. A number of airlines that do not serve New Zealand will not make the leap of faith to make Wellington their first destination in the country. Star Alliance partners will especially want to launch their initial New Zealand service to Auckland to take advantage of Air New Zealand's hub there. Although there are a number of arguments for airlines on why Wellington makes more sense than Auckland or Christchurch for that first New Zealand flight, it would be difficult if not impossible to find an airline route planner who would gamble his wide-body aircraft to launch a new route to Wellington without existing Auckland or Christchurch service. However, if the airline already serves New Zealand, especially Auckland, it is a much easier sell, and the debate becomes one of Wellington versus Christchurch (a growing and high yielding market with less competition versus a larger more established visitor market with lower yields and an incumbent airline). Although this line of thinking is valid for most airlines, there are select set of airlines that target niche markets with less competition and therefore, may consider Wellington as the first point of entry into the New Zealand market. For example, Qatar Airways may prefer to operate trans-Tasman fifth freedoms to Wellington given the traffic rights, vis-à-vis, Auckland or Christchurch to have the market to itself, rather than compete against Emirates.

With regard to specific route opportunities for WLG, a number of quantitative and qualitative criteria were considered, as shown in the following table.

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Figure 14 - Summary of Evaluation Criteria for Potential Long Haul Routes

Market	Hub Carrier	Current Service from NZ	Market Demand - Passengers Per Day Each Way*		Connectivity at WLG	Fare Premium vs. AKL	Strategic Fit	Potential for WLG Service
			Local	Local + Connections **				
Asia								
Singapore	Singapore Airlines	✓	16.6	292.0	✓	-5%	✓	High
Hong Kong	Cathay Pacific Airways	✓	16.1	300.7	✓	10%	✓	High
Dubai***	Emirates	✓	3.9	275.5		12%	✓	Medium
Kuala Lumpur	Malaysia Airlines	✓	10.1	266.3		46%		Medium
Bangkok	Thai Airways	✓	21.0	266.5	✓	4%		Medium
Beijing	Air China		8.3	286.5	✓	20%	✓	Medium
Guangzhou	China Southern Airlines	✓	5.0	250.3		-16%		Medium
Seoul	Korean Air	✓	6.4	240.7		0%		Medium
Doha***	Qatar Airways		0.5	170.2		1%	✓	Medium
Manila	Philippine Airlines		11.8	232.5		-11%		Low
Shanghai	China Eastern Airlines		16.1	222.0		-4%		Low
Tokyo	Japan Airlines		17.8	189.4		4%		Low
Ho Chi Minh	Vietnam Airlines		5.4	221.5		-8%		Low
Seoul	Asiana Airlines		6.4	215.8	✓	0%		Low
Abu Dhabi	Etihad Airways		1.5	171.4		-7%		Low
Jakarta	Garuda Indonesia		5.6	138.5		-43%		Low
Taipei	EVA Airways		2.7	136.9	✓	21%		Low
Delhi	Air India		8.0	135.1		21%		Low
Johannesburg	South African Airways		7.0	108.4	✓	8%		Low
Americas								
Los Angeles	United Airlines		44.5	193.1	✓	9%	✓	Medium
Los Angeles	Delta Air Lines		44.5	184.2		9%		Medium
San Francisco	United Airlines		23.7	234.3	✓	5%		Medium
Honolulu	Hawaiian Airlines	✓	15.6	87.4		34%		Low
Vancouver	Air Canada		11.5	193.1	✓	1%		Low
Dallas	American Airlines		1.7	164.9		-4%		Low
Buenos Aires	Aerolineas Argentinas		1.8	26.0		-5%		Low
Santiago	Lan Airlines	✓	2.3	19.4		1%		Low

** For the full WLG catchment area. Source: Statistics NZ and Diio, YE Mar 2014.*
*** Limited to markets where the distance via the hub is not more than 35% greater than the nonstop distance.*
**** Via Australia*

Given the table above, especially the market sizes, as well as the aforementioned other less tangible parameters, we have chosen routes that we feel hold sufficient potential viability for long haul service from Wellington. Specifically, comprehensive traffic and financial analysis was performed on five routes that were deemed to hold the most potential for Wellington long haul service including:

1) Singapore Airlines – Singapore
2) Cathay Pacific – Hong Kong
3) United Airlines – Los Angeles
4) Emirates – Dubai (via Melbourne)
5) Malaysia Airlines – Kuala Lumpur

Results for these routes are provided in the "Route Forecasts" section of this report.

(In the future, Thai Airways to Bangkok might be considered as well, as its results were comparable with Malaysia to Kuala Lumpur.)

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Singapore Airlines – Singapore

Singapore has everything going for it to launch a new service to Wellington. As the closest Asian hub to New Zealand, albeit 8,521 kilometres, Singapore can take advantage of the disparate travel destinations of New Zealand flyers and aggregate them via Singapore on to flights bound for Europe, Asia, the Middle East, the Americas, etc. Singapore has taken advantage of its proximity to New Zealand with flights to both Auckland and Christchurch for years. Specifically, Singapore operates a double daily service to AKL and a daily service to CHC. Given that these current services give them a substantial presence in those two markets, it would likely make sense for them to consider expansion into a new station in New Zealand, such as WLG, rather than adding capacity at their existing stations.

Although not the largest local market in Asia (that honour belongs to Bangkok), Singapore has the second highest amount of total traffic, which includes connecting traffic. It is only a few connecting passengers short of Hong Kong for the largest market, including both local and connecting traffic. Because of Singapore's extreme southern position on the Malay Peninsula in Asia, Singapore Airlines is always looking for more southerly points to feed its hub and balance the northern destinations. Hence, Wellington could be another good spoke to feed the Singapore hub. In addition, Singapore Airlines and Air New Zealand belong to the Star Alliance and they have requested approval for a joint venture partnership. Hence, there is a strong opportunity for these airlines to work together while travellers in both directions can take advantage of frequent flyer reciprocity and code-sharing into New Zealand's interior as well as beyond Singapore to the myriad number of destinations in their network. Finally, Singapore has always been good about continually renewing and expanding its fleet. Currently, Singapore has both 787-10s and A350-900s on order to refresh its fleet and the expected improvements in performance from these new aircraft may strengthen the potential for a WLG service.

Cathay Pacific – Hong Kong

Cathay Pacific is almost equally as good of choice for the first long haul flight destination from Wellington. Like Singapore, it takes advantage of its strategic geographic location to funnel New Zealand traffic to/from the world. Also, it leverages its southern Asian geography to channel numerous northerly destinations to Southeast Asia, Australia, and New Zealand. Its need for additional southern destinations is similar to Singapore's. In addition, the Hong Kong market, while also not the largest local market, when combined with connecting passengers, is the largest single market for Wellington traffic, facilitating connections to Europe, northern Asia, and the Americas. The one thing that Singapore Airlines has going for it in Wellington and New Zealand that Cathay Pacific does not is its alliance affiliation, as Cathay is part of the oneworld alliance. Although not in the same alliances, it is important to note that Cathay Pacific currently has a partnership with Air New Zealand. Regarding the oneworld alliance, Qantas is part of this alliance group, and outside of Airpoints, the second largest frequent flyer concentration in New Zealand is with Qantas' Frequent Flyer Program. Hence, Cathay has long enjoyed support from its customers on its Auckland flights (it does not serve Christchurch), which have been operated for some time. Since Singapore and Cathay already serve cities in New Zealand, it may not be as hard to convince them to add another city. Currently between Cathay and Air New Zealand the AKL-HKG market is served double daily, so the argument could be made that this route is already well served. As such, it would likely make sense for Cathay to consider expansion into a new station in New Zealand, rather than adding more capacity at AKL.

Also like Singapore, Cathay Pacific is very good about constantly renewing its fleet with retirements and new jet orders. As a result, Cathay has numerous A350-900s and -1000s on order, which also

may strengthen the potential for a WLG service, due to the expected improvements in performance from these new aircraft.

United Airlines – Los Angeles

The most likely long haul route from Wellington in the other direction is United Airlines to Los Angeles. While Asian hubs can accommodate a great deal of New Zealand traffic bound to a number of destinations, they can never facilitate itineraries to North and South American cities with as comprehensive of coverage as a U.S. hub. Los Angeles represents the second largest single local market (behind London) for long haul Wellington travellers. In addition, connecting passengers make up nearly another 150 people per day each way that could connect through United's hub there. (Delta's LAX hub is nearly as good, but United does have more flights and capacity at LAX and could drive more connections for Wellington travellers). Like Singapore and Air New Zealand, United is part of the Star Alliance. Air New Zealand takes advantage of this partnership in North America and leans on United for code-sharing and frequent flyer reciprocity in the States. In New Zealand, United could count on Air New Zealand to do the same and utilize Wellington as a connecting hub for New Zealand. United has all kinds of aircraft on order from 787-8s, which at 219 seats, is the perfect aircraft for this market, up to A350-1000s, which are being used to replace 747-400s (350 seats). Hence, United can easily find a plane for this route which will fit the market demand. Unfortunately, United does not currently serve New Zealand, which might be the most difficult hurdle. With closer cooperation, perhaps United and Air New Zealand could see the flights as complementary, with Air New Zealand serving the Auckland market and United serving the Wellington market. Alternatively, as with a number of other international markets and airlines (e.g., Canada, Japan, and the transatlantic), United and Air New Zealand might also find it in their best interests to create a joint venture, in which case United would not care that they did not already serve Auckland before launching Wellington.

Emirates – Dubai (via Melbourne and Singapore)

Over the years, Emirates has been successful across the Tasman in utilizing spare aircraft time to maximize their reach and their loads by tagging Auckland and Christchurch behind Brisbane, Melbourne, and Sydney. Emirates' aircraft arrive into Australia from Bangkok, Dubai, and Singapore in the morning and would normally sit there all day before returning that night. However, Emirates' planners decided to try flying these aircraft across the Tasman to tap the New Zealand market as well. This venture has worked out well for Emirates, Auckland, Christchurch, and New Zealand as a whole. The benefit to Emirates is a) they use spare aircraft time, b) they can reach New Zealand, as the distance from Dubai is daunting, and c) Auckland and Christchurch can share aircraft with Australian cities to minimize the risk of both routes, Dubai-Australia and Dubai-New Zealand. The benefits for Auckland and Christchurch is that they get access to another great hub, albeit one-stop over Australia, without the pain and anxiety of launching a large aircraft for thousands of kilometres.

All this being said, Emirates still has one flight coming into Melbourne that does not go anywhere. It sits on the tarmac at Melbourne Airport from 0750 in the morning until 1800 in the evening, over 10 hours. Wellington is the only international destination close enough to Melbourne which is not currently served by Emirates to which this aircraft could be used. Like its other New Zealand operations, Emirates could start a service with this 777-300 to Wellington. Although this type of aircraft seats 364 people, Wellington would not have to fill nearly that amount to make it worth Emirates time and trouble to launch the service. Given the relatively short stage length between Wellington and Melbourne and the shared nature of the service, many of the attributes that other airline planners look at for their route determination are not considered in this case. Emirates does not belong to an alliance and does not look for onward connectivity with Air New Zealand. Frequent flyer

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reciprocity is not a major consideration. That being said, Emirates does have a partnership with Qantas and could benefit from Qantas' existing market presence at WLG.

Although Emirates' Dubai hub is one of the smaller local markets and it would necessitate bypassing a number of Asian cities, it has enough breadth to facilitate numerous connections to the Middle East, western Asia, Africa, and Europe; in fact, its connecting potential is one of the highest. Finally, while Emirates is constantly buying new aircraft, the real consideration is whether one is available in Australia, and in this instance, it is. However, it should be noted that although the aircraft is available now, it may not be available in the future, as the Dubai-Australia schedules may change.

Malaysia – Kuala Lumpur

Our final destination which merits consideration is Kuala Lumpur (KL), Malaysia Airlines' hub, which holds many of the same virtues as Singapore and Hong Kong. However, it is not as well-developed as the respective homes of Singapore Airlines and Cathay Pacific; nevertheless, it comes very close. KL's southern position in Malaysia lends itself to facilitating connections omni-directionally, similar to Singapore. Hence, while its local market size is smaller than Singapore's, it comes very close to being able to accommodate almost as many New Zealand travellers' itineraries. Unlike its fellow Asian airlines, Malaysia does not have any new aircraft on order. While some of its current fleet might be suited for a Wellington mission (e.g., A330 or the 777-200), they are ostensibly being used for existing routes and unavailable for new services. However, Malaysia is rumoured to be evaluating a new order for wide-body aircraft, which would include the 787 and the A350. Similar to Cathay, Malaysia is part of the oneworld alliance, and while it maintains links with Qantas and benefits from its frequent flyers, it does not have a similar relationship in New Zealand. It has maintained a flight between KL and Auckland for years, so expanding its presence in New Zealand might not be a big ordeal.

