

Auckland International Airport Limited

Final Pricing Decision for Standard Charges:
Reasons Paper

8 June 2017

TARGET RETURNS EXTRACT FOR PUBLIC RELEASE

Airline information remaining confidential has been redacted and is indicated between square brackets, as follows: []

10 TARGET RETURN

10.1 Overview

Auckland Airport has decided to adopt a company-specific target return for PSE3 pricing of 6.99%. We have exercised our judgement to select this target return, informed by expert advice on Auckland Airport's cost of capital, the Commission's regulatory guidance, feedback from our customers, and our analysis and consideration of the unique challenges and circumstances that Auckland Airport will face over PSE3.

Judgement has been applied to reduce the target return from 7.1% (as proposed in the Revised Pricing Proposal) to 6.99%, supported by Auckland Airport-specific empirical evidence.

This is our best estimate of the rate of return that we require to help deliver the forecast investment programme over PSE3, informed by Auckland Airport's efficient cost of funding, the risks we face over the pricing period, the size and characteristics of our capital plan, and the broader circumstances that we are aware of at the time of this pricing decision. It is below our Auckland Airport-specific WACC estimate, reflecting the countervailing influence of the Commission's industry-wide airport-sector WACC estimate used for information disclosure monitoring purposes and airline feedback advocating for that WACC estimate to be used as Auckland Airport's target return for PSE3.

We believe it is entirely consistent with the Commission's regulatory framework for Auckland Airport to determine (and justify) an airport-specific target return. Although our target return has been informed by the Commission's view on the industry-wide cost of capital that it uses for monitoring purposes, we have also been guided by measurable and verifiable Auckland Airport-specific factors. In particular, we firmly believe that our investment cycle sets us apart from the sample comparators used to derive the Commission's notional industry-wide WACC estimate for regulatory monitoring. We have also undertaken cross-checks of our target return using a mix of parameter inputs that we think a regulator would take into account. These also lead us to consider that our 6.99% target return is reasonable.

At the heart of the issue is how to fund the significant investment programme contemplated over PSE3, which is set to deliver considerable benefits to consumers over the long-term. We note that the price path resulting from our Final Pricing Decision will not be sufficient by itself to deliver our forecast investment programme over PSE3. Although our target return is an important part of the solution, a range of capital management levers will need to be developed and implemented by Auckland Airport to make the forecast plan affordable to the company. In this context, and as we explain further in this section, we consider our target return is fair and reasonable, and represents an appropriate balance between the long-term interests of passengers, airlines and Auckland Airport in delivering quality infrastructure and providing quality services into the future.

10.2 Summary of consultation

The target return adopted in the Draft Proposal for PSE3 was 7.0% after tax. The Draft Proposal provided an overview of the challenge Auckland Airport faces as we seek to ensure that we have the ability to access the global funds we will need to finance our investment plan, and set out the range of airport-specific and contextual factors that we considered were relevant to setting our target return.

We carefully considered customer feedback on this approach in the Revised Pricing Proposal. In that Proposal, we explained that:

- We considered that the Draft Proposal set out a reasonable approach to setting our target return, informed by Auckland Airport's forecast cost of debt and a fair risk-adjusted return on equity, and taking account of the specific circumstances facing Auckland Airport for PSE3 given the stage we are at in our investment cycle and the substantial capital plan ahead. We also considered the Draft Proposal clearly demonstrated that we had carefully considered the Commission's regulatory mid-point WACC estimate and that this data point had influenced our approach to determining our target return.
- We had commissioned NERA Economic Consulting to undertake an independent peer review of our proposed approach to setting the target return. NERA has advised that there are real risks associated with the size of our capital plan at this point in our investment cycle that impact our systematic risk, and that it is important to recognise that the risks we will face over PSE3 are greater than our historic baseline and greater than comparable companies in the airport sector. We consider it is appropriate to reflect these risks by referencing our airport-specific circumstances as a key data point when setting our target return.
- NERA also suggested that our approach to estimating our cost of debt is conservative, and expressed doubts about the financeability of the capital plan within Auckland Airport's existing capital structure settings. NERA's advice shows that Auckland Airport will face difficulty in funding the forecast capital plan and maintaining our existing credit rating at the target return set out in our Draft Proposal (7.0%) unless new capital management levers are implemented.
- Auckland Airport signalled as part of our interim results earlier this year that we are undertaking a number of reviews which could give rise to changes in our capital structure. The price path resulting from our Final Pricing Decision will not be sufficient by itself to deliver our forecast investment programme over PSE3, and any of a range of capital management levers will need to be developed and implemented by Auckland Airport to make it affordable to the company. As set out in our 2017 interim results, Auckland Airport is conducting a review of our investment in North Queensland Airports and has reinstated our dividend reinvestment plan. Although we have a robust balance sheet, given the size and nature of the capital plan set out in this Reasons Paper, we will need to consider our capital funding options through the course of the next five years.
- We consider the ability of Auckland Airport to raise the debt required to fund a proportion of the forecast capex programme would be materially undermined if Auckland Airport experienced a downgrade to its current A- credit rating. We note that Auckland Airport most recently raised A\$150 million of debt with a term of 10.5 years, and in 2014 raised US\$250 million with a term of 12 years. These long-term investors, and New Zealand based investors into Auckland Airport's predominantly 6 – 7 year domestic bonds would all experience a market value loss on their investments if the credit rating was downgraded and this would adversely impact their appetite to continue to help to fund our investment programme.
- The NERA report attached to the Revised Pricing Proposal provided empirical evidence of how the particular issues facing Auckland Airport are likely to affect WACC parameters. These cannot be perfectly quantified, however have been approximated. On balance, we considered the evidence put forward by NERA supports a higher target return than set out in the Draft Proposal. After balancing all of the relevant factors (including refreshing our estimates of the four data points set out in Section 10.5.2 for the latest market interest rates and incorporating NERA's

advice on an Auckland Airport-specific WACC estimate), the Revised Pricing Proposal set out a target return for Auckland Airport for PSE3 of 7.1% after tax.

- This was our estimate of the aeronautical rate of return that we required to help deliver the forecast investment programme over PSE3, informed by Auckland Airport's efficient cost of funding, the risks we face over the pricing period, the size and characteristics of our capital plan, the increase in operating leverage we will face at this stage of our investment cycle, and the broader circumstances that we are aware of at the time of this proposal. It is below our Auckland Airport-specific WACC estimate, reflecting the strong countervailing influence of the Commission's industry-wide airport-sector WACC estimate used for information disclosure monitoring purposes and airline feedback advocating for that WACC estimate to be used as Auckland Airport's target return for PSE3.
- The revised target return of 7.1% after tax was above the Commission's mid-point airport sector-wide estimate. However the Commission's mid-point does not reflect Auckland Airport's forward looking systematic risk, or the real cost of debt faced by the company. We explained that we and NERA firmly believed that our current stage in the investment cycle sets us apart from the sample comparators used to derive the Commission's notional industry-wide WACC estimate for regulatory monitoring purposes.
- We considered that it was entirely consistent with the Commission's regulatory framework for Auckland Airport to determine (and justify) an airport-specific target return that differs from a Commission-determined industry-wide WACC estimate.⁶⁹ We explained that we had undertaken cross-checks of our target return using a mix of parameter inputs that we think a regulator would take into account. These led us to consider that our 7.1% target return was reasonable.
- At the heart of the issue is what is the fairest way to fund the significant investment programme contemplated and whether there is sufficient incentive for Auckland Airport to deliver on the investment requirement. A target return of 7.1% is lower than we would target, absent a strong regulatory threat. Moreover it would leave Auckland Airport with a material as yet unresolved funding issue through this pricing period. However we considered the target return recognised the regulatory environment whilst also reflecting the increase in systematic risk that is specific to Auckland Airport at the current stage of our investment cycle, as well as the unquantified challenges that presents. A lower return would materially affect our financial resilience and therefore undermine our incentives to invest in the significant new capacity required to deliver high quality services.

10.3 Feedback on the Revised Proposal

The BARNZ represented airlines repeated their view that the mid-point estimate of WACC calculated in accordance with the Commission's IM should be used by Auckland Airport to set prices.

In BARNZ's view, the higher prices caused by Auckland Airport's target return compared to the Commission's mid-point would not translate into commensurate benefits for consumers, and Auckland Airport's arguments for using WACC inputs that differ from WACC parameters specified in the Input Methodologies are not well founded.⁷⁰ BARNZ was unconvinced that a

⁶⁹ Commerce Commission (December 2016), Final IM Decision, Topic Paper 6, especially paragraphs 87-97.

⁷⁰ BARNZ *Response to Revised Pricing Proposal*, 20 April 2017 at page 10.

target return above the Commission's mid-point is necessary to help fund Auckland Airport's investment plan, and cited the Commission's view from the IM Review that the regulatory sector-wide mid-point WACC estimate was less likely to constrain investment in the airport sector compared to the electricity sector.

BARNZ also commissioned a report from Dr John Small in response to NERA's recommended target return for Auckland Airport. Dr Small considered that NERA's report:⁷¹

- Relied on a theory in relation to asset beta that was undermined by empirical evidence in NERA's report;
- Did not account for the fact that a number of the capital projects scheduled for PSE3 could be deferred during PSE3;
- Relied on recent asset beta estimates which were increasingly imprecise which should reduce confidence in those estimates;
- Contained errors in the calculation of Auckland Airport's forecast cost of debt; and
- Did not provide support for a target return above the midpoint of NERA's WACC range.

