



Price Setting Disclosure

In accordance with clause 2.5 of the Airport Services Information Disclosure Determination 2010

1 August 2017

IMPORTANT MESSAGE ON FORWARD LOOKING STATEMENTS AND FORECASTS

This document has been prepared for the sole purpose of complying with the Airport Services Information Disclosure Determination 2010 (the “**Determination**”). As required by the Determination, the document contains forward looking statements, forecasts and comments about future events, including our expectations about the performance of Auckland Airport's business. Forward looking statements and forecasts involve inherent risks and uncertainties, both general and specific, such that there is a risk that such forward looking statements or forecasts will not be achieved.

Factors that could cause Auckland Airport's actual results to differ materially from the forecasts include matters outside of our control, such as the inherent risk that forecast aircraft and passenger demand (which is based on third party information) departs from actual demand due to global economic conditions, changing airline priorities and other material events beyond the control of Auckland Airport. For matters over which we have greater control, such as capital and operational expenditure, the forecast periods in this disclosure are long-dated, running in some instances to ten years. It is very likely that the assumptions informing the forecasts, and therefore the forecasts themselves, will change during the forecast period.

As such, the information in this document must be interpreted with care. It must not be relied on for any purpose other than to assess whether Auckland Airport is meeting the purpose of regulation under Part 4 of the Commerce Act. The information in the document will be subject to a review by the Commerce Commission, who will publish a summary and analysis report in accordance with the Commerce Act 1986.

To the maximum extent permitted by law, Auckland Airport will not be liable (within tort (including negligence) or otherwise) to any person in relation to this presentation, including any error in it.

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PART A: INTRODUCTION TO DISCLOSURE FOR INTERESTED PARTIES

1. Introduction to this price setting disclosure

1.1 Disclosure requirement

Auckland International Airport Limited (“**Auckland Airport**”) is subject to information disclosure regulation under Part 4 of the Commerce Act 1986 (“**Commerce Act**”). This regime requires Auckland Airport to report information about our price setting decisions and annual performance, applying input methodologies and information disclosure requirements set by the Commerce Commission (“**Commission**”).

This document is Auckland Airport’s price setting disclosure under Clause 2.5 of the Determination, which requires the disclosure by Auckland Airport of information following a price setting event.

1.2 Overview of price setting event

Auckland Airport has determined the standard aeronautical charges for airfield activities and certain specified passenger terminal activities (“**Aeronautical Pricing Activities**”) that will apply from 1 July 2017 to 30 June 2022 (“**Standard Charges**” for “**PSE3**”) following consultation with its Substantial Customers in accordance with the Airport Authorities Act 1966 (“**AAA**”). The consultation process concluded on 8 June 2017 with the release of Auckland Airport’s decision on Standard Charges (“**Aeronautical Pricing Decision**”). This is the price setting event which has triggered this disclosure requirement.

The Aeronautical Pricing Activities covered by Standard Charges include all airfield and most specified passenger terminal activities. Aircraft and freight activities are excluded, as are certain specified passenger terminal activities, namely leased identified tenancies and collection facilities for duty free (“**Other Regulated Activities**”). Charges for Other Regulated Activities are individually negotiated with customers outside of the aeronautical pricing consultation on Standard Charges. Together Aeronautical Pricing Activities plus Other Regulated Activities represent 100% of specified airport activities under the AAA.

1.3 Purpose of the price-setting disclosure

This document summarises information about the forecast revenue requirement for Auckland Airport’s total regulated business (i.e. Aeronautical Pricing Activities and Other Regulated Activities). It also provides more detailed information about the subset of Auckland Airport’s business covered by the Aeronautical Pricing Decision, including a summary of the pricing methodology used by Auckland Airport to set Standard Charges for PSE3.

The purpose of this disclosure is to provide information that will assist interested persons to assess, over time, whether Auckland Airport’s pricing and investment decisions are efficient and whether the purpose of Part 4 of the Commerce Act is being met.

For the avoidance of doubt, we note that the Commission's input methodologies prescribe how information must be prepared for information disclosure purposes, and do not apply to Auckland Airport's pricing decisions.