Longer Term Potential for China

In addition to these five specific routes, China in aggregate has become the largest driver of Asian traffic to New Zealand and its carriers should be considered for service from Beijing, Guangzhou, and Shanghai. Although the current Wellington-China markets are relatively small, in the last five years China has overtaken the United States and the United Kingdom to become the second largest source of tourists for the nation, behind only Australia according to Statistics New Zealand. The three primary Chinese airlines, Air China, China Southern, and China Eastern historically have not developed as fast as their Asian neighbours for political and economic reasons; hence, they have not established as large of flight banks to facilitate flights to as many regional and global destinations as their Asian competition to date. In addition, Beijing and Shanghai are located in the northern part of Asia, which limits the facilitation of hub connections to Southeast Asia due to the considerable back-haul required. Additionally, flights from Beijing and Shanghai involve long stage lengths and, therefore, may be more susceptible to payload limitations than the closer Asia hubs. However, the significant growth in the number of Chinese passengers coupled with the easing of visa restrictions has created large pent-up demand by Chinese customers which is driving China's airlines to grow rapidly. Additionally, with a large number of aircraft on order, it is expected that the Chinese hubs will eventually be as comprehensive as the current major hubs such as SIN and HKG. It is also our understanding that Wellington Airport is putting resources into building a presence and awareness in China to build the market ahead of possible future direct services.

In terms of specific carriers, Air China has not started service to New Zealand yet, which makes the inauguration of Wellington service unlikely in the short term. However, Air China is in the Star Alliance, which makes New Zealand attractive longer term. China Southern, while not part of Star, has been outspoken in its enthusiasm for New Zealand. Presently, China Southern serves Auckland and has started charters to Christchurch. China Eastern is neither part of the Star Alliance, nor does it fly

to New Zealand. However, its home base of Shanghai is one of the largest and most important of Chinese cities. Nevertheless, with no service to New Zealand, their initial foray into the country will likely be to Auckland, so Wellington is again a longer term proposition. Outside of the big three Chinese airlines, smaller, unaligned carriers, e.g., Hainan, might find New Zealand attractive for new service as they continue to growth their networks.

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5 Stimulation Benchmarking

In the airline industry it is generally accepted that some level of market stimulation (i.e., market growth) will occur as a result of new air service. This acceptance is based on analysis of new route launches in various markets and the impact these have had on traffic levels. When new service is added it provides more options for travellers which, in turn, results in additional demand. Specifically, new services provide additional travel options, lower prices and increased market visibility, which in turn results in demand from passengers that would not have travelled before deciding to do so due to the improvement in air access. Additionally, it is important to note that stimulation does not occur only in the local market, but occurs in connecting markets where travel times and/or airfares are improved.

When it comes to the level of market stimulation, there are a number of market characteristics that are important to consider. Specifically, markets that have limited service generally tend to produce larger rates of stimulation when new service is added. Additionally, markets that have a higher proportion of inbound leisure travellers tend to experience higher rates of stimulation. This is because inbound leisure travellers have many options when choosing their vacation destinations and as such their decisions will be heavily based on the convenience of available air service and the airfares. In the case of WLG, it is essentially a hidden destination behind AKL that will become more visible for the leisure market as new services are introduced. On the other hand, outbound travellers are more likely to be accustomed to a lack of service and many will travel on current services despite the lack of convenience and/or lower fares. That being said, there is still potential for outbound stimulation, as business travellers often make travel decisions based on the convenience of air services (less opportunity cost of being out of the office) and airfares.

In order to gauge the potential for stimulation at WLG, a number of recent examples were reviewed. As shown in the table below, history has demonstrated that new services usually result in significant market growth.

Route	Airline	Year Started	Average Weekly Outbound Frequency	Stimulation*	
				Absolute (PDEWs)	% Change
ADL-DXB	Emirates	2012	7.0	35.1	369%
CNS-PVG	China Eastern	2012	1.5	26.6	733%
OOL-SIN	Scoot	2012	4.8	201.8	2429%
PER-DOH	Qatar	2012	7.0	11.1	554%
SYD-SCL	Qantas	2012	3.0	45.6	147%
AKL-CAN	China Southern	2012	7.0	23.9	485%
MEL-HNL	JetStar	2012	2.2	59.9	114%
DRW-MNL	JetStar	2011	4.0	49.2	23019%
PER-CAN	China Southern	2011	3.0	23.5	220%
SYD-DFW	Qantas	2011	3.4	23.5	137%
MEL-AUH	Etihad	2009	7.0	21.4	3258%
MEL-DOH	Qatar	2009	7.0	11.8	334%

** Observed demand the year after new service versus the year before start of the service.*
Source: Innovata schedules (accessed via Diio) and Diio FMg.

At present WLG is relatively underserved when it comes to long haul air access. Additionally, given that the Wellington market shares many similarities with some of the smaller markets in the above

table (e.g. CNS, ADL and DRW), it is reasonable to expect that a similar amount of stimulation will occur with the introduction of new long haul service. As such, when conducting the route forecasts, stimulation rates were based on the above recent examples as well as benchmarking against other similar markets. For example, in the case of a Singapore Airlines service, the WLG-SIN market size was compared to the CHC-SIN market size to give an indication of how the market may respond when nonstop service is introduced. Furthermore, it is important to note that new service by foreign carriers generally results in a higher level of inbound stimulation (i.e. new visitors), as foreign carriers usually have a stronger market presence in their home country. Recent examples of new services by foreign carriers into New Zealand indicate that the visitor component of the incremental traffic is around 75%. This higher proportion of visitors would be beneficial for the New Zealand tourism industry and the New Zealand economy as a whole.

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6 Route Forecasts

6.1 Route Analysis Methodology

For route forecasting, the LiftPlan model has been used. LiftPlan is a software suite based on Lufthansa Systems' NetLine/Plan. Inputs to the software suite include a complete worldwide schedule, origin/destination (O/D) market sizes, fares, and a fully customizable set of airline cost categories. Using the input data, LiftPlan is able to generate logical O/D itineraries for every true origin and destination in the market size database. The quality of each itinerary is measured by the market share model, which allocates passengers and revenues to the individual flights in a carrier's network. Specifically, traffic and revenue is allocated based on a logit based quality of service index (QSI) methodology – a technique widely used for network planning in the airline industry. QSI is a way of quantifying a concept which is qualitative (service quality). Moreover, QSI attempts to forecast consumer behaviour by quantifying the relative attractiveness of different flight options. The specific parameters used to quantify the attractiveness of different air service itineraries are derived by the model designers and based on comprehensive statistical analysis of currently observed passenger behaviour. Stimulation is also determined by the changes in the quality and price of available air services.

More importantly, different scenarios can be built by adding/deleting/adjusting individual flights. The tool will then analyse the resulting changes in passengers, incremental revenue gain/loss and the changes in market shares for all airlines in every O/D market.

The Lufthansa Systems mode is currently used by major airlines including Lufthansa, Air Canada, Qatar Airways, Cathay Pacific and Turkish Airlines. InterVISTAS has successfully used LiftPlan with airline clients worldwide, ranging from regional carriers to large international Tier I airlines.

In regard to the revenue forecasts in the model, it should be noted that an adjustment was made to factor down the cargo revenue potential for all modelled routes, except for the Emirates service. This is to reflect that even with a runway extension, it is likely that long haul services would be weight restricted in the outbound direction.

Also, all route results shown in the following section are presented on a mutually exclusive basis. That is, the viability of any potential service was assessed independently of other potential long haul services. As such, if a carrier were to initiate a long haul route at WLG this would likely have a material impact on the viability of any other potential long haul routes.

6.2 Route Forecast Results

Of the five routes examined in this study, four routes (WLG-SIN, WLG-HKG, WLG-KUL, WLG-MEL) are forecasted to yield positive segment profit margins on an annual basis, while the fifth route (WLG-LAX) is segment profitable on a seasonal basis (during the northern winter season). Overall, the results from these detailed route forecasts indicate that there are a number of airlines that hold good potential for a viable long haul service from WLG.

To estimate the true market demand after the introduction of a new route, realistic and conservative stimulation rates have been applied; this is based on actual past observations when benchmarking

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against similar markets, as well as the improvement in the quality of air service (as measured by the QSI score). This is intuitive, as markets experiencing a greater relative improvement in air service quality would be expected to generate greater stimulation. Individual stimulation rates are calculated for the local market and every relevant connecting market.

For each route in the study, the stimulated demand comprises 30% or less of the total onboard passengers. As such, the forecast performance does not rely heavily on stimulation, but instead relies mainly on the base market demand. This is encouraging as airlines are often reluctant to initiate service in markets that are very dependent on stimulation, given the uncertainty associated with the level of stimulation that will ultimately materialize. However, as discussed in the stimulation section of this report, significant stimulation can be expect from new services. This is encouraging from the airports perspective, as stimulation (i.e. incremental traffic) is one of the major benefits from new service. Specifically, based on the route forecasts, it is estimated that the stimulation from a daily service could result in as many as 45,000 incremental annual passengers for New Zealand. Many of these incremental passengers would be inbound tourists coming to New Zealand. Specifically, recent examples of new services by foreign carriers into New Zealand indicate that the visitor component of the incremental traffic is around 75%. Using this figure for the visitor component would imply that incremental traffic of 45,000 passengers per year could translate into 16,900 new visitors for New Zealand (45,000 times 75% divided by two, as passengers are counted in both directions).

In addition, each flight is expected to feed passenger traffic into the respective airline hubs or connecting cities, generating additional network revenue for the airline. At the same time, each airline in the study is expected to experience minimal cannibalization from their current services in New Zealand and neighbouring Australia.

Both Singapore Airlines (WLG-SIN) and Cathay Pacific (WLG-HKG) services appear to hold good potential. Specifically, route forecasts indicated that both of these routes could support a 4-5/week year-round service based on current demand. Furthermore, both are forecasted to be viable at 6-7/week year-round in 2019. Both are forecasted to operate at strong passenger load factors (between 86% and 90%), with forecasted positive route margins. Both these routes exhibit strong local and connecting passengers demand, as the flights are timed to provide network feed for Singapore and Cathay at SIN and HKG respectively. Furthermore, as a point of comparison, the forecast results for the Singapore WLG-SIN operation compare quite favourably to their current CHC-SIN operation. Specifically, with comparable load factors, it is logical to assume that WLG-SIN would be viable given that the local Singapore fares at WLG are higher than those at CHC. Similarly in the case of Cathay Pacific the results for WLG-HKG compare favourably to AKL-HKG, as the local Hong Kong fares at WLG are quite a bit higher than those at AKL.

The United Airlines route (WLG-LAX) is forecasted to yield a positive route margin during the northern winter season (at 4x weekly frequencies) with high passenger load factors. Despite similar load factors in the northern summer, it is forecasted to have a negative margin at the segment level due to lower yields. That being said, the level of demand from WLG to the Americas and Europe, combined with United's network at LAX, indicates that the service could achieve good passenger loads with minimal reliance on market stimulation. If a higher level of market stimulation were to materialize, the financial performance could potentially be improved through revenue management (i.e., when demand is greater than supply the airlines can generally raise prices). Furthermore, even with a negative segment margin for the northern summer, it is possible that United would consider year-round service due to positive network contribution and to maintain a constant presence in the market. Also, it should be noted that the profit estimates may improve in the "Future Forecast" scenario, as United replaces its Boeing 777 fleet with the more cost efficient Boeing 787 family of aircraft.

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The Malaysia (WLG-KUL) service is forecasted to generate a positive segment margin for 4 times weekly service during the northern winter season and 3 times weekly service during the northern summer season in 2019. Its annual passenger load factor is forecast at 79% and the flights are timed to connect passengers with Malaysia flights operating at the KUL hub which provides significant connecting traffic to/from key markets in Asia and Europe.

The Emirates (MEL-WLG) extension utilizes aircraft downtime on EK404/405 which operates DXB-SIN-MEL. The aircraft arrives in MEL early morning local time and does not fly its return leg until evening. This forecast adds a MEL-WLG-MEL roundtrip during this downtime. As the aircraft sits idle during the day in MEL, the cost of aircraft ownership is removed for the WLG extension segment profit calculation. To evaluate the potential for this route, two scenarios were analysed: one with a focus on segment profitability and one with a focus on network profitability and full utilization of the aircraft currently available at MEL. The scenario with a focus on segment revenue provides a conservative assessment of the potential, as the route is evaluated based on the normal network planning criteria (i.e. load factor and sector profitability). Under this scenario the forecast indicate that a 3/week year-round service would achieve strong load factors and a positive segment based return.