Air New Zealand stated that NERA's report and the Revised Pricing Proposal did not justify Auckland Airport using a different target return in pricing than the Commission's sector-wide WACC estimate – an estimate described by Air New Zealand as “truly independent”.⁷² Air New Zealand considered that NERA's analysis and its discussion of financeability did not acknowledge the dual till approach, which Air New Zealand considers to depart from normal commercial practice. Air New Zealand notes that Auckland Airport's credit rating and investor expectations rely on the state of the entire business, and investment decisions should be made with this in mind. Air New Zealand considered it is inconsistent for Auckland Airport to insist on adopting an asset beta reflective of its entire business but not consider its entire business return when establishing charges for aeronautical activities.⁷³

Air New Zealand also considered NERA's comments regarding the loss of a real option to be completely without merit. In its view, the new integrated domestic facility is long overdue and required to meet Auckland Airport's and the airlines aspirations for growth and a level of service in line with its and its customers' expectations.

Air New Zealand also referred Auckland Airport to Dr Small's report prepared for BARNZ, and agreed with the views in that report.⁷⁴

[REDACTED]

[REDACTED]⁷⁵

⁷¹ John Small *Response to NERA on WACC for AIAL*, 13 April 2017.

⁷² Air New Zealand *AIAL - Revised Proposal for Standard Charges*, 20 April 2017 at page 4.

⁷³ Air New Zealand *AIAL - Revised Proposal for Standard Charges*, 20 April 2017 at pages 4 and 5.

⁷⁴ Air New Zealand *AIAL - Revised Proposal for Standard Charges*, 20 April 2017 at page 5.

⁷⁵ [REDACTED]

10.4 Consideration of feedback

Auckland Airport carefully considered airline feedback before determining our target return for PSE3. In response to the technical points raised by BARNZ and Dr Small, Auckland Airport commissioned NERA to review and respond to the critique put forward by Dr Small. As set out in NERA's report (attached as Appendix F):

- NERA explains that its beta estimate is centred on empirical evidence of Auckland Airport's asset beta, which increased following Auckland Airport's announcement of its capital expenditure plan. NERA notes that even this historical beta estimate does not reflect the full impact of the forecast capital expenditure over PSE3, since the market is not yet aware of the full scale of the 5 and 10 year capex forecast that Auckland Airport has been consulting on with its customers and which will be disclosed with the final PSE3 pricing decision and the price setting disclosure in August. NERA explains that its use of a short historical window to estimate the beta captures some of the impact of the capex plan on the systematic risk Auckland Airport faces, but remains conservative, since market prices that could be observed in the lead-up to the pricing decision do not currently reflect the full extent of the plan.
- NERA explains that the empirical evidence it has provided is statistically robust, as are the resulting beta estimates, and Dr Small's arguments about the statistical validity of NERA's findings are not valid.
- NERA has appropriately used the 10-year NZ sovereign forward curve as a proxy for the base rate on Auckland Airport's bonds, as part of its calculation of Auckland Airport's forecast cost of debt.
- NERA does not agree with Dr Small's views that financeability and real options have limited relevance to setting Auckland Airport's target return, or his view that these concepts do not justify setting a target return higher than the Auckland Airport-specific WACC estimate. In particular, NERA disagrees with Dr Small's view that there is no evidence of Auckland Airport incurring capex due to outside pressure, noting that Auckland Airport has changed its draft plan for domestic integration to have both domestic carriers moving to the planned new facility at the same time in response to customer feedback, which has materially increased the capital envelope for PSE3.

Overall, we agree with NERA's conclusion that it sees no reason to change its recommended post-tax target return range for Auckland Airport of 7.5% to 8.1%, as set out in its original report. We summarise how NERA's report has influenced our final decision on the target return for PSE3 in the following section.

More broadly, we have reflected on the key theme of airline feedback – i.e. the airlines' view that Auckland Airport should simply apply the Commission's mid-point sector-wide WACC estimate to determine the target return for PSE3.

For example, airlines have pointed to the fact that the Commission decided not to apply a percentile uplift to its sector-wide mid-point WACC that it publishes for information disclosure purposes because it considered this regulatory WACC would be less likely to constrain airport investment than in other sectors such as electricity. Feedback from airlines has relied on this view to support their claims that the Commission's 50th percentile estimate is sufficient to support Auckland Airport's investment plan.

[REDACTED]

We think the airlines' feedback omits consideration of two critical parts of the Commission's reasoning:

- The Commission considered that there was less merit in an "uplift" to the regulatory mid-point for airport information disclosure purposes, because airports will determine the cost of capital for their business for pricing purposes, as well as the cost of capital required to support investment – and that logically an airport would use the same approach for both purposes. That is, an airport will determine a target return to cover all the costs of its investment to provide aeronautical services (including its cost of capital).⁷⁶
- It is because airports set their own target return in this way, and the nature of information disclosure regulation, that the Commission considered there is theoretically a weaker link between the regulatory WACC and airport investment decisions, such that the mid-point is less of a constraint compared to sectors where the regulator uses its WACC to set a firm's prices.

We therefore think it is inconsistent for airlines to cite the Commission's view that the regulatory mid-point WACC is less likely to constrain investment in the airport sector, yet refuse to acknowledge that the very reason for that lower constraint is that Auckland Airport's own cost of capital is a relevant factor when Auckland Airport is setting prices to support its investment plan. This effectively amounts to an illogical and circular position that the Commission's mid-point sector-wide WACC should be adopted for pricing purposes, but that it will not impact investment decisions because airports are free to adopt a different estimate for pricing purposes.

In any event, as we have explained through the pricing consultation process, we have been conscious of the regulatory framework and the strong views expressed by our substantial customers that Auckland Airport should target a return equal to the Commission's 50th percentile WACC estimate. However, in considering these factors, we have reflected on the fact that:

- The Commission has clearly directed that it is for airports to determine the appropriate level of return to target in pricing and to explain why our target return is in the long-term interests of consumers. In response to BARNZ's request, we explain in more detail below why we consider our target return of 6.99% for PSE3 is in the long-term consumer interest.
- Although the mid-point industry-wide WACC represents the Commission's starting point when assessing returns for its profitability analysis, it considers that there may be legitimate reasons for an airport to target returns that are different to its mid-point WACC estimate.
- When assessing airport profitability, the Commission will consider the explanations and evidence put forward by airports, and will take into account different contextual factors affecting the airport's required return expectations, or the expectations of a particular project. These factors can include airport-specific circumstances, or other factors that should be taken into account in assessing airport profitability.
- The Commission has clear views on the appropriate values for market-wide parameters of the cost of capital, and is unlikely to accept Auckland Airport's view or

⁷⁶ Commerce Commission *Input methodologies review decisions - Topic paper 6: WACC percentile for airports*, 20 December 2016 at paragraph 63.

the evidence of our expert advisors that different estimates of these parameters are appropriate. Although we consider that our expert's estimates are a better estimate of these parameters, our target return for PSE3 does not depend on these views, and is consistent with a target return estimate derived using the Commission's market-wide parameters with adjustments to other parameters to reflect Auckland Airport-specific evidence (as we step through below).

BARNZ refers to Auckland Airport seeking a "WACC uplift" throughout its feedback. This is not what Auckland Airport is doing. Auckland Airport is not seeking to justify an uplift from our estimate of Auckland Airport's cost of capital. Nor are we seeking a generic uplift across all regulated airports from the Commission's mid-point airport-sector WACC estimate for information disclosure purposes. Instead, as contemplated by the Commission, we have considered Auckland Airport-specific factors and our unique circumstances – including empirical evidence on Auckland Airport's systematic risk – to decide and explain the target return that we consider is necessary to help fund Auckland Airport's investment programme for PSE3.

10.5 Final approach for PSE3

10.5.1 Overview of approach

We have developed an investment plan where Auckland Airport and airlines representing approximately 80% of total airport passengers are aligned on the need for investment, the scale of the investment programme, and the long-term benefits that this plan is intended to deliver for airlines and passengers.

We have estimated an Auckland Airport-specific WACC of 7.8% taking into account the particular risks and challenges we face over this pricing period, including the impact of the capital plan and the current stage of the investment cycle on our cost of capital.

We have carefully considered and weighed a wide range of contextual factors when setting our target return. Although we consider there are significant airport-specific circumstances that would support a target return of 7.8% or higher, we have ultimately decided to target a return that is lower than our estimate of the Auckland Airport-specific WACC for PSE3. The regulatory framework has been a key factor in this decision, along with our consideration of feedback from our substantial customers throughout the pricing consultation period.

Ultimately, we consider that our target return of 6.99% promotes the long-term benefit of consumers. Compared to the Commission's mid-point industry-wide WACC, this level of return will provide consumers with a higher degree of confidence that we can deliver on an investment plan to:

- Alleviate current capacity constraints across terminal and airfield infrastructure;
- Provide resilience across the airport system;
- Provide services at the quality demanded by our customers, including reducing bussing operations to a level that our customers are broadly comfortable with;
- Improve service quality across the airport system, reducing delays and associated costs;
- Drive future efficiencies, including through the use of technology to provide increased throughput and improve the end-to-end customer journey;
- Enable efficient peak growth, valued by a clear majority of our airline customers and

which they are telling us their passengers value [REDACTED];

- Address a key consistent theme of passenger surveys, by providing a pathway towards an integrated facility that will improve ease of connections between international and domestic jet operations; and
- Respond to broader network issues through an integrated approach to our roading network that responds to airline and passenger concerns.

Auckland Airport has also been conscious that, in a workably competitive market, not all risks are passed on to consumers. Although we have set our target return at a level that we consider necessary to help fund the investment plan and to provide consumers with greater confidence that this plan will proceed, this target return does not place the burden of supporting that plan solely with consumers. That is, it should provide confidence that Auckland Airport is not targeting excessive prices. The target return of 6.99% leaves Auckland Airport with a material as-yet-unsolved funding gap, particularly in light of the circa \$1 billion of works under construction that will build up on Auckland Airport's balance sheet towards the end of PSE3. These works-in-progress will not be funded by Aeronautical Charges over PSE3 and the borrowing to fund this investment will affect the company's credit metrics and will likely require implementing any of a range of capital management levers available to Auckland Airport. Although we have a robust balance sheet, given the size and nature of the capital plan set out in this Reasons Paper, we will need to consider our capital funding options through the course of the next five years. More information will be provided to the Commission and the wider market on those levers when the full price setting disclosure, including the full 10 year aeronautical capital expenditure forecast, is released in July 2017.