Auckland Airport notes that this disclosure contains forecast information as at 8 June 2017. The forecasts contained in this disclosure therefore may not represent Auckland Airport's most current forecasts and should not be regarded as market guidance. Interested persons should refer to the important message on forward looking statements and forecasts on the inside cover of this document.

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2. Summary of the Aeronautical Pricing Decision

2.1 Executive summary of the Aeronautical Pricing Decision

Auckland Airport recognises the importance of our role as New Zealand's major gateway to the world, and the key role we play in facilitating and supporting New Zealand tourism and trade. We take our responsibility as one of New Zealand's most important infrastructure assets seriously, and we are conscious that the capacity and quality of the facilities we provide directly impact our airline and cargo customers, passengers, and the wider regional and national economies.

Our Aeronautical Pricing Decision reflects this responsibility, as we seek to deliver the capacity and infrastructure needed to respond to recent and forecast growth and to build the airport of the future for Auckland and New Zealand.

Auckland Airport has experienced material growth since 2015 that could not have been foreseen at the time prices were set in 2012 for the FY12-17 pricing period ("PSE2"). Although Auckland Airport accelerated its investment during PSE2 in response, this growth necessitates a significant investment programme across all infrastructure assets to continue to provide quality services to existing customers and to cater for further growth anticipated in PSE3. This growth comes at a time when customers are expecting the domestic operation to be integrated into the current international facility, and as we have greater certainty about the timing of the second runway development.

As a result, we are forecasting the need to invest \$1.8 billion (\$359 million per annum) in infrastructure associated with Aeronautical Pricing Activities over PSE3 in 2017 dollars ("2017\$"), only \$1.1 billion of which will be commissioned during PSE3 and will impact Standard Charges for PSE3. This will help to provide a material realisation of our Masterplan and deliver substantial benefits to airlines and the travelling public. The investment in Aeronautical Pricing assets includes \$502 million in airfield infrastructure, \$650 million in relation to international terminal upgrades, \$441 million in infrastructure for domestic services, and \$202 million in

second runway infrastructure (in 2017\$). This equates to total Aeronautical Pricing capital expenditure of over \$15 per passenger for standard infrastructure on average for PSE3, and \$1.90 for second runway infrastructure on average for each passenger.

The growth experienced through PSE2 and forecast for PSE3 will enable the investment commissioned in this period to be delivered in an affordable way for customers. The Aeronautical Pricing Decision:

- supports an aeronautical investment programme that provides long-term benefits for consumers;
- provides a reasonable price path for our airline customers and for passengers commensurate with the level of investment;
- ensures that consumers will receive a sound quality of service and benefit from the potential for efficiencies over time;
- incentivises innovation and continuing efficiencies over time; and
- provides a reasonable return for investors on existing infrastructure and the ongoing investment in airport facilities and services.

Key aspects of the Aeronautical Pricing Decision are as follows:

- Auckland Airport has honoured previous commitments made in relation to the valuation of assets and treatment of revaluations;
- Recognising there are always opportunities to innovate and drive efficiencies, we have been transparent about our future intentions;
- Standard Charges will support efficient investment in and operation of Auckland Airport's assets. In addition to helping to support the substantial investment programme outlined above, Standard Charges will also support the recovery of Auckland Airport's efficient operating costs, which on average are forecast to decline in real terms by 0.6% per passenger per year over PSE3;
- Auckland Airport considers it is important that an appropriate return is targeted to help support the delivery of priced aeronautical investment that will provide substantial long-term benefits to consumers. We have adopted an Auckland Airport-specific aeronautical target return of 6.99% for the Aeronautical Pricing Decision for PSE3, informed by expert advice on Auckland Airport's weighted average cost of capital ("**WACC**") and a range of other contextual factors. Auckland Airport has been guided by the Commission's industry-wide mid-point WACC estimate for information disclosure (but has not adopted it as advocated by airlines). Auckland Airport considers this target return is fair and reasonable in light of the airport-specific factors we face over this period and after considering our Auckland Airport-specific empirical evidence; and
- Service performance will be a key focus for PSE3, and Auckland Airport remains committed to providing services at the quality demanded by consumers. As part of the Aeronautical Pricing Decision, Auckland Airport has committed to build on the existing constructive and collaborative approach to service performance by establishing a working group on service

levels. The aim of this working group is for the airport, airlines and key stakeholders to work together to develop a set of service measures that all parties value, and to formalise the process for notification and rectification of service level matters;