The scenario with a focus on network profitability takes into consideration that the aircraft is already available at MEL, so the opportunity cost of sending the aircraft over to WLG is low. Furthermore, given the availability of this aircraft it is likely that Emirates would accept a small segment loss in order to pick up the significant network contribution that a WLG service could provide. As such, from a network contribution stand point it appears that a daily year-round MEL-WLG service could be viable for Emirates. Specifically, the network revenue is significantly more than the cost of the MEL-WLG-MEL roundtrip, and hence, presents an opportunity for Emirates to bring WLG passengers into its network via MEL.

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Figure 15 - Detailed Forecast Results for Singapore Airlines, Cathay Pacific and United Airlines

	Current Forecast			5 years in the Future Forecast		
	Northern Winter (Feb)	Northern Summer (Aug)	Annual Average	Northern Winter (Feb)	Northern Summer (Aug)	Annual Average
SQ SIN-WLG						
Onboard Traffic						
Weekly Frequencies	4	5	4 -5	6	7	6-7
Aircraft Type	777-200ER	777-200ER	777-200ER	777-200ER	777-200ER	777-200ER
Weekly Seats	2,168	2,710	2,481	3,252	3,794	3,565
Weekly Passengers	1,824	2,436	2,177	2,889	3,404	3,186
% Local	17%	20%	19%	20%	22%	21%
% Connecting at Hub	80%	77%	78%	77%	74%	75%
% Connecting at WLG	3%	4%	3%	3%	4%	3%
Stimulation as % of Load	23%	25%	24%	26%	27%	26%
Avg. Load Factor	**84%**	**90%**	**88%**	**89%**	**90%**	**89%**
Financial Performance						
Network Revenue (per week USD million)	$2.0	$2.8	$2.4	$3.1	$3.9	$3.5
Segment Revenue (per week USD million)	$1.4	$1.8	$1.6	$2.2	$2.6	$2.4
Segment Profit Margin*	**2%**	**7%**	**5%**	**8%**	**8%**	**8%**
CX HKG-WLG						
Onboard Traffic						
Weekly Frequencies	4	4	4	7	6	6-7
Aircraft Type	A340-300	A340-300	A340-300	A340-300	A340-300	A340-300
Weekly Seats	2,120	2,120	2,120	3,710	3,180	3,404
Weekly Passengers	1,899	1,783	1,832	3,247	2,741	2,955
% Local	19%	21%	20%	23%	27%	25%
% Connecting at Hub	76%	75%	75%	71%	68%	69%
% Connecting at WLG	5%	4%	4%	6%	5%	6%
Stimulation as % of Load	24%	26%	25%	28%	30%	29%
Avg. Load Factor	**90%**	**84%**	**86%**	**88%**	**86%**	**87%**
Financial Performance						
Network Revenue (per week USD million)	$2.0	$2.0	$2.0	$3.4	$3.0	$3.2
Segment Revenue (per week USD million)	$1.7	$1.5	$1.6	$2.8	$2.3	$2.6
Segment Profit Margin*	**11%**	**2%**	**6%**	**9%**	**6%**	**7%**
UA LAX-WLG						
Onboard Traffic						
Weekly Frequencies	3	3	3	4	3	3-4
Aircraft Type	777-200ER	777-200ER	777-200ER	777-200ER	777-200ER	777-200ER
Weekly Seats	1,650	1,650	1,650	2,200	1,650	1,883
Weekly Passengers	1,419	1,484	1,457	1,981	1,489	1,697
% Local	21%	20%	20%	26%	16%	20%
% Connecting at Hub	58%	64%	61%	57%	72%	65%
% Connecting at WLG	21%	16%	18%	17%	13%	15%
Stimulation as % of Load	16%	15%	15%	20%	8%	13%
Avg. Load Factor	**86%**	**90%**	**88%**	**90%**	**90%**	**90%**
Financial Performance						
Network Revenue (per week USD million)	$2.0	$1.7	$1.9	$2.8	$1.7	$2.2
Segment Revenue (per week USD million)	$1.6	$1.4	$1.5	$2.3	$1.4	$1.8
Segment Profit Margin*	**3%**	**-9%**	**-4%**	**9%**	**-9%**	**-1%**

* Note: Segment profit margin is based on data provide in the airline's financial reports combined with data reflective of the industry average. The estimated margin is intended simply to provide an indication of the potential for profitability. Actual profitability will be dependent on the airline's exact costs for the route and their airfare and ancillary revenue pricing structure.

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Figure 16 - Detailed Forecast Results for Malaysia Airlines and Emirates

	Current Forecast			5 years in the Future Forecast		
	Northern Winter (Feb)	Northern Summer (Aug)	Annual Average	Northern Winter (Feb)	Northern Summer (Aug)	Annual Average
MH KUL-WLG						
Onboard Traffic						
Weekly Frequencies				4	3	3-4
Aircraft Type				777-200ER	777-200ER	777-200ER
Weekly Seats				2,256	1,692	1,931
Weekly Passengers				1,776	1,356	1,533
% Local				23%	21%	22%
% Connecting at Hub				76%	77%	77%
% Connecting at WLG				1%	2%	1%
Stimulation as % of Load				28%	26%	27%
Avg. Load Factor				**79%**	**80%**	**79%**
Financial Performance						
Network Revenue (per week USD million)				$2.1	$1.6	$1.8
Segment Revenue (per week USD million)				$1.5	$1.1	$1.3
Segment Profit Margin*				**1%**	**4%**	**3%**
EK MEL-WLG (Conservative Option)						
Onboard Traffic						
Weekly Frequencies				3	3	3
Aircraft Type				777-300	777-300	777-300
Weekly Seats				2,184	2,184	2,184
Weekly Passengers				1,691	1,578	1,626
% Local				34%	31%	32%
% Connecting at Hub				65%	67%	66%
% Connecting at WLG				1%	2%	2%
Stimulation as % of Load				17%	16%	17%
Avg. Load Factor				**77%**	**72%**	**74%**
Financial Performance						
Network Revenue (per week USD million)				$1.6	$1.6	$1.6
Segment Revenue (per week USD million)				$0.4	$0.4	$0.4
Segment Profit Margin*				**12%**	**1%**	**6%**
EK MEL-WLG (Daily Option)						
Onboard Traffic						
Weekly Frequencies				7	7	7
Aircraft Type				777-300	777-300	777-300
Weekly Seats				5,096	5,096	5,096
Weekly Passengers				3,208	3,141	3,169
% Local				43%	39%	41%
% Connecting at Hub				55%	58%	57%
% Connecting at WLG				1%	2%	2%
Stimulation as % of Load				23%	21%	22%
Avg. Load Factor				**63%**	**62%**	**62%**
Financial Performance						
Network Revenue (per week USD million)				$2.8	$2.8	$2.8
Segment Revenue (per week USD million)				$0.9	$0.8	$0.9
Segment Profit Margin*				**-3%**	**-11%**	**-8%**

* Note: Segment profit margin is based on data provide in the airline's financial reports combined with data reflective of the industry average. The estimated margin is intended simply to provide an indication of the potential for profitability. Actual profitability will be dependent on the airline's exact costs for the route and their airfare and ancillary revenue pricing structure. In the case of Emirates aircraft ownership costs have been excluded given the proposed aircraft is currently sitting on the ground at MEL.

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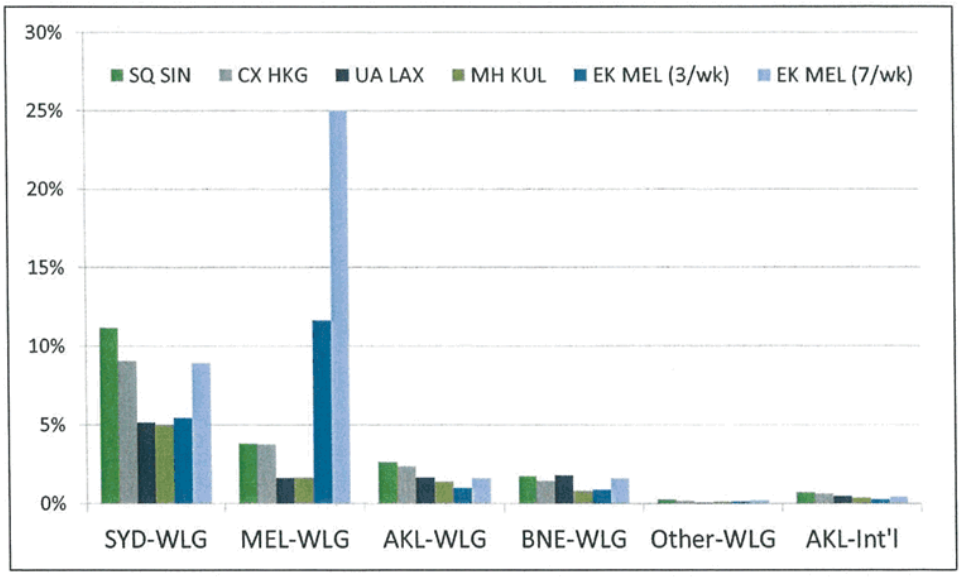
6.3 Impact on Current WLG Services

With regard to the impact on current WLG services, a portion of the traffic on the new service is expected to be diversion from AKL and SYD flights (anything that is not market stimulation must be, by definition, diversion from existing WLG services). However, when looking at this diversion in the context of total current traffic on the route, the analysis indicates that, for all scenarios other than the Emirates service, SYD is the only route that would be materially impacted - a reduction of around 5% to 11% of current SYD-WLG traffic levels. However, given that the current SYD-WLG services are achieving strong load factors, it is likely that some of this loss could be filled with existing traffic spill and future market growth. In the Emirates DXB-MEL scenario, there would be a significant impact on the current WLG-MEL services, but this is to be expected given the direct competition that will be added in the market. Overall, it is expected that the incumbent carriers would deal with this loss of traffic by optimizing service levels through schedule and revenue management adjustments.

In the case of AKL diversion, the diversion as a percentage of the current WLG traffic is minimal at around 1% to 3% of current AKL-WLG traffic levels. Furthermore, in the context of AKL's international traffic, the diversion would equate to less than 1% of current traffic, with an impact of less than 3 load factor points on any individual route. This level of diversion could be filled with traffic growth over time (at a market growth rate of around 2% a year, the AKL-WLG diversion could potentially be replaced in a year or less). As such, it is expected that any impact on the incumbent carriers will be addressed by short-term deferment of planned incremental capacity increases (i.e. incumbents will hold capacity levels steady in until market growth in fills their losses).

Figure 17 - Diversion as a % of Current Traffic Levels



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7 Summary Statement

Based on analysis of five route/airline options, it is our conclusion that there is sufficient passenger demand for the market to sustain WLG long haul service. The market demand from the drive catchment combined with the lack of direct long haul service provides ample opportunity for a new carrier to enter the WLG long haul market. As such, by the time of the runway extension opening, there are a number of viable long haul opportunities for the WLG market with the best potentially supporting a daily service to Asia, and the possibility of a direct service to North America.

A long haul service would not significantly impact existing Wellington or other New Zealand operations, and would be expected to result in up to 45,000 incremental passengers at Wellington Airport, many of which would be new visitors to New Zealand. Based on recent examples of new services by foreign carriers into New Zealand, it is estimated that around 75% of the incremental traffic could be visitors, resulting in 16,900 new visitors for New Zealand.

Although the actual airline costs associated with specific routes are only known by the airlines, based on publically available financial statements and industry standards, the analysis indicates that a WLG long haul service is expected to be financially viable. Furthermore, forecast load factors are in line with the airlines' system wide averages, so combined with typical airfares this metric would support the notation that there is good potential for these WLG long haul services to be financially viable.

Based on this financial and load factor analysis it is expected that some airlines would agree that a WLG long haul service could be viable for them and therefore initiate service in the future.

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Peer review of the EY and InterVISTAS reports

Economic impact of the proposed runway extension

Wellington City Council

5th December 2014

Danny McComb
Mgr Ccos& City Growth Projects
Wellington City Council
Danny.McComb@wcc.govt.nz

5th December 2014

Dear Danny,

Peer review of the EY and InterVISTAS reports: Economic impact of the proposed runway extension

In accordance with our terms of engagement dated 18 September 2014, we are pleased to attach our peer review of the Wellington International Airport Limited (WIAL) documents underpinning the case for an extension to WIAL's runway.

This report should be read in conjunction with the restrictions set out at the end of this report and appendix one of our engagement letter.

If you require any clarification or further information, please feel free to give me a call.

Yours sincerely,

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Executive summary

Wellington international airport is the primary airport servicing the flow of people and goods by air to the lower North Island and the capital city of New Zealand. The current single runway at Wellington International Airport is 1,936m long and 45m wide. The length of the runway is bounded by Evans Bay to the north and Lyall Bay to the south. The owner and operator of the Airport, Wellington International Airport Limited (WIAL) is investigating the feasibility and potential benefits of constructing an extension to the runway enabling larger aircraft to operate with a view to starting the consenting process for an extension.