We understand all parties are aware that an element of judgement is required when selecting a target return, and that there is no single right answer. We consider that our target return of 6.99% strikes the right balance between acknowledging the airport-specific challenges and risks we will face during our elevated investment cycle, providing a return that will incentivise and support the delivery of an investment plan that provides significant long-term benefits for consumers, and demonstrating that we have been cognisant of the need to minimise the pricing impact for our airline customers and passengers.

We discuss each of these points in more detail in the following sections.

10.5.2 We have developed an investment plan that is intended to deliver substantial long-term consumer benefits

Conditions at Auckland Airport have changed materially in the last 22 months as growth has come faster than anyone anticipated. In that time, we have seen a 60% increase in the number of airlines operating at Auckland Airport, and the introduction of Jetstar into the regional market. This growth has created great outcomes for consumers through increased choice of destinations, increased frequency of flights, and reduced fares through airline competition.

However, it has also created some operational and service challenges as Auckland Airport has been required to adapt quickly to an unforeseen increase in the number of airlines and passengers using our services and facilities. Auckland Airport has sought to cater for this growth through a combination of operational solutions and focussing on pulling forward capital investment in the areas of most material need over PSE2 where possible (spending 6-% more than expected in PSE2 in response to demand), although we acknowledge that there has been some increased congestion for airlines and passengers as a product of the recent rapid growth. A step change in investment is now required to ensure that we are able to provide

sufficient capacity and quality services for our customers now and into the future in line with Auckland Airport's Masterplan.

The starting point for Auckland Airport was to develop an investment programme with our airline customers, focused on a 10-year plan to deliver infrastructure that will provide long-term benefits to airlines and passengers. As part of this process, we shared a range of information with airlines throughout the consultation process and explored and tested the benefits of particular projects in the draft plan. In addition:

- We explored potential options to mitigate the need for investment or reduce the extent of the capital spend. For the majority of projects, we signalled that the most common options to reduce or avoid the proposed investment were peak spreading and increased use of remote stands and bussing operations. Airlines representing the majority of our passengers did not support these potential options to mitigate or reduce the capital plan by delaying the base case timing of projects. In particular, Air New Zealand did not support peak spreading and gave clear feedback that it and its passengers valued the ability to continue to grow peak services. Both BARNZ and Air New Zealand indicated a strong preference for contact stands rather than the use of remote stands and buses, and BARNZ successfully advocated for the acceleration of a further contact stand project that would limit the extent of bussed operations over the period. This feedback strongly signalled to us that our customers generally supported the investment plan and saw it as delivering long-term benefits that they valued.
- We explained the likely implications if particular projects were deferred or delayed. We signalled that the consequences for consumers if the investment projects did not go ahead would include quality degradation, increased congestion, increasing pressure on existing processing facilities, and reduced airline on time performance. By the end of the consultation process, airlines representing the majority of our passengers generally did not dispute our view of the likely implications and consequences to consumers if the projects were deferred or delayed, or our view that the projects were necessary to avoid these consequences (albeit some airlines had remaining reservations about the scale of the programme).
- We made material changes to our capital plan in response to feedback from substantial customers. We understand that airline customers value these changes and see them as providing long-term benefits to airlines and passengers. Auckland Airport agrees that these projects are in the long-term interest of consumers and we made changes prompted by customer feedback in a number of key areas, including changing the staging and timing of the new domestic jet facility and accelerating a further contact stand and gate lounge on Pier B (Gate 19).

We understand there is a high degree of alignment between Auckland Airport and our airline customers on the capital plan. We note that:

- Air New Zealand supports the investment plan. In its view, the proposed investment pathway will address a number of the existing capacity constraints across both domestic and international terminals as well as on the aprons, and will go some way to establishing a fit-for-purpose facility which supports its business aspirations.
- Although BARNZ raised concerns in its early feedback about the size of the capital plan and the benefits of particular projects, by the end of the consultation process BARNZ was broadly comfortable with the capital plan. In particular, the size or consumer benefit of the capital plan was not included by BARNZ in its list of key

outstanding matters of concern presented to the Aeronautical Pricing Sub-committee of Auckland Airport's Board, and no changes to the capital plan were included in BARNZ's summary of its key requests. When asked, Mr Beckett on behalf of BARNZ confirmed that the BARNZ member airlines were comfortable with the proposed plan, welcomed the development going ahead, and recognised that the time had come to invest.

- [REDACTED]

We also note that we have undertaken an online survey of consumer views on infrastructure development at Auckland Airport. Surveyed participants were very supportive of investment that continues to provide choice in peak services, saves time (e.g. avoiding the walk between the domestic and international terminal for jet operations, reduces delays or queues and provides choice in transport options to and from the airport).⁷⁷

This capital plan is substantial. For the next pricing period, Auckland Airport is forecasting to invest in aeronautical infrastructure at approximately five times the level we have undertaken historically. Our internal planning suggests a relatively high level of investment will continue into the future as we seek to build long-term infrastructure to support growth, resilience and quality requirements.

However, the consumer benefits that will be delivered by the investment plan are also substantial. The investments that will be delivered over the next five years are intended to provide better and faster passenger journeys to the airport, better and faster passenger journeys through the airport terminals, and a better quality of service to our passengers and airlines. The capital plan is designed to alleviate congestion in current pinch points, cater for existing services and provide for efficient future growth (including efficient peak growth). This will support faster and more intuitive passenger processing, improved airfield efficiency, and will also support greater on time performance for aircraft.

Examples of these projects include:

- A better and faster passenger journey through **significant upgrades to the international departure process**. Progressive development and expansion of the Level 1 outbound security screening and Customs areas will be delivered in PSE3, along with development and expansion of the airside dwell space and departure lounges. This will help to reduce current congestion in these areas, ensure that passengers are processed in a timely and efficient manner, provide a more intuitive and relaxing passenger journey, and ensure that Auckland Airport has the space and capability to respond effectively to the constantly-changing security environment.

Passengers will start to see the positive impact of this development early in the pricing period, when we expect to have seven security screening lanes available that can process between 400-450 passengers per hour each, compared with 270 passengers per hour for today's six lanes. The investment in this facility is intended to reduce queueing time and provide for a better and faster passenger journey, allowing passengers to be processed through outbound Customs and security within ten minutes (based on forecast busy hour traffic volumes in 2024 and assuming "worst case scenario" outbound security requirements (i.e. full body scanners)). This

⁷⁷ TNS Survey May 2016, sample size 1000.

compares with today's target of processing 85% of passengers through the departures process within 12 minutes. In more detail:

- Today's outbound Customs and security screening facilities generally achieve good processing rates, but lack sufficient space and planned zones for passengers to prepare for the screening process and to repack and reorganise themselves following screening. Our redevelopment of the departures process is intended to provide a better passenger journey that is more intuitive, relaxing and efficient, including extended roller beds to allow groups of passengers to prepare their belongings in advance of processing, and sufficient space post-security for passengers to repack bags and reorganise themselves. The changes will also provide dedicated and/or wider lanes for families, passengers with restricted mobility, and premium and fast track passengers.
- Simulation modelling of the new emigration area based on passenger volumes as at 1 January 2017 showed a reduction in the total passenger journey time from the start of emigration to the end of security of over 15% compared with today's layout. In addition, the development will provide a flexible environment that can respond to future changes in processing technology, or as the level of integration between international and domestic services changes over time.
- From the security screening zone onwards, the redevelopment of the departures area aims to centralise airside dwell, provide improved seating areas dedicated to passenger needs, and improve wayfinding and accessibility, delivering a higher quality experience and a more intuitive journey for all passengers. These changes will also help to manage late passengers and reduce the risk that these passengers negatively impact airlines' on time performance.
- Reducing current airfield congestion and increasing our ability to cater for efficient growth through the **delivery of three additional gates connected to the international terminal** (Pier B Gates 17, 18 and 19) that can each cater for one large international aircraft or two smaller aircraft. This will redefine our capability to manage and provide quality services to larger aircraft such as A380s that frequent Auckland Airport, as well as giving us the flexibility to handle multiple smaller aircraft on each new stand. With each new gated stand capable of processing between 700,000 to 800,000 passengers per year, this investment will help us to cater for our long-haul aircraft, reduce congestion in other parts of the airfield and free up more space for short-haul aircraft elsewhere, increase our ability to cater for efficient growth, and reduce the amount of bussed operations on the international airfield.

In conjunction with ground handlers, we have also redefined the size of the stand provisions to ensure that there is adequate operational space for ground handlers to work in a safe, effective and efficient manner. The delivery of the stands is also designed to preserve airlines' ability to turn an aircraft around quickly, as well as seeking to help protect airlines' on time departure performance (even where airlines arrive later than scheduled).

In addition, this development responds directly to feedback from our airline customers, who have been clear that they value additional stands connected to the terminal and want to limit the extent to which passengers are required to bus between the terminal and the aircraft. These stands are forecast to be delivered incrementally

over the first three years of PSE3, and each contact stand will decrease the bussing requirement by 30%. This will allow Auckland Airport to cater for existing services and forecast growth while keeping the proportion of international passengers that are bussed to circa 5% over the next five years (a reduction from today's current annual average of 7.5%). This is a key example of an area where, provided the passenger experience outcomes were of a good quality, investment in remote stands would provide a much more capially efficient solution. However, we have listened to our airline customers, who have told us that they value contact stands from a service quality and passenger experience perspective, and that contact stands reduce costs to their businesses compared with remote stands (which attract additional charges from the airlines' ground handlers).