- When setting Standard Charges, Auckland Airport has sought to balance economic principles which promote efficient pricing with price structures that are simple for the airport and airlines to administer. Auckland Airport has also sought to make use of policy tools alongside pricing signals to help encourage efficient outcomes. As a result, Auckland Airport has made several changes to its pricing structure to better promote efficiency compared to PSE2, including:
 - differential charges have been introduced for domestic passengers travelling on trunk versus regional routes to recognise that regional journeys currently involve less costly processing than main trunk services: the Domestic Passenger Charge (“**DPC**”) and Regional Passenger Charge (“**RPC**”) respectively;
 - across the board aircraft parking charges have been introduced for time on the ground over six hours with specified exceptions. Improved stand and apron efficiency has been targeted both through sending price signals and the application of the stand allocation principles. The implementation of aircraft parking charges has been delayed to 1 November 2017 to provide an opportunity for operators to change behaviour, reorganise their businesses, and provide notice to their customers where applicable;
 - differentiated charges for international check-in services have been introduced to align with the range of options that are available for airlines to provide check-in and bag drop services to international passengers. The implementation of the new check-in charging structure (which is supported by a check-in and bag drop policy) has been delayed to 1 July 2018 in response to feedback from Substantial Customers, and the traditional counter charge structure remains in place as an available service through the period. Traditional counter charges will increase by \$1 per hour in FY18; and
 - landing charges (also referred to as MCTOW charges) now cover all direct airfield costs as well as an allocation of common costs. This differs to the 2012 pricing decision, where the International Passenger Charge (“**IPC**”) made a contribution to direct airfield costs. The IPC now relates solely to terminal direct costs as well as common costs;
- After carefully considering feedback from our customers, Auckland Airport has decided to introduce a runway land charge of \$1.19 + GST per passenger no earlier than FY21 and only once two triggers are met (the “**Runway Land Charge**”). The Runway Land Charge has been introduced to help provide a sustainable price path for the second runway development over time, with its triggers linked to key decisions around the second runway. These triggers are:
 - (a) that Auckland Airport has spent more than \$50 million associated with the development of a second runway; and

- (b) when Auckland Airport decides to commit capital expenditure to commence construction (including earthworks and other land conversion work) of the second runway; and
- The Runway Land Charge will provide a recovery of current holding costs only on the land associated with enabling an initial stage of the second runway. This represents a holding cost recovery on 68% of total land held for future use value from FY21, which represents our best forecast of when the triggers will be met and the charge levied. However, if the triggers are not met by FY21, Auckland Airport will defer the introduction of the Runway Land Charge until such time as the triggers have been met. Runway construction costs would also be deferred. Auckland Airport is committed to consulting with our Substantial Customers on any decision to proceed with construction of the second runway.

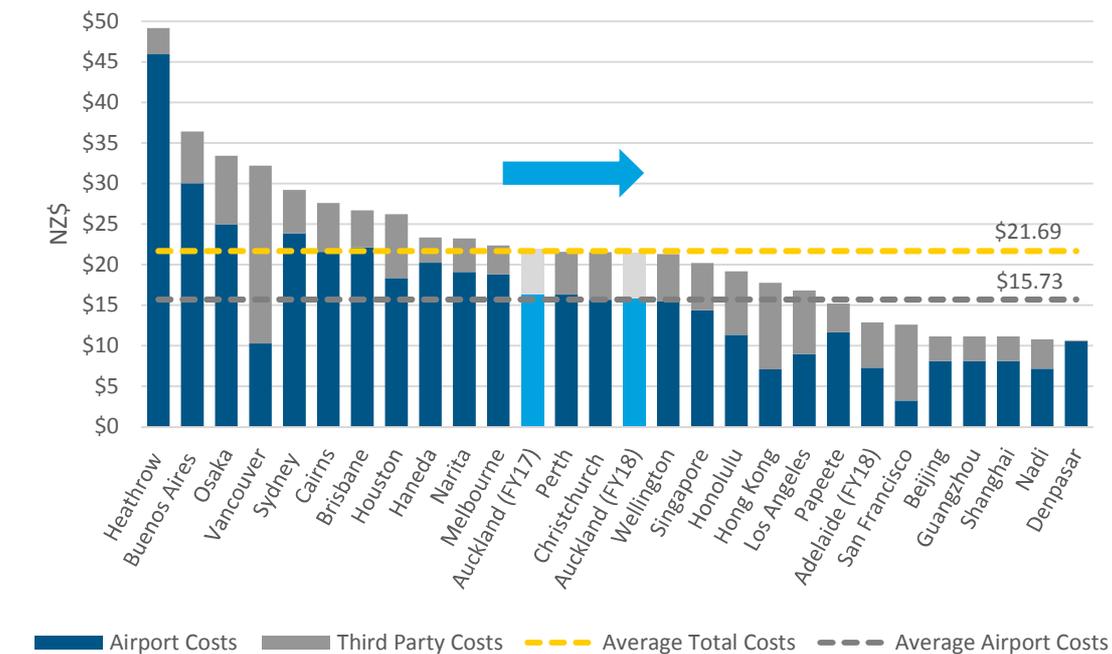
In summary, the Aeronautical Pricing Decision has delivered a fair and reasonable price path for Standard Charges, and results in overall charges for airlines remaining broadly flat in real terms both before and after the Runway Land Charge is included. In particular:

- there will be a decrease in average revenue from Standard Charges per passenger for all passenger segments at the start of PSE3;
- overall revenue per passenger is forecast to reduce in real terms by 1.0% per annum on average through the five-year period before the Runway Land Charge is included. In real terms, international prices are forecast to decrease by 1.7% per annum, and domestic prices are forecast to increase by 0.8% per annum; and
- assuming the triggers are met to introduce the Runway Land Charge in FY21, in real terms overall revenue per passenger is forecast to increase by 0.4% per annum over the period. If the charge is introduced from FY21, PSE3 average revenue from Standard Charges would reduce by 0.7% per annum in real terms for international services on a per-passenger basis, and increase on average by 4.1% per annum in real terms over the five year period for domestic passengers.

Auckland Airport's Standard Charges benchmark well, for both international and domestic services. As shown in the charts below, Auckland Airport's international charges remain competitive within the region, and domestic charges remain low.

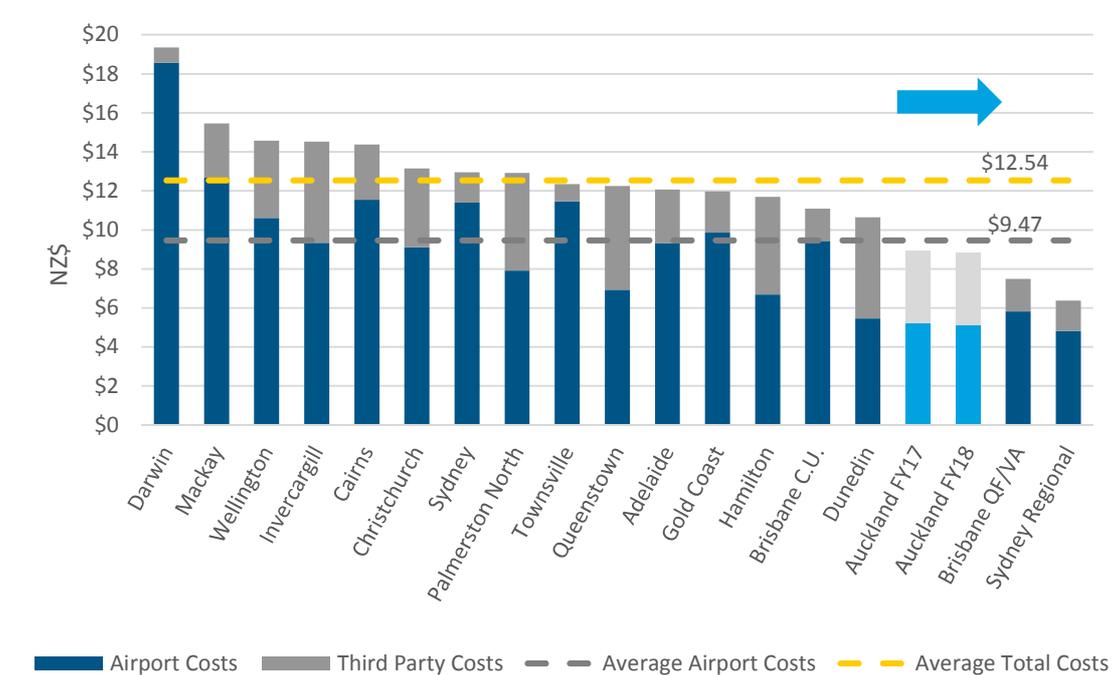
Assuming no increase in domestic passenger charges beyond the standard building block allocation for PSE3, domestic charges are forecast to increase significantly from the beginning of PSE4 when the new domestic jet facility is in use. Assuming charges in the region keep pace with inflation, domestic turnaround costs at Auckland Airport in FY23 would likely rise to a level comparable with Wellington Airport's turnaround costs today.