As part of this process, WIAL has commissioned two independent assessments to examine the potential long haul market size, the realistic demand for long haul air services given that a runway extension would enable them to operate, and the potential economic benefits that could accrue from such long haul services for the Wellington region and New Zealand as a whole. The studies are:

1. Viability Assessment of Long haul Services at Wellington Airport, InterVISTAS, July 2014
2. Economic Impact of the proposed runway extension, Ernst & Young (EY), February 2014

Wellington City Council (WCC) is a key stakeholder in the process by virtue of its three roles as:

1. part owner of the airport
2. potential investor from a wider economic development perspective (as distinct from an investor with a direct ownership stake)
3. potential advocate for other funding (e.g. with central government or other local authorities).

This peer review is a collaboration between Airbiz and PwC. Given our relative skill sets and experience, Airbiz concentrated primarily on the InterVISTAS report and explored its market size and long haul market demand analysis, and PwC focused on the EY report, reviewing the assessment of the economic impact of long haul services to the Wellington region and New Zealand. Our joint focus for this peer review was to provide a constructive review that focuses on material issues for the Council or points of difference in tools and methodology where a demonstrably different result would accrue. Finally, we kept WCC's end goal of being able to develop a view on the runway extension in mind, and developed this peer review to be sufficiently robust to allow the Council to develop that clear view

A highly consultative approach was used throughout this process with both InterVISTAS and EY. This consultation allowed us to achieve as close alignment between our respective bodies of work where possible, through better and shared understandings. Holding two cycles of consultation also allowed InterVISTAS and EY the opportunity to immediately address any areas of concern we had and to review and discuss these concerns with WIAL.

As a result of this collaboration, this peer review should be considered to be a review of the draft EY and InterVISTAS reports. It is our understanding that WIAL, EY and InterVISTAS are intending to make adjustments to their reports in line with our observations and recommendations.

InterVISTAS report

In summary, Airbiz is confident that:

- The selection and use by InterVISTAS of various analysis tools and data sources has been appropriate for this work,
- InterVISTAS is fully competent and knowledgeable to have carried out the analysis and to appropriately use the tools and data sources for their work,
- The methodology, tools and data that InterVISTAS has used to estimate the four components of potential gross market size are sound and likely to have resulted in reasonable estimates for what each of these components are,
- The methodology, tools and data that InterVISTAS has used to assess the possible realistic market response at route level (in the case studies) are sound and likely to have resulted in reasonable estimates for route level market responses at case study level,

- The growth rate adopted by InterVISTAS is sound and appropriate for this application,
- InterVISTAS has estimated the potential realistic number of incremental passengers, and importantly, new visitors that could be induced by the start of new long haul services; these being the key components that generate incremental economic benefits for the region and potentially New Zealand.

These six points of confidence underpin the substantive outcomes of the InterVISTAS work and accordingly Airbiz are of the opinion that InterVISTAS has assessed and presented a reasonable and credible view of the prospects at case study route level for new long haul air services in Figures 15 and 16 of their report.

However, Airbiz have expressed and explained concerns about the apparent emphasis that the InterVISTAS report places on the estimation of potential gross market size in the first part of the work, particularly the size of the connecting markets from regions within New Zealand and from overseas markets beyond the potential overseas hub points. Airbiz's concerns are that:

- gross market size components are the maximum volume available and it is not entirely clear that Wellington would not be expected to capture 100% of this market,
- gross market size components are in one case, not used in subsequent analysis, and
- gross market size components are in other instances, substantially processed and discounted by the route level analysis process, to produce much lower, but realistic assessments of connecting traffic.

Airbiz believes that the points above are not well explained in the report, leaving open to possible misinterpretation as to what these gross potential market sizes actually are, and that they are possibly not representative of the prospects for Wellington long haul services.

It is AirBiz's view that these concerns are not material to and do not affect the validity or reliability of the report's substantive outcomes in respect of route level case study prospects for new long haul air services (shown in Figures 15 and 16).

However, Airbiz consider that the lack of clarity about what the gross market size estimates actually are, what they are not, and how they are subsequently used, detracts somewhat from the report's essentially positive findings.

Data sources and tools

The data sources and tools that InterVISTAS used to estimate the potential market size and to assess the potential response to commencement of air services on case study routes are both appropriate for the tasks and expected to provide reliable output, when utilised by experienced aviation analysts with strong knowledge of the tools, data and market characteristics. They are:

1. To estimate the potential gross market size:
    - Diio features worldwide schedule data, both historical and future, U.S. Department of Transportation (DOT) traffic, fare, load factor, financial, and on-time performance data, worldwide traffic and revenue data based on ticket sales, worldwide airline fleet data and demographics data.
    - Sabre Airport Data Intelligence – SABRE ADI features historic global Origin/Destination (O&D) data and Marketing Information Data Tapes (MIDT) base data. It enables views of origin airport, destination airport and connecting airport, average fare at segment and O&D level, point-of-origin airport, point-of-sale to zip code level, operating and marketing airline, booking and cabin-class data, future bookings, segment traffic divided into local, behind, beyond and bridge.
    - Statistics New Zealand data sources derived from international traveller surveys (Departures and Arrivals cards at airports), in part publicly available and in part commissioned by WIAL and provided to InterVISTAS.
2. To assess the demand response at route level:
    - Liftplan - a route forecasting tool which uses schedule and market size data combined with Quality Service Index (QSI) values to forecast the performance of not only existing services but also potential new services.

There are other industry tools and databases that could have been used in place of one or more of the tools used. It is not our expectation that the use of a different tool in any part of the analysis would have resulted in a material difference to the outcome of InterVISTAS' modelling or EY market size estimations.

EY Report

EY's Terms of Reference

EY were commissioned to investigate the economic impact of the proposed runway extension. This is a gross measure of the impact of additional expenditure in an economy, and is distinct from a net economic benefit test, or a benefit-cost ratio (the results of which will tend to be smaller figures than a gross economic impact measure). In performing our review, we have evaluated EY's approach to meeting its terms of reference. Further, in undertaking its analysis, EY has assessed the economic impact should one additional long-haul service be in place i.e. the analysis assumes that the service projections are met, and does not model different (probability-weighted) scenarios for success (as defined), partial success or failure.

Economic Impact of the proposed runway extension

PwC focussed on the following two areas to inform this peer review:

1. the appropriate method of assessing the potential economic impacts,
2. the data that underpins that method, in particular the potential demand.

In summary, PwC are comfortable with EY's use of a dual approach of Gross Value Add (GVA) and Expenditure Measure to assess potential economic benefits. We consider that these are appropriate, given the scope of the study and the information available. While other methods to assess the potential benefits exist and might be highlighted by commentators, we do not consider that any one of these alternative methods would be demonstrably superior or generate materially different results, especially given that EY ran high, medium and low scenarios.

On review of the annex and information available PwC cannot identify any errors in technique, logic or calculation.

Minor points to note on the economic output

On review PwC have identified a number of minor issues with the EY report that are important in the context of the Council's interests as it looks to either confirm its view, or explain its position to others. We have discussed these with EY, who have agreed to work with WIAL on updating their analysis:

- The report currently does not show growth in the context of the Wellington economy, which PwC believes would be helpful. Based on the EY numbers, PwC consider the potential growth to be approximately 2.4% of Wellington GDP.
- The use of the term "present value" of benefits would be more appropriate than "net present value" as there are no offsets presented in the report, either in terms of costs, or growth/benefits taken from other regions.
- It would be useful to show calculations at 8% discount rate and 30 years as a sensitivity test, to align with Treasury standards. While the 6% discount rate and a 40 year analysis period used in the report is in line with the New Zealand Transport Agency (MZTA) Economic Evaluation Manual (EEM), and is appropriate for this type of investment, the Treasury uses the higher rate/lower analysis period for its decision-making. It should be noted that these rates will reduce the projected benefits of the runway extension.

Demonstrating national versus local economic impact

A critical part of the case for advancing the runway extension, particularly if central government funding is sought, is to show that the runway extension in Wellington is not simply cannibalising growth from other airports in New Zealand.

Section 6.2 of the EY report clearly shows the national and local impact and it would be valuable to directly address the inevitable central government questions around displaced growth rather than leave it implicit. Furthermore, it would be suitable to show induced demand in this context as well.

PwC and Airbiz have worked with EY and the Airport to explore some alternative ways of presenting the national and regional growth pictures.

Likelihood of realising economic benefits

Finally, it is important to note that realising the economic benefit of the proposed runway extension is closely linked to other initiatives currently under review by the Council. Wellington's "Eight Big Ideas" become more viable as a result of having a runway extension that allows Wellington to cater for a larger international market of tourists, convention attendees, and Lord of the Rings enthusiasts. Equally, these "Eight Big Ideas" increase the likelihood that the runway extension would be feasible given the likelihood that New Zealand will experience an increase in visitors as a result of these initiatives.

Data sources, assumptions and tools

Historically, WIAL has argued that the Airline industry has the ability to absorb production through new routes, and following on from this, Wellington's attractiveness as a new route. PwC are not convinced that this historical trend will continue, at least in the short to medium term, as supported by our recent Global Airlines CEO survey conducted in conjunction with IATA.

Consistent with our agreed scope, PwC have assessed the degree to which any inconsistency between the EY and InterVISTAS numbers would lead to a material impact on the economic benefits.

PwC have some concerns around the total catchment that the airport has used throughout the process and the sensitivity of, and reliance on, that catchment for the total demand. To test the catchment assumptions PwC requested a specific data request from Stats NZ to look at Australia-bound airport use and the preferences between Auckland and Wellington for the wider claimed catchment for Wellington Airport. We requested data be collected from two different groups of districts suggested by EY to fall into the Wellington catchment area:

Part 1: a wider Wellington region that extends up to Gisborne and down to Nelson/Marlborough

Part 2: a smaller Wellington region from Stratford/South Taranaki down to the bottom of the North Island

We chose for data to be collected on travellers flying to Australia as both Auckland and Wellington offer direct flights to Australia.

As shown in the data below, the estimated demand for long-haul flights from Wellington airport is smaller than expected, 104,020. Applying the even wider Wellington region (part 1), 40% of the people from the claimed catchment use Auckland as their hub (93,160). Sourcing people from the outskirts is not as promising as expected as half of all the people from the very northern parts of the claimed catchment region use Auckland as their hub.

Period	Year Ended August 2014
Country of Main Destination	Australia

Row Labels	Sum of Auckland	Sum of Wellington	Sum of Christchurch	Sum of Rest of NZ
Part 1 - Top of North Island	589,800	2,640	1,420	2,720
Part 1 - Middle NZ	93,160	138,860	10,680	440
Part 1 - Rest of South Island	30,220	4,040	155,340	24,880
Part 2 -Top of North Island	630,600	7,180	1,720	2,820
Part 2 - Mid North Island	22,320	26,420	420	140
Wellington Area	14,600	104,020	1,760	180
South Island	45,660	7,920	163,540	24,900
Not Elsewhere Included	9,220	2,000	1,800	260
Grand Total	1,435,580	293,080	336,680	56,340

PwC's preference would be for the EY report to show incremental economic benefit based on zones within the claimed catchment so that the Council can have a clear view of the risk surrounding the benefits. We suggest that this is an important consideration because if the commercial viability for an airline is dependent on the wider catchment, then the economic impact turns into an "all or nothing" question.

PwC is largely comfortable with the data used and produced in the EY report; however, we have provided some minor observations for the purpose of this peer review.

- NZ travel to China is high but travel demand to India (37%) and Thailand (42%) is higher and growing
- It would be useful to discuss the Australian market, as well as the long-haul market size of the demand. The Australian market size as assessed by EY, relative to the potential long haul market is contestable for two reasons:
    - Many of the people PwC talked to in our initial round of work for the Council were concerned that the Airport wasn't focussing enough on defending the Australian market. The Australian market dwarfs all other destinations combined and a small percentage change in that market may have a proportionately greater impact.
    - Moreover, increased connection to the Australian market supports a runway extension, particularly in the context of the fifth freedom Emirates 777 aircraft currently sitting idle throughout the day at Melbourne International Airport.
- Finally, tourism spend profiles by nationality differ and should impact the viability of particular long haul services given that the economic benefit from induced demand (and additional NZ growth) will be highly dependent on the direction of that flight. For example, the mean visitor spend from Canada is 45% more than from China.

Overall, the issues presented should be considered in the discussion of whether or not to extend the runway and in some cases, further enhance the case for an extension. However, these issues do not impact on PwC's overall conclusion that the analysis undertaken by EY is appropriate and free of substantive errors of fact or judgement.