- A better passenger journey through the international arrivals process, through **expansion of the MPI and arrivals area**, expected to be delivered in FY20. The planned expansion to the floor space allows for expansion of the passenger queueing facilities and expansion of the processing capacity of the facility, aiming to significantly reduce passenger delays through the arrivals process. This will help to alleviate a key pinch point in the passenger journey and provide a better passenger experience on arrival to Auckland, as well as ensuring that Auckland Airport in conjunction with the border agencies can cater for existing services and forecast growth, including efficient growth at peak times of the day.
- **Expansion and reconfiguration of the international check-in facilities** by deepening the building and repurposing existing terminal space as the arrivals project is delivered. Auckland Airport is aiming to achieve greater levels of efficiency in the existing check-in footprint through increased use of common-user check-in technology over this pricing period. However, our ability to provide a high quality and efficient check-in service for passengers and airlines is currently constrained by the depth of the building, which puts significant pressure on circulation through the space and to the first floor for departures. Expansion of the check-in area will help to increase available space for circulation, reduce congestion and queueing times, and provide for better connections between check-in and the next steps in the departures process. Over time, the combination of this investment and the new domestic jet facility and its associated baggage system will allow all airlines to check in baggage for domestic flights across the entire check-in hall.
- A once-in-a-multi-generation investment in a **new domestic jet terminal**, removing current capacity constraints, increasing service quality, providing for efficient growth, and significantly improving the passenger experience. The existing domestic terminal is nearing the end of its life, and there is substantial pressure on core services and functions including check-in, outbound security, and baggage reclaim for both Air New Zealand and Jetstar. Although some temporary investment and operational changes will be made to prolong the life of these facilities, significant service level improvements cannot be delivered until a new facility is built. The new domestic jet terminal will alleviate current capacity constraints and provide for growth in domestic services, either through upgauging of aircraft or increases in the frequency of services. The passenger experience will also be substantially enhanced for all jet passengers, and the new location will eliminate the need for passengers transiting between international and domestic trunk services to walk or catch a transfer bus between the terminals (over 800,000 passengers). By removing the need for these passengers to transport themselves and their baggage between the terminals, the new domestic jet facility will help to significantly reduce the minimum connection time for passengers connecting from international to domestic jet services and vice versa.

- Safer, more reliable and more efficient journeys for aircraft between the runway and the terminal through **the realignment and extension of existing taxiways and the construction of new taxiways** (development of taxiways Mike and Lima, realignment of taxiway Kilo). In the medium to long-term, these developments seek to limit delay caused by congestion of numerous aircraft operating across the international airfield, and will cater for large aircraft to minimise conflict and congestion on the ground, ultimately resulting in less delay time from the runway to stands. To airlines, this will also reduce fuel burn associated with these taxiing movements. In the shorter-term, these developments can also provide for temporary aircraft parking positions and for remote stands to be used for the loading and off-loading of passengers and cargo.
- Increasing our ability to provide quality services to airlines and passengers travelling to and from Auckland Airport on new generation aircraft, through upgrades to redevelop and modernise **existing gates connected to the international terminal** (Pier A gates 1, 3 and 5). The new generation of aircraft are redefining the standard aircraft dimensions used for planning purposes, and our redevelopment in this area will allow us to efficiently manage these new aircraft types, provide a better level of service for airlines and passengers and reduce congestion on the airfield.
- Investment in terminal roads and the wider roading network as part of a **coordinated system of land transport improvements** by Auckland Airport, NZTA and Auckland Transport. This investment is designed to deliver sustainable infrastructure that ensures the basic safety, security and operational efficiency of Auckland Airport, provides a reliable and easy to navigate journey to the airport, alleviates capacity pinch points and supports increasing growth through stage-able and demand-led aeronautical infrastructure. In doing so, the investment will reduce the impact of travel times on flight connections, customer experience, and airline staffing requirements.
- **Technology investment** to enable new modes of operating and methodologies to drive efficiencies, helping us to enable transformations in airport operations and customer engagement and to respond to customer expectations and demands. The high level objectives of this investment programme include data-driven decision-making, using technology to personalise, simplify and improve the end-to-end customer journey, innovating with emerging technologies where practicable, and supporting the general aeronautical business to reduce operating costs, create more efficient use of capacity and space, and provide the necessary controls for integration, common use, and other operational flexibilities.

10.5.3 We have estimated an Auckland Airport-specific WACC estimate of 7.8%, reflecting the challenges and risks we face at this time

The unparalleled level of capital expenditure we are facing in PSE3 exacerbates the material risks that Auckland Airport already faces when investing in large, lumpy infrastructure. The size of the investment challenge over the next five years puts these risks front and centre, and reinforces the importance of setting a target return that better reflects Auckland Airport's real cost of debt and a fair risk-adjusted return on equity given the airport-specific risks and circumstances that we face.

The first step in developing the target return for PSE3 was to calculate our Auckland Airport-specific midpoint WACC estimate.

Auckland Airport uses a mix of both debt and equity to fund our existing asset base and the capital investments to operate our business, most of which are investments in long-life assets.

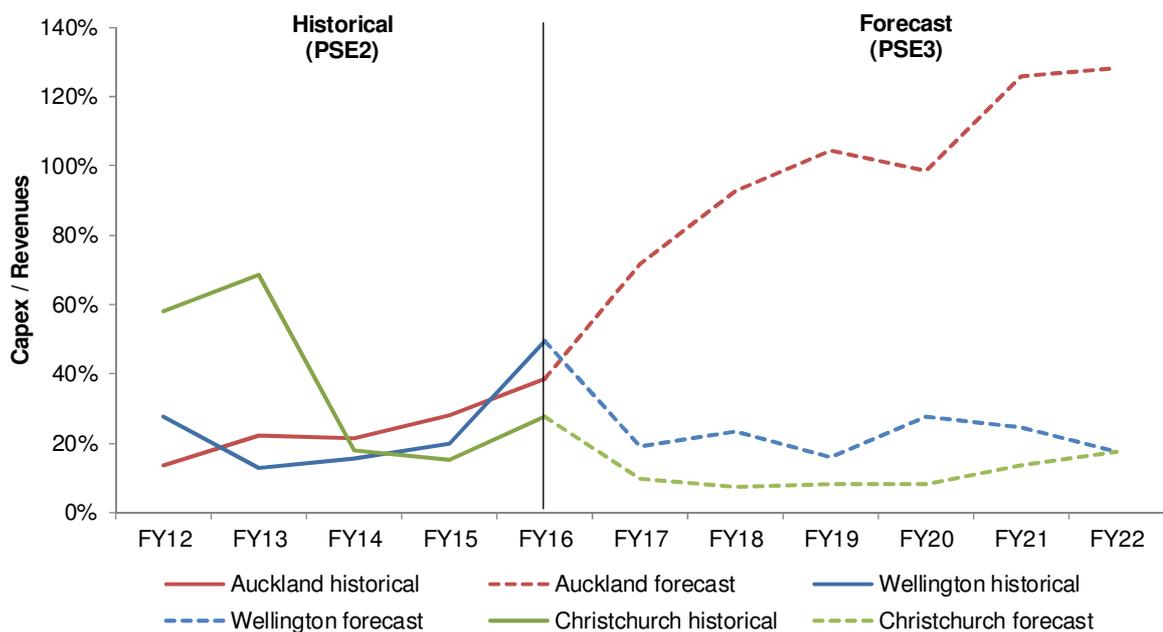
Cost of equity

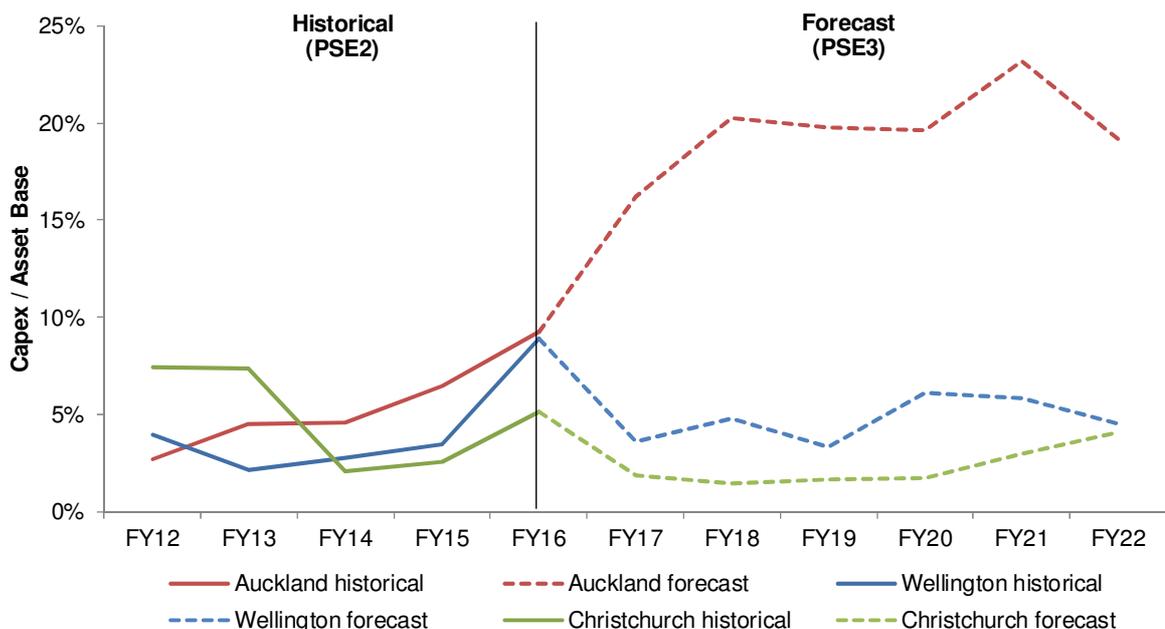
Auckland Airport acknowledges that the cost of equity cannot be observed directly and must be estimated. This is therefore an area where an element of theoretical modelling is appropriate. For this reason, we have based our view of the cost of equity for Auckland Airport on the framework used by the Commission to estimate this component at a sector-wide level. However, based on expert advice we have received from UniServices and NERA, we consider that some adjustments to the parameters in that sector-wide monitoring model are justified when we are considering the cost of equity for Auckland Airport.