Figure (1): International A320 turnaround costs per seat movement



Source: Airbiz

Figure (2): Domestic A320 turnaround costs per seat movement



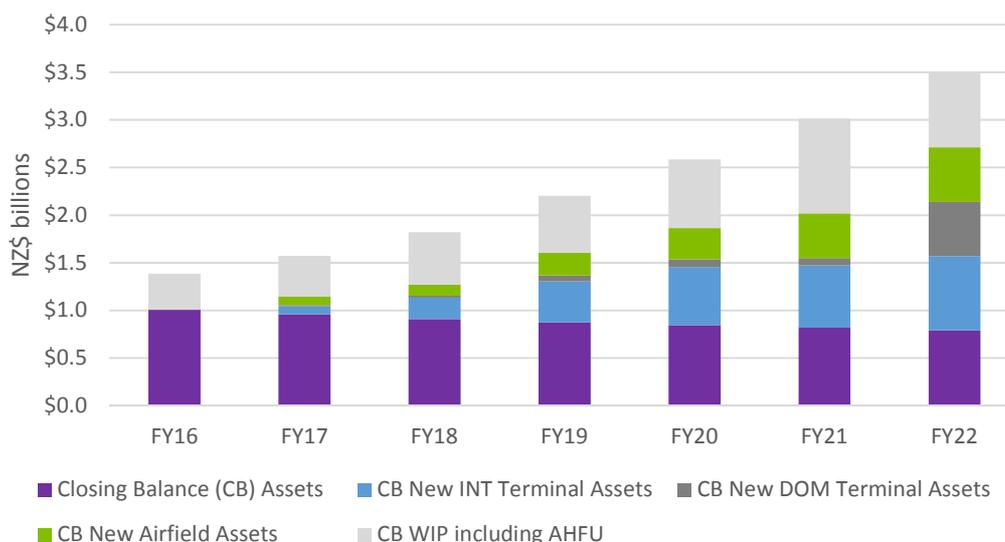
Source: Airbiz

Overall, we consider that our price path for PSE3 is reasonable given the substantial investment in airfield and terminal infrastructure that we are forecasting to deliver over this period and which is essential to providing services at a quality demanded by our customers. As shown in the following chart, our domestic asset base is forecast to increase significantly over PSE3, as well as our investment in airfield and international terminal infrastructure. As shown below, our aeronautical asset base relevant to airfield and terminal services (i.e. excluding works in

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progress and land held for future use) is forecast to increase from approximately \$1.1 billion at the start of PSE3 to almost \$2.7 billion by the end of FY22. After excluding those assets that are forecast to be commissioned on 30 June 2022 (and therefore excluded from prices for PSE3), the priced asset base at FY22 is approximately \$2.2 billion.¹ This asset base of \$2.2 billion excludes uncommissioned works in progress (“WIP”) of \$0.9 billion and land held for future use of \$0.4 billion.

Figure (3): Value of Auckland Airport's Aeronautical Pricing assets plus WIP and AHFU over FY18-22 (excluding Other Regulated Activities assets, \$nominal)



Source: Auckland Airport analysis

The price path resulting from our Aeronautical Pricing Decision will not be sufficient by itself to deliver our forecast investment programme over PSE3, and a range of capital management levers are being developed by Auckland Airport to make it affordable to the company. In our 2017 interim results, Auckland Airport announced it had reinstated the dividend reinvestment plan to provide funding flexibility to support investment in new infrastructure and other growth opportunities. Auckland Airport also announced it is conducting a review of the investment in North Queensland Airports. Although we have a robust balance sheet, given the size and nature of the capital plan, we will need to consider our capital funding options through the course of the next five years.