Introduction

Wellington Airport is the primary airport servicing the capital city of New Zealand. The airport services New Zealand domestic traffic and international short haul traffic to Australia and some Pacific Islands. There are no long-haul services at this point in time.

The current single runway at Wellington International Airport is 1,936m long and 45m wide. The length of the runway is limited by Evans Bay to the north and Lyall Bay to the south. Previous studies have been undertaken to consider a range of runway extension options, with the ability to extend the runway determined by a range of considerations including cost and the availability of locally sourced fill material.

The current runway restricts the size of aircraft that can operate making this impossible or impractical for some aircraft types and imposing pay load restrictions on other aircraft types.

The owner and operator of the Airport, Wellington International Airport Ltd (WIAL) is investigating the feasibility and potential benefits of constructing an extension to the runway enabling larger aircraft to operate with a view to commencing the consenting process for an extension.

As part of this process, WIAL has commissioned two independent assessments to examine the potential long haul market size, the realistic demand for long haul air services that could potentially be able to operate as a result of having a longer runway; and the potential economic benefits that could accrue from such long haul services for the Wellington region and New Zealand as a whole. The studies are:

3. Viability Assessment of Long haul Services at Wellington Airport, InterVISTAS, July 2014
4. Economic Impact of the proposed runway extension, Ernst & Young (EY), February 2014

Wellington City Council (WCC) is a key stakeholder in the process by virtue of being a 34% shareholder of WIAL, with Infratil holding the balance of 66%. WCC also has a stake in the possible project by virtue of:

- representing Wellington City interests in identifying and locking-in potential economic benefits accruing from additional air services enabled by a runway extension,
- coordinating interests and potential benefits for other regional municipalities and local governments in the Greater Wellington Region,
- working with central government on the economic benefits to Wellington and New Zealand and
- potentially contributing to the funding of the runway extension.

This report is a joint collaboration between Airbiz and PwC. Airbiz concentrated primarily on the InterVISTAS report and its market and report demand aspects, and PwC focused on the EY report, reviewing the assessment of the economic impact of long haul services to the Wellington region and New Zealand.

We have not reviewed any other background documents or any modelling spread sheets; therefore our analysis is limited to these studies ("the reports").

Our philosophical approach to peer reviews

AirBiz and PwC have worked alongside each other, focussing on our respective areas of expertise to review the documents in line with the following three core principles:

1. Constructive review: We will not only outline for you any areas of risk, uncertainty or error, but also where we think the case is strong and robust.
2. A focus on material issues: Preferences for a different approach, methodology or application of theory/practice are common when dealing with this type of complex project. Different preferences for approaches are not, in themselves, an issue unless they result in a materially different outcome. As such, our focus is on points of difference where a demonstrably different result would accrue.
3. A firm focus on WCC's end goal: At the end of this review process, WCC wants to be in a situation where they can form a view on the case for the runway extension. As such, this peer review has been developed to be sufficiently robust to allow the Council to develop that clear view.

Consultation

Airbiz and PwC held two cycles of consultation with InterVISTAS and EY respectively throughout the course of this work. This consultation allowed us to achieve as close alignment between our respective bodies of work where possible, through better and shared understandings.

The first cycle of consultation was held during the first phase of our work after we have carried out our examination of the InterVISTAS and EY reports, but prior to reaching conclusions. The purpose of this was to ensure that we correctly interpret the findings of the report, particularly in any areas of concern that we might initially have, providing an opportunity for InterVISTAS and EY to clarify.

The second cycle was held after we prepared our draft report and involved providing InterVISTAS and EY with an opportunity to review and comment on the findings of our draft report, again with the objective of clarifying possible areas of uncertainty. In the event that we raised matters of concern for InterVISTAS or EY, this second cycle of consultation allowed them time to review and discuss these concerns with WIAL, with the aim of ultimately achieving the best possible outcome for all.

Approach

This peer review is intended to be constructive, and to provide information and insights to support the assumptions and conclusions of the reviewed reports where possible. Nonetheless, our review has been done with a view to provide cautions when and if this is deemed appropriate, in the best interests of WCC and WIAL.

Although Airbiz and PwC have reviewed both of the reports, Airbiz has concentrated primarily on the InterVISTAS report and its market and report demand aspects, and PwC has focused on the EY report, reviewing the assessment of the economic impact of long haul services to the Wellington region and New Zealand.

A number of internal joint workshops between Airbiz and PwC have been held to ensure that our response and outputs are aligned. In addition, consultation with InterVISTAS and EY was conducted throughout the review. The objective of this consultation was to achieve as close alignment between our respective bodies of work where possible through better, shared understandings. The process of the consultation was highly cooperative and constructive.

Airbiz Approach

Airbiz primarily reviewed the InterVISTAS report, and also provided an overview of the market size and demand aspects of the EY report. This review considered:

1. Base (current) Demand
    - local versus overseas market size and balance of such
    - assumed local catchment areas
    - treatment and assumptions around multi destination travel patterns and the effect on Wellington's share
2. Future Growth
    - organic growth rates
    - inorganic stimulation assumptions (e.g. would a sector rely on large stimulation volumes to be profitable?)
3. Route Level Market Response
    - potential diversion and cannibalization impacts
    - passenger mix balance
    - review of route profitability
4. Competition
    - potential competitive responses from other airports, and other airlines operating alternative routes
5. Substantive outcome
    - viability of the substantive outcomes
6. Additional Considerations
    - Modifications needed to provide a clearer and stronger case for WIAL and WCC

PwC Approach

PwC primarily reviewed the EY report and focused on analysing:

1. the forecasts to ascertain whether the stated demand for the air services is robust
2. the upside and downside risk around those forecasts
3. the assumptions underpinning the forecasts (e.g. current types of travel, origins and destinations based on the industry analysis we undertook as part of PwC's original report to WCC on the potential economic impacts of the runway extension)
4. any wider factors that may enhance or reduce the viability of the analysis contained in the documents.

Technical review

InterVISTAS report

The work by InterVISTAS considers the question of potential demand for long haul services at Wellington Airport, principally in two parts:

Part 1: Estimating the total potential gross passenger market size and demand for such services, and

Part 2: Analysing the market size data for a number of case studies for specific long haul routes, to assess the possible realistic market response or outcome at route level.

Each of these approaches estimates potential market and passenger demand in different forms and with differing relevance and applicability for the consideration of route viability and economic benefit.

Market size analysis

Part 1: Potential gross market size

The first part of the approach examines historical sources of travel data to estimate volumes and patterns of travel to, from and via Wellington. The data sources utilised are Diio, Sabre and Statistics NZ.

The market sizes are estimated and reported in four distinct components, being:

1. Origin/Destination - the potential market sizes for travel to/from Wellington and a number of potential overseas markets, countries or cities
2. Broader Wellington catchment – the additional market size for travel to/from Wellington and a number of potential overseas markets, countries or cities, by considering a broader catchment area
3. Connecting at Wellington Airport – the additional market size for passengers travelling to/from other regions in New Zealand, and connecting at Wellington to join a long haul flight
4. Connecting at overseas airports – the further additional market size for passengers travelling to/from Wellington from/to other more distant cities/countries, and connecting at the overseas airport where the long haul flight will depart.

Airbiz is confident that the methodology, tools and data that InterVISTAS has used to estimate these four components are sound and likely to have resulted in reasonable estimates for what each of these components are.

However, Airbiz is concerned that the InterVISTAS report is not sufficiently clear with regards to the relevance and applicability of these four market size components, leaving them open to misinterpretation by a lay reader.

Airbiz's review relating to the four distinct components of the market size data is outlined below:

1. Origin/Destination market size:

This component is reported in the first data column in Figures 1, 5, 8 and 9, totalling to 420.1. It represents the historical market sizes for travel to/from Wellington and a number of potential overseas markets, countries or cities, where passengers start and stop in those cities. For Wellington, it includes a 58% proportion of the historical travel market to/from Manawatu/Wanganui to those cities and countries, assuming that these people will drive to Wellington and are therefore considered to be part of the Wellington region.

Airbiz has no significant concerns with this component, in terms of how it is estimated, portrayed and subsequently utilised.

2. Broader Wellington catchment:

This component is reported in the second data column in Figures 5, 8 and 9, totalling to 621.5. It represents the historical market sizes for travel to/from Wellington and a number of potential overseas markets, countries or cities, by considering a broader catchment area for Wellington.

This broader catchment is defined by areas that are up to a five hour drive from Wellington Airport (or three hour ferry plus a two hour drive) and includes areas north to New Plymouth, Napier and Hastings; and south to Nelson, Blenheim and Kaikoura, as well as including the base Wellington size in component one above.

This broader catchment area theoretically adds in a travel market some 48% larger than the base Wellington market, including some of Manawatu/Wanganui (621.5/420.1).

Airbiz is concerned that the InterVISTAS report does not sufficiently explain that this component is highly theoretical, is not intended to represent a realistic market size for Wellington Airport and in fact is not used in the subsequent route level case study analyses.

3. Connecting at Wellington Airport:

This component is reported in the third data column in Figures 8 and 9, totalling to 1,008.4. It represents the theoretical gross historical market sizes for travel to/from Wellington and a number of potential overseas markets, countries or cities, by considering an extended catchment for Wellington including passengers who theoretically could travel by air to/from other regions in New Zealand, connecting at Wellington to join a long haul flight.

The additional 386.9 passengers represent all long haul travellers resident in other New Zealand regions, excluding Auckland and Hamilton, who have direct air service connections to Wellington. This broader connecting catchment theoretically adds in a travel market some 140% larger than the base Wellington market, including some of Manawatu/Wanganui (1008.4/420.1). However, this needs to be compared with the outcomes of the Part two analysis carried out at route level for the case studies which indicates that the additional travel market likely to be derived from New Zealand regional connections is in the order of 3% to 5% for the Asian case studies, and 16% to 21% for the Los Angeles case study (refer InterVISTAS Figures 15 and 16, "% Connecting at WLG").

The InterVISTAS report appears to give emphasis to the theoretical market sizes for this component in Figures 8 and 9 by showing the additional 140%, but does not make the comparisons between Figures 8/9 and Figure 15.

4. Connecting at overseas airports:

This component is reported in the second data column in Figure 14 (Singapore 292.0; Hong Kong 300.7 etc.).

Although the InterVISTAS report does not clearly explain how the data in this column is derived and what it represents, our consultation has clarified this. This data represents an estimated subset of the potential theoretical overseas market size that could be connected to each overseas port in Table 14 (Singapore, Hong Kong, etc.) by virtue of being a logical single flight sector trip. This estimated subset would choose to fly via an overseas port, given that the route is no more that 35% greater in distance than flying non-stop. The data in this column is drawn from, and is a subset of, the aggregation of component two described above.

Figure 14 uses the data in this component, "Connecting at overseas airports" to rank potential long-haul routes based on the potential theoretical total market size to determine which routes to perform the subsequent Part two route level case studies on.

At first read, these volumes appear to be the estimated market size for each sector (292 for a WLG-SIN) flight while in fact, a new service on any of the analysed sectors will not be able to access the full market demand shown in this column. The flight will only be able to access a portion of the total market demand. This portion will be determined by the timing of a flight, i.e. realistic connecting flights, the market presence of the operating carrier and the operating carrier's network strength at the hub.

Airbiz is concerned that the InterVISTAS report does not sufficiently explain that this component is highly theoretical, and is not intended to represent a realistic market size for Wellington Airport. Airbiz is also concerned that there is no clear explanation of how it is then utilised in the subsequent route level case study analyses.

Demand analysis

Part 2: Possible realistic market response at route level

The second part of the InterVISTAS work involves using the Liftplan tool to forecast the likely passenger traffic and revenue performance of a number of selected long haul routes (those ranked highest in Figure 14).

Using a complete worldwide schedule, logical Origin & Destination (O&D) itineraries are built within Liftplan using a connection builder model. Itineraries are built for every true origin and destination in the market size database. The quality of each itinerary is measured by the market share model (QSI and other algorithms). QSI uses historical travel patterns and passenger preferences to measure the strength of each itinerary. The QSI value allocated will depend on numerous factors such as operating airline, aircraft type, alliance relationships, frequent flyer loyalties, journey times, connection hubs, connection times, circuity,

air fares etc. and will dictate the market share attributed to each itinerary. Subsequently, the market size is applied to the share resulting in demand volume by itinerary.

The demand sometimes exceeds capacity and a spill and recapture algorithm is used to redistribute passengers to itineraries with available capacity. The result is a forecast of on-board passengers by flight, for all airlines in the worldwide network, including the potential new flight added into the schedule data.

The potential gross market size data that InterVISTAS has utilised as inputs to these analyses include components one, three and four (but not component two) from the Part one work described above.