In particular, NERA has advised that it is appropriate for Auckland Airport to seek to estimate an airport-specific asset beta that properly reflects its forecast systematic risk over the five-year pricing period. As explained by NERA:

- Auckland Airport will face large cash outflows during the construction process, which cannot be scaled back or reversed easily in case of a material decrease in demand, and can therefore be considered fixed. During its construction phase, Auckland Airport is therefore expected to have higher operational leverage than in the past and relative to comparators which are not undertaking such large scale capex projects. For example, NERA has demonstrated that Auckland Airport's planned capital expenditure on regulated activities for PSE3, relative to both regulated revenues and its regulated asset base, is considerably higher than in the past, as well as higher than both Christchurch and Wellington airports, as shown in the following charts.

Figure (12): Comparison of historic and forecast capex relative to revenue and asset value





- Auckland Airport’s historic operating leverage is higher than the Commission’s sample set of comparator airports used to determine its notional industry-wide asset beta. For example, the following table compares Auckland Airport’s capex per passenger and capex as a percentage of turnover (using FY15 data) against the companies in the Commission’s comparator sample for which capex performance is available through international performance benchmarking studies.⁷⁸ This gap is expected to widen over PSE3 as Auckland Airport’s capital expenditure increases substantially relative to our historic investment levels.

Airport(s)	Company in Commission’s asset beta sample	Capex per pax (SDR)	Capex as a % of turnover
Beijing	Beijing Capital International	0.67	7.3
Tokyo Narita	Japan Airport Terminal Co Ltd	7.1	21.4
Aéroports de Paris	Aéroports de Paris	3.72	14.4
Auckland	Auckland International Airport	5.45	30.1
Airports of Thailand	Airports of Thailand PCL	1.75	20.5
ASUR	Grupo Aeroportuario del Surest	1.28	11.2
Zurich	Flughafen Zuerich AG	7.13	27.9
Vienna	Flughafen Wien AG	2.71	14.5
Fraport	Fraport AG Frankfurt Airport Services	3.73	28.5
GAP	Grupo Aeroportuario del Pacifico	1.25	12.6
Delhi	GMR Infrastructure Limited	0	0
Copenhagen	Kobenhavns Lufthavne	4.29	25.1
Malaysian Airports	Malaysia Airports Holdings Bhd	0.34	6.3
Sydney Airport	Sydney Airport	3.83	22.8
Average		3.09	17.33
Auckland Airport		5.45	30.1

⁷⁸ LeighFisher Airport Performance Indicators 2016. The companies shown represent over half of the Commission’s comparator sample set (14 out of 26). LeighFisher uses Special Drawing Right (SDR) rates as a unit of comparison for capex per passenger between airports, where the capex per passenger in each airport’s local currency is converted into SDR.

- This increase in operational leverage leads to an increase in systematic risk (beta) relative to Auckland Airport's historic baseline, as well as an increase relative to the companies used by the Commission in its sample airport comparators. This increase in systematic risk is specific to Auckland Airport and to this stage in our investment cycle.
- The link between the effect of higher capital expenditure on operational leverage and beta has been recognised by regulators elsewhere in the world. Uplifts to asset beta due to increased operational leverage have been applied by a number of regulators worldwide to particular companies within a sector for particular pricing periods, based on the specific investment circumstances and challenges of those companies. This includes the UK airport sector, where the UK Competition Commission has considered operational leverage as part of its assessment of relative systematic risk between Heathrow, Gatwick and other airports.
- In its report, NERA explained that using the most recent estimates of Auckland Airport's asset beta is the best way to reflect the impact of Auckland Airport's forecast capital plan, and the increase in operating leverage that this will introduce over PSE3.
- NERA explained that:
 - Auckland Airport should seek to capture the increase in systematic risk from our anticipated capex programme for PSE3 by estimating our asset beta over a shorter estimation window than the 20-year window used in the Draft Proposal – i.e. by having greater regard to the most recent five year period. This is consistent with the Commission's general approach to estimating its industry-wide asset beta, which places greater emphasis on more recent asset beta estimates. This approach was also reflected in feedback from Air New Zealand on our Draft Pricing Proposal, where Air New Zealand commented on our then-proposal to use the Commission's 20-year asset beta data for Auckland Airport and reiterated the Commission's view that more recent data was likely to provide a better estimate of systematic risk for airports.
 - A long estimation window of 20 years is unlikely to capture forward-looking systematic risk over the upcoming pricing period. A shorter estimation window that places more weight on the period when the market priced in the impact of greater capital expenditure implied by the 2014 Masterplan refresh may be more suitable for determining the appropriate target return. However, even the most recent beta estimate may not fully reflect the impact of the latest capital expenditure plan on Auckland Airport's systematic risk. This is because the updated plan has not been released to the capital markets – i.e. the capex implied by the 2014 masterplan and ongoing market guidance are significantly lower than the latest capital expenditure plan that Auckland Airport is consulting on with airline customers through the price setting process. It is therefore even more important to use a shorter estimation window.
 - In NERA's view, an outdated asset beta estimate or an estimate based on comparators' betas will not capture the risk Auckland Airport faces as a result of higher operational leverage during the period of investment that is substantially higher than its historical baseline and comparators' average investment. It considers that not using a recent estimate of Auckland Airport's own beta is therefore likely to underestimate Auckland Airport's

systematic risk, cost of capital, and target return for the upcoming pricing period.

- NERA considers that its recommended approach may still underestimate the impact of Auckland Airport's planned capex on the beta, since the market has not received full guidance on the scale of Auckland Airport's planned programme, and will not receive this guidance until after Auckland Airport sets its prices and releases its forecast capital plan.

We agree with NERA's analysis. We consider it is appropriate to develop an Auckland Airport-specific midpoint WACC estimate that puts greater emphasis on direct measures of Auckland Airport's systematic risk than the Commission's global sample set and is informed by analysis of the factors affecting Auckland Airport's risk profile at this stage of our capital cycle.

NERA has also reviewed the approach to other parameters in estimating the cost of equity for Auckland Airport, including the market risk premium. NERA agrees with UniServices Limited's advice that it is appropriate to make small changes to the Commission's methodology for estimating this parameter in order to deliver more stable and predictable estimates of the market risk premium (as intended by the Commission) and to ensure that the methodologies are internally consistent and theoretically sound. We agree with NERA, and this is not only consistent with expert advice that Auckland Airport has received in the past from UniServices, but also with market analyst information that we consider supports using an estimate of the market risk premium that is higher than 7.05% when estimating the cost of equity for Auckland Airport. Ultimately, we consider that a market risk premium of 7.25% is appropriate to use when developing our best estimate of our Auckland Airport-specific WACC. However, we acknowledge and appreciate that the Commission has a different view on this matter, and we discuss this further below in our consideration of the appropriate target return for Auckland Airport for PSE3.

Cost of debt

When developing our Auckland Airport-specific WACC estimate, we have sought to reflect Auckland Airport's efficient cost of debt forecast for the period. This is because the cost of debt for Auckland Airport is real and observable. Our existing debt in place today must be serviced, and we consider that the company's forecast cost of debt funding provides a better reflection of the true cost to our business of current and future debt.

As the Commission has noted, logically an airport would set its WACC estimate and the prices charged for airport services at a level that reflects the returns required by that airport to cover all its costs, including its cost of capital, on existing and forecast investment to provide those services. For Auckland Airport, this means that our airport-specific WACC estimate is informed by our actual forecast cost of debt.

As at 30 June 2016, Auckland Airport had circa \$1.9 billion of debt comprised of a mix of bank debt, commercial paper, fixed and floating rate bonds and US private placement bonds across various tenors, with an average cost of funding of 5.09%. As Auckland Airport continues to raise further debt to partially fund the forecast capital programme, we anticipate that our average cost of funding will reduce as expensive debt is refinanced at lower rates prevailing at the time of issue. After considering advice from NERA about our forecast cost of debt, we consider that this reduction in financing costs combined with the ongoing diversification of Auckland Airport's mix of debt will result in a forecast cost of debt of 4.52% for PSE3. This is only marginally higher than the Commission's sector-wide cost of debt estimate of 4.41% as at 1 April 2017.

This cost of debt is based on the mix of debt remaining broadly consistent with that today, save for an allowance for planned funding diversification. In addition, maturing debt is assumed to be refinanced in the same form using tenors and interest rates based on historical results achieved by Auckland Airport and, where new diversification occurs, known market benchmarks. Given today's environment of rising interest rates (and margins) these are conservative assumptions and likely reflect the low end of the range for Auckland Airport's forecast actual cost of debt.

Auckland Airport considers the 4.52% forecast cost of debt represents a highly efficient funding rate for a business of our size, complexity and capital structure. Auckland Airport is incentivised to minimise interest costs as it influences the "credit metrics" rating agencies use to determine the credit rating for the airport. In particular, Standard & Poors uses a number of metrics to assess the rating for Auckland Airport, but gives most attention to "funds from operations" ("FFO") divided by interest and FFO divided by total debt.

We also think this approach is broadly consistent with views that have previously been put forward by BARNZ. In a submission to the Commission in 2016, BARNZ put forward a pragmatic approach to calculating the cost of debt which recognised that efficient firms will have a proportion of debt that was fixed during a previous pricing period, and a proportion that will need to be renewed over the upcoming period.