The outputs from the Liftplan analysis are presented in Figures 15 and 16 and represent a range of potentially feasible operational scenarios for long haul air services to/from Wellington.

Notwithstanding the concerns that Airbiz have expressed above regarding aspects of how the potential gross market size has been reported, we are confident that the methodology, tools and data that InterVISTAS has used to assess the possible realistic market response at route level are sound and likely to have resulted in reasonable demand estimates for the sectors modelled in the case studies.

Market responses and outcomes

Multi destination travel

While the Liftplan analysis does take multi destination travel into account through historical passenger behaviours and these patterns are therefore inherent in the route forecasts produced by InterVISTAS, Airbiz believe that the report would benefit from a discussion of multi destination travel as it applies in the New Zealand market. Confirmation of an understanding of this travel pattern and clarification that this is considered in the route studies may ward off a number of queries.

Growth rates

InterVISTAS has adopted and applied an average estimated growth rate of 3.0% per annum, to grow the base historical potential market sizes determined in Part one above, to account for the fact that long haul services would not start until sometime in the future, nominally 2020. InterVISTAS have based this on an examination of historical growth rates for the overall and some country specific market growth rates for long haul travel to/from Wellington (via other routings).

Airbiz considers that the growth rate adopted by InterVISTAS is sound and appropriate for this application.

Stimulation

The InterVISTAS report includes a benchmarking section examining examples of the degree of market stimulation that occurs as a result of an airline starting a new air service. This information is presented to gauge the potential for stimulation as a result of new long haul service at Wellington.

The degree of market stimulation reported in this section is substantial. InterVISTAS claims that "it is reasonable to expect that a similar amount of stimulation will occur with the introduction of new long haul service (at Wellington)".

Further recent data from Statistics New Zealand Migration files show that new flights into Auckland have increased overseas visitor volumes to New Zealand significantly.

However, aside from reporting this impressive benchmark information, InterVISTAS does not use this information in its subsequent route level case study analyses because the Liftplan model makes its own assessments of realistic stimulation. These are reported in Figures 15 and 16, "Stimulation as percentage of load" and are in the order of 15% to 30%, substantially less than the levels reported from the benchmarking.

Because Airbiz is not re-running this analysis as part of this peer review and does not have visibility of the details of how the Liftplan analyses were conducted, we are reliant on the presumption that InterVISTAS has undertaken this aspect of their work applying sound and independent judgments in the setting of rules and parameters in the modelling process.

Airlines will have their own views as to what level of forecast stimulation is acceptable in individual business cases. If a business case for a new service would require extensive stimulation to be profitable an airline would be more cautious in a decision to enter the market as the risk associated with the business case would be higher. When looking at a new route business case the airlines will typically look for cases where the existing local market size and yield go a long way towards supporting a business case. The 15% to 30% stimulation applied by InterVISTAS could be considered high by some airlines but reasonable by others.

Subject to the presumption above, Airbiz is confident that the methodology, tools and data that InterVISTAS has used to assess the possible realistic market stimulation response at route level (in Part two) are sound and likely to have resulted in reasonable estimates for route level market stimulation responses at case study level.

Incremental traffic/visitors

As explained above, the InterVISTAS route level analyses indicated potential market stimulation in the order of 15% to 30% of the load on aircraft. These represent new travellers that would not otherwise have travelled without the new service in place. These are the crucial components of traffic that contribute most to economic benefit. The balance of traffic on the new services (70-85%) are passengers that would have been travelling anyway from/to their New Zealand origin/destination (Wellington and connecting regions), on other air routes, but who have been diverted to fly on the new direct service. These diverted travellers bring much less or nil incremental economic benefit to Wellington or New Zealand.

It is therefore very important to the overall objectives of both studies, assessing economic benefits, that the realistic volume of incremental traffic, including both outbound residents and inbound visitors, is identified.

The InterVISTAS report estimates that at seven weekly frequencies the incremental passenger volume to Wellington Airport would be approximately 45,000 passengers p.a. (22,500 passengers each way). Of these, InterVISTAS estimates that 75% or approximately 16,900 could be expected to be new overseas visitors, the majority of which have Wellington as the main destination.

The number of incremental overseas visitors to Wellington is reliant on the number of weekly services. At the more realistic level of long haul air service commencement of four weekly services; the volume of incremental overseas visitors would be less, approximately 10,000 p.a. It is important to note that it is not clear what analysis EY has carried out to establish the proportion of incremental traffic to Wellington and New Zealand as a result of a new service.

Diversion/cannibalisation

The InterVISTAS analysis of selected route studies indicate that between 15%-30% of the traffic is caused by stimulation. In effect, this means that 70% to 85% of the traffic carried on a long haul service into Wellington would have to go through Wellington in any case.

Provided that a new direct long-haul service begins to operate at Wellington Airport, an airline will want to understand the impact a new sector will have on other sectors in their network and the network as a whole, before deciding to start a new service. Although a proposed sector when analysed may look healthy in isolation, the extent to which it damages other sectors in the network may result in a negative network result. The estimated revenue loss on existing sectors may outweigh the forecast revenue gains on the proposed new sector.

An incumbent carrier with comprehensive network presence, such as Air New Zealand, will be all the more sensitive to these potential cannibalisation effects on their services. Air New Zealand will consider this threat in two ways:

1. the potential effects on their existing network (domestic, Tasman and long haul) if they were themselves to start a Wellington long haul service,
2. the potential effects on their existing network (domestic, Tasman and long haul) if another airline was to start a Wellington long haul service.

The first of these aspects is likely to be a discouraging factor for Air New Zealand to start services. The second is likely to induce Air New Zealand to respond competitively, either discouraging the start of services where they can through alliance influences (affecting Star Alliance carriers such as Singapore Airlines, United Airlines and Thai Airways) or engaging in vigorous marketplace competition against the start-up carrier.

If the degree of potential cannibalisation is only small, the degree of concern that an airline such as Air New Zealand has will decrease. Therefore, the extent of diversion or cannibalisation is very important.

Air New Zealand has a major stake in the degree of potential cannibalisation as it is the main operator on all domestic and Tasman connecting routes that Wellington long haul travellers currently use to access long haul services (i.e. WLG-AKL, WLG-SYD, WLG-BNE and WLG-MEL).

Furthermore, Singapore Airlines will have a view about the cannibalisation effect on their AKL-SIN services (and to a lesser extent on their CHC-SIN route). Cathay Pacific will also have concern over their AKL-HKG route.

Qantas/Jetstar may have a concern about diversion from their WLG Tasman services, although they are also likely to be interested in the opportunities for Emirates to operate Fifth Freedom services to Wellington.

Figure 17 in the InterVISTAS report shows the expected cannibalisation of a variety of sectors, including WLG-AKL, WLG-SYD, WLG-BNE, provided that a new direct long-haul service begins to operate at Wellington Airport. While some cannibalisation percentages appear small, as an example AKL-WLG is showing between 1% and 3% cannibalisation, others are reasonably significant. For example, the WLG-SYD sector would experience between 5% and 11% cannibalisation. We also note that InterVISTAS has commented in its Executive Summary that there is expected to be "minimal cannibalisation".

Airbiz are concerned that this is misleading and underplays the concerns that incumbent carriers will have. Airbiz feel that it would have been better if the data in Figure 17 had also been presented in absolute passenger numbers, rather than just as percentages. For example, cannibalisation of 3% of the current WLG-AKL domestic route would represent in the order of 75,000 passengers p.a., taken from Air Zealand's and Jetstar's services. This is not a small number and a level that is likely to induce a vigorous response.

Airbiz is confident that the methodology, tools and data that InterVISTAS has used to assess the possible diversion and cannibalisation have resulted in reasonable estimates. However, we believe that showing absolute volumes, which may reflect what could be considered sizeable cannibalisation by an incumbent carrier, would provide a more transparent view of the potential impact of this.

Competition

In the course of consultation, InterVISTAS has stated that "with regard to competitive reaction from the incumbent airlines, all of the potential airlines examined in the study, with the exception of United Airlines, already serve Auckland, so they already compete for the New Zealand market and it is unlikely that they would change their pricing/capacity strategy based on a single flight added at Wellington. In the case of United Airlines they are partners with NZ and wouldn't face direct competition from any other North American carrier, other than limited service from Hawaiian Airlines, so it is unlikely that they would cause a price or capacity war".

It is Airbiz's view that Air New Zealand in particular, will, in fact, use their alliance influence with Singapore Airlines and United Airlines to discourage them from commencing direct flights from Singapore and Los Angeles to Wellington. The diversion of passengers off the AKL-WLG services should Singapore Airlines or United Airlines commence operations could be considered substantial by Air New Zealand, as discussed above.

While Air New Zealand might consider the above mentioned diversion significant it should also be noted that a sizeable portion of Wellington's Europe market is currently going to the QF/EK partnership. It is therefore conceivable that Air New Zealand, United Airlines and Singapore Airlines (Star Alliance) would investigate whether potential co-operation on SIN-WLG (SQ) and/or LAX-WLG (UA) flights could swing market share away from QF/EK back to Star Alliance.

Route profitability

All the route level case studies summarised in Figure 15 and 16 of the InterVISTAS report reflect relatively low "Local" traffic shares (generally 20% to 25%) with the balance of traffic contributed from connecting passengers. A 'Local' traffic share of 20% to 25% in itself is not unusual for a long haul sector to a smaller O&D market but this makes the financial viability of the flight more vulnerable to competitive action from other airports and/or economic developments not necessarily linked with the direct city pair, as opposed to sectors that may have a more balanced traffic split.

It should also be noted that while a positive segment profit margin is of course a good sign, a sector can be segment profit margin positive, but network contribution negative, and may therefore not be on the list of new sectors.

Data sources and tools

The data sources and tools that InterVISTAS used to estimate the potential market size and to assess the potential response to commencement of air services on case study routes are both appropriate for the tasks and expected to provide reliable output, when utilised by experienced aviation analysts with strong knowledge of the tools, data and market characteristics. They are:

1. To estimate the potential gross market size:
    - Diio FMg - Diio features worldwide schedule data, both historical and future, U.S. Department of Transportation (DOT) traffic, fare, load factor, financial, and on-time performance data, worldwide traffic and revenue data based on ticket sales, worldwide airline fleet data and demographics data.
    - Sabre Airport Data Intelligence – SABRE ADI features historic global Origin/Destination (O&D) data and Marketing Information Data Tapes (MIDT) base data. It enables views of origin airport, destination airport and connecting airport, average fare at segment and O&D level, point-of-origin airport, point-of-sale to zip code level, operating and marketing airline, booking and cabin-class data, future bookings, segment traffic divided into local, behind, beyond and bridge.
    - Statistics New Zealand data sources derived from international traveller surveys (Departures and Arrivals cards at airports), in part publicly available and in part commissioned by WIAL and provided to InterVISTAS.
2. To assess the demand response at route level:
    - Liftplan - a route forecasting tool which uses schedule and market size data combined with Quality Service Index (QSI) values to forecast the performance of not only existing services but also potential new services.

Airbiz considers the use of these tools and data sources as appropriate for this work and regards InterVISTAS as being fully competent and knowledgeable to have carried out the analysis and use of the tools and data sources for their work.

For its parallel work to estimate potential market size, EY utilised the same Sabre tool and Statistics NZ data as well as other industry information.

There are other industry tools and databases that could have been used in place of one or more of the tools used. It is not Airbiz's expectation that the use of a different tool in any part of the analysis would have resulted in a material difference to the outcome of InterVISTAS' modelling or EY market size estimations.

EY report

EY's Terms of Reference

EY were commissioned to investigate the economic impact of the proposed runway extension. This is a gross measure of the impact of additional expenditure in an economy, and is distinct from a net economic benefit test, or a benefit-cost ratio (the results of which will tend to be smaller figures than a gross economic impact measure). In performing our review, we have evaluated EY's approach to meeting its terms of reference. Further, in undertaking its analysis, EY has assessed the economic impact should one additional long-haul service be in place i.e. the analysis assumes that the service projections are met, and does not model different (probability-weighted) scenarios for success (as defined), partial success or failure.

Market size and demand analysis

According to the EY report, the purpose of the Wellington airport runway extension is to enhance the international connectivity of Wellington by providing the capacity for the airport to service:

1. direct long-haul international flights
2. connecting long-haul flights serviced by larger aircraft via Australia.

EY scoped out the potential demand for Wellington of 462,000 passengers in total who are currently travelling internationally to/from Wellington by connecting to a long haul airport. Out of these 462,000 total passengers:

1. 161,000 fly to/from Asia
2. 151,000 to from Europe
3. 125,000 to/from the Americas and
4. 26,000 to/from the Middle East/Africa.

According to EY's analysis, services are likely to be commercially viable on Asia and North American routes.

Three distinctive markets were selected for their analysis. It is not entirely clear from their report on what basis these particular markets were selected:

- direct Service to an Asian hub
- direct Service to a North American hub
- service via Australia from a long haul provider not currently able to service the Wellington market.

Figure 7 in the EY report outlines a number of assumptions that were made in order to establish the market demand. These are:

- A flight is commercially viable if it achieves greater than or equal to 80% load factor:
    - It should be noted that many carriers in today's environment are aiming for greater than 85% load factor and whether it is commercially viable will depend on a carrier's cost structure and expectation of yield as well.
- A direct service out of Wellington will have no impact on viability of Auckland services:
    - A direct service out of Wellington will potentially have an impact on the demand on services out of Auckland. EY's economics calculations argue that all economic benefit is effectively both a national and local benefit on the basis that any displaced growth out of Auckland is quickly replaced. The magnitude of the impact and whether/how much it would affect the viability of Auckland services would depend on whether capacity is in fact constrained out of Auckland, for example, if the current demand is not being met.
- Induced demand (stimulation) is based on IATA price elasticity, QSI factors, distance correction factors and a competition correction:
    - The report could provide more clarity as to the actual values of these for any more detailed comment, other than the fact that the areas mentioned above are all recognised drivers.

- Growth in demand over time is in line with Business as Usual (BAU) forecast:
    - The report does not outline what growth rate constitutes BAU and as a result no comment can be offered as to the appropriateness of this growth rate.

EY provide a reasonable amount of contextual discussion of market characteristics and then in Section 5.1.1 and in Table 5 in the report estimated 2020 demand volumes for air service to an Asian hub and a North American hub.

In Table 5, EY presents a range of air service scenarios for new services arranged as Low, Medium and High scenarios, with projections at 2020, 2040 and 2060. The new service scenarios are for Asia and North America; and also Trans-Tasman (but only for Medium and High). The Tasman service scenarios are explained to be Fifth Freedom services connecting to long haul services beyond Australian hubs. However, EY have not widened this analysis to include specific overseas cities which is inconsistent with the InterVISTAS case studies used in their report.

The air service forecast frequencies for 2020 presented in Table 5 are in line with the equivalent frequencies in Figures 15 and 16 in the InterVISTAS report (four per week for Asia and three per week for North America). Passenger volumes for 2020 are forecast to be 104,000 to/from Asia and 74,000 to/from North America. As expected, these route volumes are less than the current equivalent market sizes (104,000 < 161,000 for Asia; and 74,000 < 151,000 for North America), however, EY provide no discussion or explanation as to how these have been modelled or derived. Furthermore, EY provide no information about the organic market growth rate and inorganic stimulation rates that they have applied.

Although the EY report does address the visitor/resident mix in current travel, it provides no information about the proportion of passengers on future air services that might be new (incremental) passengers, the proportion of new visitor travelers versus new resident travellers, and the balance of passengers that would be diverted from other services (and would have been travelling through Wellington Airport anyway). These proportions are crucial when making subsequent assessments of incremental economic benefit.

PwC's main concern is that there is a lack of visibility around how the potential gross market size has been established and reported. A further concern is that the EY report does not clearly explain how the current market size estimates are analysed to arrive at the expected demand scenarios in Table 5 of the EY report. These concerns are not material to, and do not affect the validity or reliability of, the report's substantive outcomes in respect of route level case study prospects for new long haul air services (shown in Figures 15 and 16). However, we consider that the lack of clarity about what the gross market size estimates actually are, what they are not, and how they are subsequently used, detracts somewhat from the report's essential positive findings.

Assumptions in the report

In general, PwC have confidence and believe the assumptions used in the EY report to be reasonable, given that they are based on external data or common industry averages. A variety of inputs have been used in the analysis and sensitivity testing has been done on the demand projections for passenger travel (the key driver of the overall results). However, it is unclear whether sensitivity testing has been performed on the other assumptions used, to check for a material impact on the overall result.

The report does not consider commercial viability of long haul international routes in great detail. It assumes that international flights require at least an 80% loading for commercial viability but has not considered whether airlines are likely to use Wellington airport as part of its long haul strategies. PwC recommend that further understanding of the airline's strategic viewpoint is gained when considering the commercial viability of international flights and routes.

The report has not considered any regulatory factors in its analysis and considers that there would be no impact on existing domestic and international routes. The report assumes that the displacement effect for travellers who would otherwise be travelling through Auckland or Christchurch would be recovered quickly through growth at these two hubs. WIAL has in the past made an argument around the ability of the Airline industry to absorb production through new routes, and, following on from this, Wellington's attractiveness as a new route. This is also implied in the shaded box on Page 8 of the EY report. PwC are not convinced that this historical trend will continue, at least in the short to medium term, based on data collected

through our IATA/PwC Global Airline CEO survey, where CEOs tend to be more pessimistic around the ability of emerging markets to absorb excess aircraft supply[1].

The Council is mindful of the fact that in order to effectively advocate to central government for funding, they have to show the extension isn't simply cannibalising growth from other areas. Section 6.2 clearly shows the national and local impact and it would be valuable to directly address the inevitable central government questions around displaced growth rather than leave it implicit. Furthermore, it would be suitable to show induced demand in this context as well.

To summarise, based on the assumptions adopted by EY in their analysis, PwC suggest the overall economic benefit that this report suggests will be realised as a result of a runway extension should be considered at the 'top' end of expected results.

Demand from the Wellington region

According to the EY report, there is currently a total of 462,000 Kiwi-travellers from the Wellington region who have an actual demand for international flights. The districts which all contributed to this Wellington demand cover a wide northern region, which was not further defined in the report. Using Statistics NZ year ended June information; the following districts seemed to have contributed to EY's overall total:

Districts on the North Island contributing to total demand:		
Gisborne District	Wanganui District	Lower Hutt City
Wairoa District	Rangitikei District	Wellington City
Hastings District	Manawatu District	Masterton District
Napier City	Palmerston North City	Carterton District
Central Hawke's Bay District	Tararua District	South Wairarapa District
New Plymouth District	Horowhenua District	Tasman District
Stratford District	Kapiti Coast District	Nelson City
South Taranaki District	Porirua City	Marlborough District
Ruapehu District	Upper Hutt City	

This equals, on a year ended June '13, a total traveller amount of 471,8602. Excluding the yellow highlighted districts, the total traveller demand would decrease to 330,320 travellers per year. EY defined the demand from regions adjacent to Wellington as 167,000. Excluding the demand from these adjacent regions according to the EY calculation would even further decrease the overall potential to 295,000. However, EY are not clear on which districts belong to the adjacent Wellington region.

PwC have some concerns around the total catchment that the airport has used throughout the process and the sensitivity of, and reliance on, that catchment for the total demand. To test the catchment assumptions PwC requested a specific data request from Stats NZ to look at Australia-bound airport use and the preferences between Auckland and Wellington for the wider claimed catchment for Wellington Airport. We requested data be collected from two different groups of districts suggested by EY to fall into the Wellington catchment area:

[1] http://www.pwc.com/gx/en/transportation-logistics/publications/global-airline-ceo-survey-2014.jhtml

[2] Please note, that the figures used in the EY report were year ended August. This differs from the figures used for this report which are year ended June.

Part 1: a wider Wellington region that extends up to Gisborne and down to Nelson/Marlborough including the following regions:

Wider Wellington Catchment (Part 1)	
Gisborne District	Horowhenua District
Wairoa District	Kapiti Coast District
Hastings District	Porirua City
Napier City	Upper Hutt City
Central Hawke's Bay District	Lower Hutt City
New Plymouth District	Wellington City
Stratford District	Masterton District
South Taranaki District	Carterton District
Ruapehu District	South Wairarapa District
Wanganui District	Tasman District
Rangitikei District	Nelson City
Palmerston North City	Marlborough District
Tararua District	

Part 2: a smaller Wellington region from Stratford/South Taranaki down to the bottom of the North Island

Smaller Wellington Catchment (Part 2)	Wellington area separated out
Stratford District	Kapiti Coast District
South Taranaki District	Porirua City
Ruapehu District	Upper Hutt City
Wanganui District	Lower Hutt City
Rangitikei District	Wellington City
Palmerston North City	Masterton District
Tararua District	
Horowhenua District	
Carterton District	
South Wairarapa District	

We chose for data to be collected on travellers flying to Australia as both Auckland and Wellington offer direct flights to Australia.

As shown in the data below, the estimated demand for long-haul flights from Wellington airport is smaller than expected, 104,020. Applying the even wider Wellington region (part 1), 40% of the people from the claimed catchment use Auckland as their hub (93,160). Sourcing people from the outskirts is not as promising as expected as half of all the people from the very northern parts of the claimed catchment region use Auckland as their hub.

Period	Year Ended August 2014
Country of Main Destination	Australia

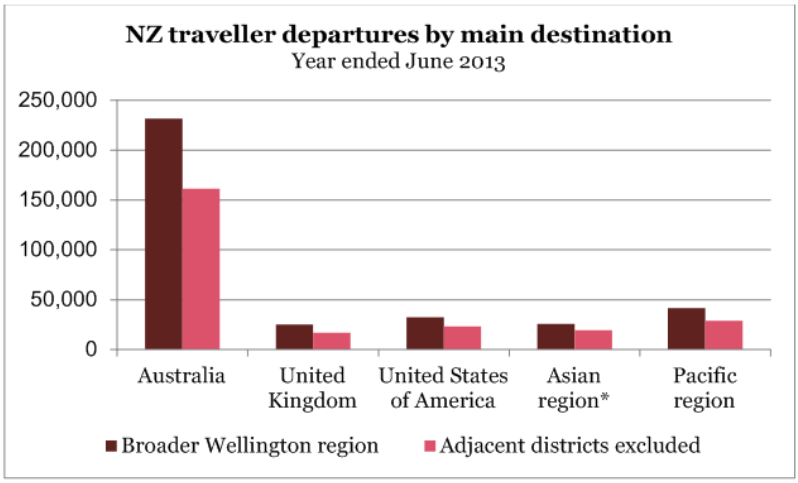
Row Labels	Sum of Auckland	Sum of Wellington	Sum of Christchurch	Sum of Rest of NZ
Part 1 - Top of North Island	589,800	2,640	1,420	2,720
Part 1 - Middle NZ	93,160	138,860	10,680	440
Part 1 - Rest of South Island	30,220	4,040	155,340	24,880
Part 2 -Top of North Island	630,600	7,180	1,720	2,820
Part 2 - Mid North Island	22,320	26,420	420	140
Wellington Area	14,600	104,020	1,760	180
South Island	45,660	7,920	163,540	24,900
Not Elsewhere Included	9,220	2,000	1,800	260
Grand Total	1,435,580	293,080	336,680	56,340

PwC's preference would be for the EY report to show incremental economic benefit based on zones within the claimed catchment so that the Council can have a clear view of the risk surrounding the benefits. The InterVISTAS report contains a more granular breakdown of the demand within the catchment and allows us to make an apportionment to using the EY numbers, but PwC would suggest that this is not the best approach. Previous work that PwC has performed suggests that the economic impact from those within smaller catchment areas is proportionately greater that those further out in the catchment (who are really just outbound tourists using a hub). We suggest that this is an important consideration because if the commercial viability for an airline is dependent on the wider catchment, then the economic impact turns into an "all or nothing" question.

While PwC still think the total economic benefit should remain EY's core scenario (given it is a central part of WIAL's business case), PwC would advise Council that the potential to realise the benefits claimed in the EY report become progressively less certain the further the catchment is extended.

Priority long-haul destinations

EY identified the Asian region as the largest market for the Wellington international airport given its capacity is increased by the extension of the runway, however, according to Statistics NZ, most of the passengers from the Wellington region travel to Australia, followed by the USA and the United Kingdom. This means that for the current domestic demand the runway extension for Asian travel is not priority.



*Asian region uses the three biggest contributors i.e. Thailand, China, India (countries in order of departures)

Furthermore, EY discusses the importance of the Chinese market. Travel rates to China from NZ have recently slowed down, and instead the demand for travel to Thailand and India is growing. EY identified China, India and Thailand as the largest travel markets together with Singapore, Japan and Indonesia.

Demand increases in last 4 years (2010 - 2013)	
China	12%
India	37%
Thailand	42%

Although worth noting, this shift in growth is not material to the conclusions EY draw and could be expected to revert to the original Chinese growth profile in the medium term.

Economic impacts of a runway extension on the Wellington region

Modelling approach used

In summary, PwC are comfortable with EY's approach of using a dual approach of Gross Value Add (GVA) and Expenditure Measure to assess potential economic benefits. We consider that these are appropriate, given the scope of the study and the information available. While other methods to assess the potential benefits exist and might be highlighted by commentators, we do not consider that any one of these alternative methods would be demonstrably superior or generate materially different results, especially given that EY ran high, medium and low scenarios.