In particular, BARNZ noted that its proposed approach reflected the fact that, in the real world, firms have debt maturing and needing to be refinanced continuously. It noted that firms do not have all their debt maturing at the end of one pricing period, and that the portfolio debt cost will most likely be at a different rate (on average) to prevailing spot rates at the time of pricing. BARNZ suggested that the industry-wide cost of debt should proportionally reflect historic financing commitments of an efficient firm, as well as a forward-looking estimate of the debt that an efficient firm will need to renew during the pricing period. Through the pricing consultation process, BARNZ's advisor (John Small) has also agreed that a portfolio approach to the cost of debt is the most appropriate option.

This approach is similar to that which we have adopted. We have reflected the historic and projected debt financing costs for Auckland Airport, rather than the notional efficient entity suggested by BARNZ. As we explained in the Draft Pricing Proposal, we have received third party advice that our debt funding practices are highly efficient compared to market benchmarks, and we believe it is appropriate to reflect these actual efficient practices when estimating our Auckland Airport-specific WACC, rather than those of a notional entity.

Overall calculation of Auckland Airport's WACC estimate

After considering the extent to which the circumstances and challenges faced by Auckland Airport over PSE3 impact on the cost of debt and equity parameters in the Capital Asset Pricing Model, NERA considers that the appropriate WACC estimate for Auckland Airport sits within a range of 7.5%-8.1%, with a mid-point of 7.8%.

We consider that this is the best evidence of our Auckland Airport-specific WACC for PSE3. In the following section, we discuss the remaining contextual factors that have influenced our choice of target return, and which have ultimately led us to set a target return that is lower than our airport-specific WACC estimate.

10.5.4 We have carefully considered and weighed a range of contextual circumstances, ultimately selecting a target return below our Auckland Airport-specific midpoint WACC estimate

When considering the appropriate target return for PSE3, we have been heavily guided by the specific characteristics of our forecast capital plan. In particular, we note that:

- For the next pricing period, Auckland Airport is forecasting to invest in aeronautical infrastructure at approximately five times the level we have undertaken historically. Our internal planning suggests this trend will continue into the future, particularly if the second runway timing remains steady. Auckland Airport's bond issue in November 2016 showed that our borrowing margin is already widening. Historically, Auckland Airport has been able to price New Zealand debt capital market issuance inside the equivalent extrapolated yield on the secondary market. However, the margin for the November 2016 issue was 135bp over BKBM⁷⁹ or approximately 10 basis points above secondary market pricing. This effect will be exacerbated by the need for Auckland Airport to raise more debt funding in the more expensive offshore capital markets as New Zealand investors' exposure to Auckland Airport approaches their capacity limits.
- This unparalleled level of capital expenditure exacerbates the demand risks that Auckland Airport already faces when investing in large, lumpy, long-term infrastructure. The size of the investment challenge over the next five years puts these risks front and centre ahead of the price-setting decision, and reinforces the importance of setting a target return that recovers Auckland Airport's real cost of debt and which delivers a fair risk-adjusted return on equity.
- Auckland Airport also faces choices in how we plan to deliver required capacity. If the level of target return is not sufficient to cover our real capital costs or provide compensation for the material risks that Auckland Airport is facing, this could affect our investment priorities and the nature of the planned investment over the pricing period, impacting on the long-term benefits we are able to deliver for consumers. For example, under this scenario investments may tend towards "core" investments in safety, security, and capacity expansion where it is proven that this will result in additional traffic volume and where there are no available alternatives. If this is the case, service quality-focused investments and innovative projects may be less likely to proceed, Auckland Airport may be incentivised to prioritise the least-cost alternative for a project rather than the alternative with the highest value-creation to the aviation community or the greatest long-term benefit to consumers, and peak capacity investment could potentially be delayed. Under these circumstances, Auckland Airport may also be less incentivised to invest in the types of projects valued by our substantial customers. For example, we may prefer capacity expansion through increased use of remote stands and greater bussing – a less capital intensive option for Auckland Airport that delivers the same capacity to cater for volume growth as contact stands, but an option that is not preferred by the majority of our airline customers. Overall, as we discuss below, we consider the better approach is to target a return to help support a base case capital plan that includes investments not only in safety, security and capacity, but also material investment in projects that reflect service priorities of our airline customers and that will deliver better service outcomes to consumers over the long-term.
- The Auckland region is experiencing its highest levels of investment in decades, and there has been an observable escalation of infrastructure build costs which is likely to continue into the future. This trend is true for Auckland Airport too. Further, we have found that the complexity of brownfields airport developments have led to higher costs and fewer construction companies willing to take projects on. This reinforces the importance of ensuring that we have the ability to access the global funds we will need to finance our investment plan as the construction and infrastructure markets

⁷⁹ New Zealand 90 day bank bill rate.

continue to heat up, making it more difficult to accurately forecast future escalation rates.

- The capital programme is demand-led and responds to changes in demand in the last 22 months and forecast through the period. If the demand environment changes once projects are committed, we face material risk through PSE3. This is of considerable concern given that a number of projects in our forecast capital plan involve substantial risks over and above the usual risks involved in constructing lumpy infrastructure that cannot be delivered incrementally. In particular, we will be carrying approximately \$1 billion in capital works in progress towards the end of PSE3, over \$500 million of which will relate to the domestic terminal integration project. This makes Auckland Airport extremely vulnerable to changes in the domestic market, which is currently dominated by two carriers. For example, a partial exit of a carrier from the domestic or regional market once construction has started on the new domestic jet facility will lead to PSE3 losses and may mean that the required price point for domestic services in PSE4 is no longer sustainable to recover the investment cost as originally forecast.
- In part, our capital plan has been developed to build towards future capital efficiencies. For example, the leading option for domestic integration allows for the possibility of further integration between domestic and international operations in the future, which we believe will provide efficient capital solutions over time for airlines and consumers. However, there will need to be material innovation in the future in order to continue to realise capital efficiency benefits and mitigate the need for further investment. We are reliant on a range of parties, including border and government agencies, to enable this innovation, and there is a real risk that it may not be achieved. We will play our role through systems and process innovation and seek to influence these parties but, ultimately, if the innovation we are seeking cannot be delivered, this will have consequences for passengers and airlines, and will require further investment.
- We also have a statutory requirement under the Airport Authorities Act to consult with Substantial Customers on significant projects with customers before the decision is taken to invest. This consultation process enables us to check the more detailed requirements of customers and other stakeholders, so that the most efficient decision is made at the time of investment.

Auckland Airport has also taken into account a number of time-specific contextual factors that are in play as we look to set prices for PSE3. For example, when considering the appropriate target return, we have been conscious that:

- Auckland Airport is setting prices for five years at a time when global interest rates and government bond rates are at unprecedented lows. These low rates are driving down the risk free rate, and the Commission's cost of equity and cost of debt estimates.
- Dramatic increases in global interest rates, particularly longer dated tenors, soon after the recent US presidential election show that the global cost of capital can swing very quickly. This further highlights the risk of setting target returns for five years based on today's spot interest rates and soon thereafter finding that our main funding markets have entered a period of significantly rising interest rates. In the next five years, we consider there is a real risk of change in global interest rates and therefore a significant risk that debt costs move away from all-time lows.

- Although we have been able to achieve industry leading costs of debt historically, the large increase in our future borrowing requirements is likely to materially increase future borrowing margins.

In this context, we have also reflected on Professor Yarrow's advice to the Commission, and NERA's advice to us, that it can be appropriate for an airport to target a return that is higher than that airport's estimate of its own midpoint WACC. In particular, we have reflected on NERA's advice that:

- Financeability considerations would support Auckland Airport targeting a return above the mid-point of our airport-specific WACC estimate (i.e. higher than 7.8%). NERA has analysed projected credit metrics under different target return scenarios, including the draft target return set out in the Draft Proposal in December 2016 (7.0%), the mid-point of the Commission's regulatory WACC as at 1 April 2016 (6.29%), and the bottom of NERA's estimated WACC range for Auckland Airport (7.5%). As shown by NERA, both the Commission's mid-point estimate and a target return of 7.0% would result in Auckland Airport breaching the credit metric threshold for an A- rated entity under the current capital structure settings unless new capital management levers are implemented. NERA notes that these types of financeability tests are key reference points for overseas regulators. In NERA's view, if Auckland Airport is exposed to considerable risk to its financeability as a result of the anticipated capital investments, we should set our target return above the Commission's estimate of the regulatory WACC and above the Auckland Airport-specific WACC estimate.
- To the extent Auckland Airport's forecast investment plan involves decisions on capital expenditure that impact our ability to delay or defer investment, it is appropriate to factor the loss of these real options into the forecast target return. It considers that this represents an appropriate reason to set a target return that is higher than the Auckland Airport-specific midpoint WACC estimate.

Finally, as noted above, we have been conscious of the regulatory framework, and the strong views expressed by our substantial customers that Auckland Airport should target a return equal to the Commission's 50th percentile airport sector-wide WACC estimate.

Ultimately, as we explain below, we have not sought to target a return at or above our own midpoint WACC estimate. Rather, we are targeting a return materially below that, reflecting:

- The strong feedback from our substantial customers; and
- The regulatory uncertainty we face in the current circumstances, where the Commission's 50th percentile sector-wide WACC estimate remains a key starting point in its consideration of an appropriate return for an airport in New Zealand, and it has provided little guidance on when it will agree that a target return above that mid-point is appropriate.

10.5.5 We consider that 6.99% is an appropriate target return for Auckland Airport after balancing the above factors and considering a range of relevant data points

We consider the available evidence provides substantial support for setting a target return that is higher than the mid-point of the Commission's regulatory WACC estimate. This is because we face a number of airport-specific challenges, particularly at this stage in our investment cycle, and it is appropriate for us to reflect these challenges in an Auckland

Airport-specific target return.