On review of the annex and information available PwC cannot identify any errors in technique, logic or calculation.

Minor points to note on the economic output

On review PwC have identified a number of minor issues with the EY report that are important in the context of the Council's interests. We have discussed these with EY, who have agreed to work with WIAL on the potential to update their analysis:

- The report currently does not show growth in the context of the Wellington economy, which PwC believes would be helpful. Based on the EY numbers, PwC consider the potential growth to be approximately 2.4% of Wellington GDP. The use of the term "present value" of benefits would be more appropriate than "net present value" as there are no offsets either in terms of costs, or growth/benefits taken from other regions.
- It would be useful to show calculations at 8% discount rate and 30 years as a sensitivity test, to align with Treasury standards. While the 6% discount rate and a 40 year analysis period used in the report is in line with the New Zealand Transport Agency (MZTA) Economic Evaluation Manual (EEM), and is appropriate for this type of investment, the Treasury uses the higher rate/lower analysis period for its decision-making. It should be noted that these rates will reduce the projected benefits of the runway extension.

Showing the national vs. local economic impact

A critical part of the case for advancing the runway extension, particularly if central government funding is sought is showing the extension isn't simply cannibalising growth from other areas. Section 6.2 of the EY report clearly shows the national and local impact and it would be valuable to directly address the inevitable central government questions around displaced growth rather than leave it implicit.

Furthermore, it would be suitable to show induced demand in this context as well.

The importance of Wellington's respective markets

In year ended August 2013, a total of 2,658,061 million visitors came to New Zealand. Almost half of all the visitors came from Australia, followed by the Pacific Islands and Asian countries. Out of all of the international visitors who visited New Zealand in the year ended September 2013, only 22% travelled to Wellington. Out of these 22%, 9.3% were Australians, and 6.5% Europeans. Only 2.7% of visitors from Asia visited Wellington in 2013. According to Trip Advisor, Wellington was ranked the 12th most popular destination in New Zealand[3].

Country of last permanent residence	2013	%
Australia	1,193,520	47%
Cook Islands	391,152	9%
Fiji	229,184	8%
French Polynesia	191,200	8%
New Caledonia	191,040	3%
Samoa	73,680	3%
Tonga	65,520	2%
China, People's Republic of	53,904	2%
Hong Kong (SAR)	50,144	2%
India	46,832	2%
All other (23 countries and country not stated)	38,240	14%

[3] http://www.tripadvisor.co.nz/Tourism-g255104-New_Zealand-Vacations.html

Most Australian visitors either vacation in New Zealand or visit family and friends. In the year ended June 2013, most visiting Australians used the Auckland airport as their main arrival hub (711,952 passengers[4]) and 13% used the Wellington airport as their hub (equals 138,160 passengers) even though international connections between Wellington and Australia exist.

Source of the long-haul flight may be important to the economic impact on the Wellington Region

The EY report shows no stated preference in the origin of the long haul flight, though it suggests that an Asian destination may be the most viable. If an airline were to get an 80% loading with material induced growth, regardless of origin, the economic impact between different origins may be quite different.

In terms of visitors spending time in New Zealand, countries rank quite differently. According to the most recent statistics (year ended June 2014), even though Australians make up almost half of all the total visitors in New Zealand, they only contribute approximately 30% of the total spend. According to the most recent International Visitor Survey (IVS), visitors of Chinese nationality are the biggest spenders, followed by Koreans and visitors from the United States. People from Germany and the United Kingdom (UK) stay in New Zealand the longest (Germans stay 52 days on average, and people from the UK stay about 30 days on average)[5], however, they spend less money per night than Chinese, Korean or American visitors.

Dataset: International Visitor Survey - Visitor expenditure

Travel type	All						
Purpose of visit	All						
Airport of departure	All						
Age band	All						
Measure		Total visitor spend	Total visitors	Mean visitor spend	Average spend per night	Number of respondents	Total visitor spend %
Year ending	Country of permanent residence						
YEJun 2014	All	$7,149,652,644	2504453	$ 2,855	$ 161	9560	
	Africa and Middle East	$ 113,226,970	35374	$ 3,201	$ 118	126	2%
	Australia	$2,110,052,995	1127148	$ 1,872	$ 174	2552	30%
	Canada	$ 283,491,054	44832	$ 6,323	$ 182	628	4%
	China, People's Republic of	$ 911,506,325	234544	$ 3,886	$ 304	789	13%
	Germany	$ 374,519,659	73476	$ 5,097	$ 109	680	5%
	Japan	$ 201,856,539	71244	$ 2,833	$ 184	707	3%
	Korea, Republic of	$ 142,670,332	50464	$ 2,827	$ 275	691	2%
	Rest of Americas	$ 69,590,250	26172	$ 2,659	$ 75	55	1%
	Rest of Asia	$ 570,964,828	198573	$ 2,875	$ 174	661	8%
	Rest of Europe	$ 759,099,583	162522	$ 4,671	$ 130	753	11%
	Rest of Oceania	$ 165,948,765	102225	$ 1,623	$ 66	118	2%
	United Kingdom	$ 673,334,631	186262	$ 3,615	$ 137	992	9%
	United States of America	$ 773,390,712	191619	$ 4,036	$ 181	808	11%

data extracted on 01 Oct 2014 20:15 UTC (GMT) from NZ.Stat

Wellington's attraction for international students

According to the OECD, there were 4.5 million students enrolled in universities outside of their country of citizenship in 2012[6]. Asia (China, India, Korea primarily) account for 53% of this figure which correlates strongly to the dominant group of international students in New Zealand. It has been estimated that the global figures have reached the five million mark and are continuing to grow.

In New Zealand there has been a decrease in University enrolments over the last 10 years. International enrolments in Wellington alone have decreased by 4% between 2012 and 2014.

[4] This figure includes the business travellers

[5] http://www.tripadvisor.co.nz/Tourism-g255104-New_Zealand-Vacations.html

[6] OECD (2014), *Education at a Glance 2014: OECD Indicators*, OECD Publishing. http://dx.doi.org/10.1787/eag-2014-en

EY have assumed that direct services into Wellington will impact the choice of city that international students make when deciding what overseas university to attend (although it is acknowledged by EY that there is limited research into this factor). However, the report identified that quality of education/course/institution is the most significant contributing factor that international students consider when deciding where to study.

To support this, data collected in the 2014-15 Times Higher Education (THE) rankings revealed that the Australian National University (ANU) in Canberra ranked 45 out of the top 400 universities in the world. In 2012 ANU had almost 150%[7] more International students enrolled than the University of Victoria over the same period, despite not having an international airport.

Finally, it is important to note that realising the economic benefit of the proposed runway extension is closely linked to other initiatives currently under review by the Council. Wellington's "Eight Big Ideas" become more viable as a result of having a runway extension that allows Wellington to cater for a larger international market of tourists, convention attendees, and Lord of the Rings enthusiasts. Equally, these "Eight Big Ideas" increase the likelihood that the runway extension would be feasible given the likelihood that New Zealand will experience an increase in visitors as a result of these initiatives.

[7] http://www.enz.govt.nz/sites/public_files/Economic%20Value%20of%20International%20Education.pdf

Other considerations

Linkages to the Council's other initiatives

It is critical to note that the EY and InterVISTAS analysis represents an assessment based on current forecast demand and is not linked to the Council's other initiatives for broadening and deepening the Wellington economic base. It is highly likely that a mutually complementary impact between the runway extension (and the resulting long haul services), and Wellington's "Eight Big Ideas" will exist.

By this, we mean that it is likely that business cases for the Convention Centre and Film Museum are likely to be enhanced by the direct long haul services and the induced demand. Similarly the potential of these projects to deliver additional demand for the long haul services is likely to marginally increase the commercial viability of these services.

Moreover, Wellington's overall growth story and imperatives are highly complementary to the "Eight Big Ideas". In particular, the OECD argues that a growth focus by governments outside a dominant city (i.e. Auckland in NZ's case) can actually result in faster overall economic growth for a country.

The Airline view point

Despite all the best intentions and business development efforts of an airport and its stakeholders, the ultimate decision to commence new air service rests with an airline or airlines. There are a number of factors that will influence an airline's decision whether to operate on a sector or not, including:

- sufficient existing base market size of travellers wishing to journey between two airports (the local market)
- additional travellers who choose, for a number of reasons, to route their journey by connecting at either or both ends of the new air service (the connecting market components or network contribution
- market growth potential (organic as well as inorganic)
- directional traffic balance
- balance between inbound visitors and outbound residents in the traffic mix
- seasonality balance
- yield expectations (essentially fare levels that will be achieved)
- cannibalisation (which is the diversionary impact on an airline's other existing services)
- network strategy fit
- fleet utilisation optimisation
- competition assessment

In Wellington's case, it is the Airport that is undertaking initial studies of feasibility for new air service but it is imperative that the Airport appreciates the viewpoint of airlines which have to consider many more factors than just market size.

There are typically two aspects to an airline's network operations; the short term or seasonal network adjustments and the long term strategic opportunities and objectives.

While full service network carriers and low cost carriers will have different strategies they will be seeking the greatest possible return on their assets which means to ensure that they have the right size planes in the right markets at the right time.

It should be noted that many airlines operate with optimised utilisation of existing assets (fleet) and a large proportion of opportunities for new sectors therefore often stem from fleet updates and refreshments rather than from shifting of existing aircraft to a new sector.

At any given point in time an airline will be monitoring several potential new sectors. Effectively, a sector can rate well on all the above factors but still not be selected simply because another potential sector is rated better. A new sector must be considered 'the best' of the best.

Sector rating factors

Local market size

Ideally, an airline is looking for a sector with a healthy existing market size with minimal seasonality (or two markets with complementary seasonality) and a balanced passenger demand (residents versus visitors).

A good resident market size decreases a sector's dependence on connecting flights; limited seasonality allows for consistent use of an aircraft; and a balanced passenger mix makes the sector less vulnerable to economic or social changes at either end of the sector; all of which helps to minimise potential risk factors associated with the sector.

Connecting market size

Depending on the local market size a sector may be more or less reliant on connecting passenger flows. With an existing healthy market size, connecting passengers (also known as feeder traffic) may be the components that push a business case into positive territory.

Market Growth Potential

While research supports that direct services between two points do stimulate passenger numbers beyond what could be expected from organic growth, airlines will have differing views on what level of stimulation (inorganic growth) can be incorporated into a business case. The more the business case depends on stimulation to be profitable, the greater the risk associated with the sector.

Yield expectations

Markets will experience different yields depending on the passenger type mix that predominantly uses the sector, i.e. is it predominantly leisure (lower fares/yields) or business (higher fares/yields)? To estimate potential revenues on a sector an airline will establish potential passenger mixes and fares and also develop views on how these may change in the future. The sustainability of yields and market sizes are extremely important.

Cannibalisation

Before deciding to operate a new sector an airline will want to understand the impact the new sector will have on other sectors in their network and the network as a whole. A portion of passengers who in the future would avail themselves of a direct service may simply be diversions from a current indirect routing in their system.

Although an analysed proposed sector in itself may look healthy in isolation, the extent to which it damages other sectors in the network may result in a negative network result that causes it not starting up. The estimated revenue loss on existing sectors may outweigh the forecast revenue gains on the proposed new sector.

Network Strategy fit

The airline's current fleet mix, aircraft/crew bases, existing alliances and overall long term network strategy may also affect the attractiveness of a given sector to them. Do they have or are they due to receive an ideal aircraft type or will the new sector require new aircraft or crew basing?

Fleet utilisation optimisation

As mentioned previously, airlines are looking to achieve maximum utilisation of their assets and are therefore looking for ideal aircraft rotations. If a new sector may require an aircraft to have long layover times (to meet passenger arrivals and departure preferences) the airline may investigate whether there is a way that can tag a shorter flight onto the long haul flight to increase the network contribution of the sector.

Competition assessment

Airlines operate in an extremely competitive environment and monitor competitive actions continuously. In building a business case for a new sector they will factor in any competitive reaction, if such is expected. They will assess whether the long term prospects of the sector and the strength of their market presence are sufficient that it will remain or eventually become a positive network contributor irrespectively of competition.

Summary

Airlines are often evaluating several potential sectors at the same time and will be assessing these against each other and against the airlines current long term strategies. While a positive forecast for the sector is a

good sign in a business case this in and of itself may not be enough to ensure that a sector will be selected for start-up. A number of operational and strategic factors also play a factor.

In today's environment airlines are unlikely to find new sectors that can be profitable from year one of operations. However, they need to feel relatively confident that with demand stimulation, organic growth and market presence the sector can become profitable, or contribute sufficiently to the overall network revenues, to enter and stay in market long term.

Item 3.3 Attachment 4

For more information go to pwc.co.nz

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