We have carefully considered the range of factors set out in the above section when setting our target return. Although some of these factors cannot be precisely quantified, they are highly relevant and have had a clear influence on our consideration of the appropriate return for Auckland Airport for PSE3.

As the Commission and the High Court have previously recognised, estimating WACC is a complex task involving the significant exercise of judgement, and is open to the possibility of error as well as there being a range of views. The same complexities, judgements, range of views and potential for error exist when setting a target return, particularly for a five-year pricing period. As a result (and as the Commission has previously acknowledged in the context of the electricity sector), it is not possible to determine the optimal target return based on empirical analysis alone. Rather, we must apply judgement to select our target return for PSE3.

In exercising this judgement, we have had reference to a range of data points when considering the appropriate target return for Auckland Airport for PSE3, along with the factors set out in the above section.

Two key reference points we have considered when determining a fair target return for PSE3 have been:

- The Commission's mid-point New Zealand airport-sector WACC estimate as at 1 April 2017 of 6.41%.
- The recommendation of our independent expert NERA, who considered our airport-specific circumstances (including undertaking an empirical analysis of the impact of Auckland Airport's capital plan on our systematic risk) and recommended targeting a return above the mid-point of its Auckland Airport-specific WACC range of 7.5% to 8.1% – i.e. that a target return above 7.8% is appropriate.

We have also considered other data points that we believe to be relevant to Auckland Airport's target return when exercising our judgement, including the average of the latest WACC estimates used by sell-side analysts to base their buy, sell, and hold recommendations for Auckland Airport (7.70%).

As the approach we have taken to determine our target return relies on the exercise of judgement after considering a range of factors and data points, we have not sought to calculate a risk-free rate at any particular date. We consider it is reasonable for Auckland Airport to exercise its judgement with reference to the contextual factors and data points noted above, including the most recent published Commission WACC estimate. The date of this estimate coincides with the start of the quarter of the disclosure year immediately preceding our price-setting period, which we consider represents a valid reference point for our Final Pricing Decision. Finally, NERA's May 2017 advice retained its earlier estimate of the Auckland Airport-specific WACC range of 7.5% to 8.1%.

Given the regulatory environment in which Auckland Airport operates and establishes aeronautical prices, we believe that 6.99%, is an appropriate target return for PSE3, albeit well below our estimated Auckland Airport-specific WACC.

Cross-checking our target return

In reaching our decision to target a return of 6.99% for PSE3, we have also reflected on the approach that we consider the Commission may take to assessing the appropriate target

return for Auckland Airport.

The Commission is not required to use a single point-estimate in its analysis of airport profitability, and has made changes to its approach to publishing the regulatory WACC to reduce the emphasis on any particular percentile estimate. We have not sought to target any particular percentile of the Commission's regulatory WACC estimate. However, we have undertaken a "bottom up" cross-check of our target return by taking the 50th percentile estimate as a starting point, and reflecting the Auckland Airport-specific empirical evidence that the Commission is likely to consider relevant when assessing the reasonableness of targeting a return that differs from that starting point.

We consider that this approach is likely to give a conservative estimate of the appropriate range of returns for Auckland Airport, because it does not consider the full set of contextual factors that have influenced our choice to target a return of 6.99%. Nevertheless, we consider it to be a useful cross-check of the reasonableness of our approach.

Along with its consideration of the contextual factors supporting our target return, we anticipate the Commission will assess the impact of two key pieces of empirical evidence – Auckland Airport's forecast cost of debt based on our observable and efficient forecast debt costs, and the impact of Auckland Airport's unprecedented capital expenditure programme on our exposure to systematic risk and hence cost of equity relative to the global comparator airports used to derive the Commission's notional industry-wide WACC estimate.

Reflecting Auckland Airport's forecast cost of debt supports a target return for Auckland Airport that is marginally higher than the Commission's sector-wide 50th percentile WACC estimate.

The impact of Auckland Airport's higher systematic risk is less observable and must be estimated, and we acknowledge there is greater judgement required in this area. For this reason, we have considered a number of potential estimates, and the impact of factoring these estimates on top of Auckland Airport's forecast cost of debt, including:

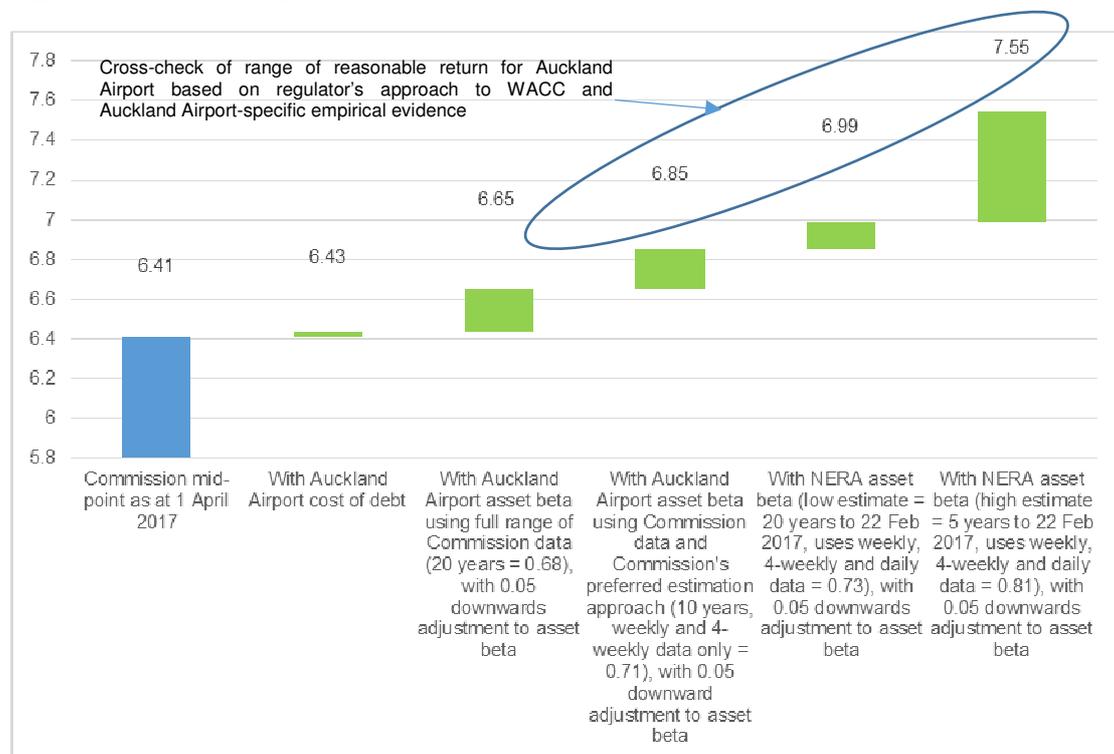
- The Commission's own asset beta estimates for Auckland Airport, drawing on the full range of available data (daily, weekly, and four-weekly for the 1996-2016 period for which the Commission has collected data). Under this approach, Auckland Airport's estimated asset beta is 0.68.
- However, we consider that NERA's report provides a persuasive case about the use of more recent Auckland Airport asset beta data to estimate the impact of our forecast increase in operational leverage on our systematic risk. The use of more recent data is also consistent with the Commission's approach to estimating its industry-wide asset beta (where it has placed greater emphasis on more recent periods), as well as airline feedback through the consultation process which reiterated that the Commission's approach to its industry-wide asset beta is to take an average of the weekly and four-weekly data for the two most recent five-year periods (i.e. the 2006-2016 period). Applying this approach to the Auckland Airport data in the Commission's sample set gives an estimated asset beta for Auckland Airport of 0.71.
- We are conscious that these estimates of Auckland Airport's systematic risk are based on observable historic market data, and will therefore not fully reflect the expected increase in operating leverage and corresponding increase in systematic risk over PSE3 that will result from our substantial forecast investment plan. In particular, this cross-check relies on observable historic market data – which by its nature does not yet reflect the market impact of our forecast capital plan over the next five years.

- The link between the effect of higher capital expenditure on operational leverage and beta has been recognised by regulators elsewhere in the world, and a number of regulators worldwide have exercised judgement in these circumstances by applying an uplift to asset beta estimates for particular companies within a sector for particular pricing periods, based on the specific investment circumstances and challenges of those companies.
- On that basis, we consider that NERA's evidence supports a target return for Auckland Airport that takes a further step-up from the assessment starting point, and which reflects the low (0.73) and high (0.81) asset beta estimates calculated by NERA in its report.

We do not agree that a downwards adjustment to these asset beta estimates is required to reflect any difference in systematic risk between Auckland Airport's aeronautical and non-aeronautical activities. As we explained in the Draft Pricing Proposal, and based on expert advice from UniServices Limited, we do not consider the downwards adjustment of 0.05 made by the Commission to its sector-wide estimate to be a specific value quantified by evidence, nor do we consider it is applicable to Auckland Airport for pricing purposes. Our expert advisor's empirical analysis shows no evidence to justify a downwards adjustment for Auckland Airport's asset beta. However, we acknowledge the Commission is unlikely to shift its view on this matter, or to agree with our position. For the purpose of informing a target return that we consider the regulator will see as reasonable and appropriate, we have therefore made a downwards adjustment of 0.05 to each of the asset beta estimates discussed above.

The chart below shows the impact of this bottom-up cross-check, and indicates that a target return in the range of 6.85% to 7.55% is appropriate and supported by Auckland Airport-specific empirical evidence.

Figure (13): Bottom-up cross-check approach

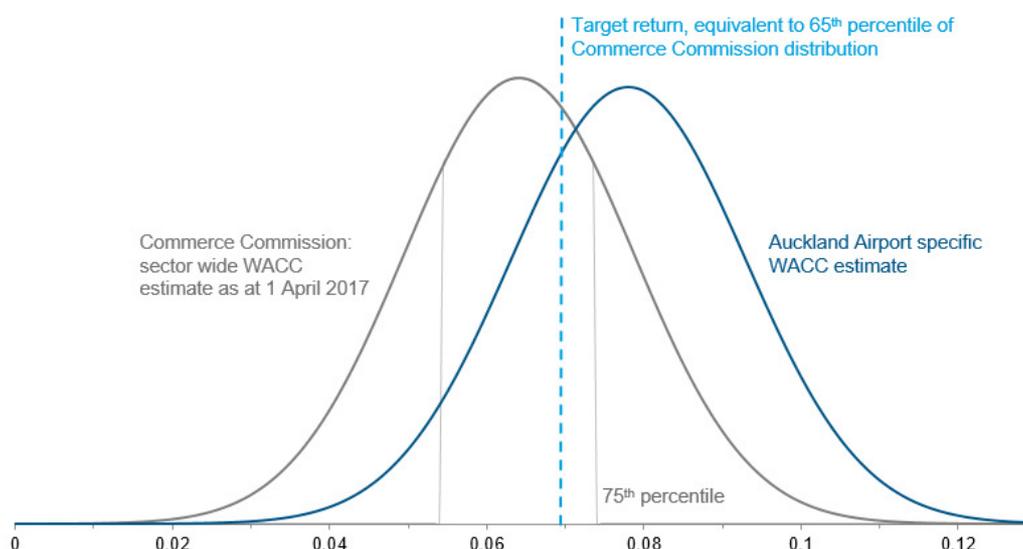


We also consider the Commission may look at the 5 year asset beta scenarios using NERA's data. Overall, we consider that the Commission is likely to consider the 5-year, 10-year and 20-year asset beta information, and have regard to daily, weekly and four-weekly information.

We consider this bottom-up cross-check further demonstrates that our target return of 6.99% is within an acceptable range for Auckland Airport in light of the airport-specific circumstances we face at this point in our investment cycle and our expectation of the Commission's views. However, it is well below our mid-point Auckland airport-specific WACC estimate of 7.8%.

When applying our judgement to select a target return, we also acknowledge that there is inherent uncertainty in the parameter values used to develop the WACC estimates that inform our reference data points. As shown in the following diagram, both the Commission's mid-point estimate and the mid-point estimate of Auckland Airport's WACC represent points in a distribution, and our selected target return of 6.99% represents a fair and reasonable return in light of this uncertainty.

Figure (14): Uncertainty distributions of Commission's sector-wide WACC estimate (grey) and Auckland Airport's WACC estimate (blue)



10.5.6 We consider our target return of 6.99% is in the long-term interest of consumers

Although it is not clear to us at this point precisely how the Commission will assess whether our target return is in the long-term interest of consumers, broadly speaking we expect that it will consider whether the target return provides customers with confidence that Auckland Airport has achieved an appropriate balance between:

- Encouraging efficient investment in infrastructure that will improve the quality and efficiency of service; and
- Earning a normal economic return over time.

Having considered all relevant factors, we consider that a target return of 6.99% demonstrably achieves an appropriate balance.

Confidence to invest

Auckland Airport considers that a target return of 6.99% is required to help support the

investment plan in light of our Auckland Airport-specific factors over the pricing period. We note that this is more than 0.8 percentage points lower than our mid-point Auckland Airport-specific WACC estimate.

From 1 July 2019 onwards, Auckland Airport is planning to spend more on aeronautical infrastructure each year than we will earn in aeronautical revenue. In the last year of this pricing period, Auckland Airport's planned capital expenditure will be over 130% of our forecast revenue for that year.

This investment will substantially increase the size of our aeronautical asset base over the next five years, and will enable us to deliver a number of key projects that will provide significant benefits for airlines and passengers. We have carefully explained those anticipated benefits above.

Given the broad support for the investment plan from the majority of our airline customers, Auckland Airport has not sought to precisely quantify these benefits and convert them into financial metrics for airlines and passengers. As the Commission has indicated in the past, this process is not straightforward and can be extremely time consuming and expensive. In addition, a number of the benefits to consumers from the investment plan involve increased resilience and quality of service, which is difficult to translate into numerical terms.

Auckland Airport has not sought to precisely quantify the potential costs to consumers if we did not proceed with this investment plan, however, we think that useful guidance can be drawn from a study undertaken by the United Kingdom Airports Commission in 2013, which estimated the cost to the UK economy of failing to alleviate capacity constraints at the nation's airports. The UK Airports Commission estimated that a failure to alleviate these capacity constraint could cost users and providers of airport infrastructure up to £18 – £20 billion over the next 60 years, and that costs to the economy more broadly could be between £30 – £45 billion. We are not suggesting these costs are directly applicable to Auckland Airport's circumstances. However, they do support our view that failing to alleviate current capacity constraints at Auckland Airport and to provide for future growth would have material consequences for the airlines, passengers and the broader economy.

In any event, at the highest level, the debate at Auckland Airport is not about the need for the investment or the benefits that it will deliver to consumers over the long-term. Auckland Airport and airlines representing the vast majority of our passengers (approximately 80% of total passengers) are aligned that the investment plan is required and that the planned infrastructure is in the long-term interests of passengers, airlines and the airport.

The debate is over the extent to which a target return reflecting Auckland Airport-specific factors is appropriate and justified in the circumstances we currently face, and whether a return of 6.99% is in the long-term interest of consumers in those circumstances. In short, although there is a high degree of alignment on the benefits of the investment plan, airlines do not want us to set prices at the level of return we consider is required to help Auckland Airport to fund that plan.

In the sections above, we have set out the evidence that demonstrates our target return is a critical part of delivering the investment programme. In summary, we consider that:

- The evidence is clear that Auckland Airport is facing a real and substantial increase in operating leverage and systematic risk over PSE3, which clearly distinguishes us from our historic baseline as well as the comparator companies used to generate the Commission's industry-wide WACC estimate. We consider that the use of Auckland Airport-specific parameters to inform our choice of target return is a fair and reasonable response to the unprecedented circumstances we face over at this point

in our investment cycle, and to ensure that we determine a target return for PSE3 that helps to support the investment pathway and deliver long-term benefits for consumers.

- We acknowledge that we have a large forecast capital plan, and that the characteristics of this plan are influencing our approach to setting an appropriate target return for PSE3, including the size of the plan and the potential risks involved. However, we do not consider it is appropriate to constrain efficient investment that our customers value and which is in the long-term interest of consumers in order to back-solve to a target return that is equivalent to the Commission's mid-point WACC estimate, as implied by some airlines.
- Instead, we consider that the most appropriate way to deliver long-term benefits to consumers is to focus on developing a capital plan that meets the needs of existing users and addresses the capacity required to provide for forecast growth, and then to set an appropriate target return that helps to support that plan. We consider that a target return of 6.99% helps achieve this objective while representing a balanced approach that seeks to mitigate the price impact on airlines and passengers and which acknowledges that Auckland Airport will also carry material risk in PSE3.
- On average over the next five years, we are forecasting to spend the equivalent of \$15 per passenger per year on building the necessary infrastructure to deliver long-term value for passengers and airlines. As discussed above, we consider the forecast investment plan provides substantial long-term benefits for consumers, and that our target return is appropriate in this context.
- Auckland Airport approaches our company-wide funding at a portfolio level, a fact that may not be fully appreciated by our airline customers. At that portfolio level, our forecast corporate cash flows with a target return of 6.99% for the aeronautical business will leave Auckland Airport with a material as-yet-unsolved funding gap that will require us to explore a range of capital management levers over PSE3 to support the proposed aeronautical investment plan.
- This funding gap would increase considerably if we were to target a return even further below our Auckland Airport-specific WACC estimate – ie, if we were to target a return equal to the Commission's 50th percentile estimate as advocated by our substantial customers. We consider the additional uncertainty that this would place on our ability to fund the required aeronautical infrastructure investment over the next ten years would inevitably lead to cost / service level trade-offs that our customers do not prefer, and potentially to capital investment delays resulting from the more difficult funding challenges this would create for Auckland Airport.

A normal economic return over time

Although judgement is required to set a target return, and it is impossible to determine the "right" or "optimal" numerical value, we have sought to provide confidence to customers that we are targeting a normal economic return by:

- Carefully cross-checking the target return against the Commission's mid-point industry-wide WACC, by making airport-specific adjustments that are consistent with and justified under the Commission's overall approach;
- Targeting a return that is materially lower than our best estimate, informed by expert evidence, of Auckland Airport's WACC; and

- Not seeking to recover all of our investment funding costs through aeronautical prices. Although we have a robust balance sheet, given the size and nature of the capital plan set out in this Reasons Paper, we will need to consider our capital funding options through the course of PSE3.

Conclusion

Ultimately, we consider that our proposed target return of 6.99% is in the long-term interest of consumers. This level of return will provide consumers with a higher degree of confidence that we can deliver on an investment plan to alleviate current capacity constraints across terminal and airfield infrastructure, enable efficient peak growth, maintain or improve service quality across the airport system, take the first major step towards an integrated terminal facility, and upgrade the resilience and performance of the transport and access network surrounding the airport.

Further, we consider that our proposed approach shows that we have carefully considered the regulatory framework and feedback from our substantial customers as key constraining factors, and sought airport-specific evidence to support and justify our approach. We consider that our target return of 6.99% strikes the right balance between acknowledging the airport-specific challenges and risks we will face at this stage in our investment cycle, providing a return that will help incentivise and support the delivery of an investment plan that provides significant long-term benefits for consumers, and demonstrating that we have been cognisant of the Commission's airport sector wide views and the need to minimise the pricing impact for our airline customers and passengers.