2.2 Consultation with Substantial Customers on Standard Charges

Section 4B of the AAA requires Auckland Airport to consult with Substantial Customers on aeronautical charges at least every five years.² Auckland Airport commenced an extensive consultation process with its Substantial Customers in June 2016 to review and revise its Standard Charges. That consultation process concluded with the release of Auckland Airport's new Standard Charges on 8 June 2017 that apply from 1 July 2017.

¹ Note that the values shown in this chart are forecast year-end values, and therefore include the commissioning of the domestic jet facility and other investment forecast to be commissioned at 30 June 2022 in the FY22 commissioned assets balance. But these assets have been excluded from pricing for PSE3. Immediately before the commissioning of these assets on 30 June 2022, WIP is forecast to reach approximately \$913 million.

² Substantial Customers are those that pay, or an entity which represents customers who in aggregate pay, more than 5% of regulated revenues in the last financial year: see Airport Authorities Act 1966, section 2A.

Auckland Airport conducted a robust, effective and meaningful consultation process with Substantial Customers prior to making the Aeronautical Pricing Decision. Our priority was to ensure that the consultation process provided BARNZ and the airlines with sufficient information and time to reflect on and provide their views on Auckland Airport's proposals, and we consider that we have achieved this objective.

Auckland Airport valued the feedback we received from our Substantial Customers, which helped us to understand the views and priorities of our airlines, and which informed our final decisions on Standard Charges. Throughout the consultation process, Auckland Airport tested our proposals with Substantial Customers, listened carefully to airline feedback, and we made a number of material changes to our proposals in response to airline views.

Auckland Airport has also been consulting on the Domestic Processor and Terminal Development Plan ("**TDP**") in accordance with Section 4C of the AAA. The priorities which have emerged from the TDP programme are highly relevant to the investment programme and have informed our Aeronautical Pricing Decision for PSE3. Capital consultation in accordance with the Section 4C of the AAA requirement is expected to continue through PSE3 and does not cease now that prices have been set for the next five years.

2.3 The impact of information disclosure regulation on the Aeronautical Pricing Decision

Auckland Airport is not required to apply the Commission's input methodologies in pricing. However, Auckland Airport has been materially guided by the information disclosure regime when developing its Aeronautical Pricing Decision. We are conscious that all parties were engaged in the development of the regulatory regime, and we felt it was sensible to leverage the considerable resources that have been invested in that process when setting prices. Where appropriate, Auckland Airport has adopted approaches that are consistent with the Commission's methodologies and/or with the spirit and intent of Part 4 regulation.

In particular, we note that:

- a central feature of our pricing approach for PSE2 was our decision to work constructively with the information disclosure regulatory regime to increase transparency about Auckland Airport's pricing approaches and performance over time. Auckland Airport is committed to this constructive approach for PSE3 and beyond, and we will continue to work hard to provide meaningful transparency to airlines, the Commission, and other interested parties about the pricing decisions we have made and the impact of those choices over time; and
- consistent with this objective, we have made a number of decisions through the consultation process that are designed to ensure transparency of Auckland Airport's performance. For example:
 - when considering whether to introduce the Runway Land Charge, and the appropriate mechanism for the charge, we carefully considered how interested parties would be able to assess the impact of this charge over time. We considered that the ultimate form of the charge – a separately identifiable charge disclosed and tracked against the value of land held for future aeronautical use – was consistent with providing clear transparency and understanding over time (BARNZ preference during input methodology workshops);

- Auckland Airport carefully considered the impact of the changes made by the Commission to the asset valuation input methodologies in the 2016 review in light of the moratorium on revaluations for assets related to Aeronautical Pricing Activities first introduced in PSE1 (the “**moratorium**”). Ultimately, we decided that the best way to provide transparency to interested parties about Auckland Airport’s approach was to restate our regulatory asset values to exclude revaluations from the start of the information disclosure regime – eliminating the previous mismatch between “pricing” and “regulatory” asset values. Auckland Airport used these restated regulatory values as a starting point to determine the asset base for determining Standard Charges;
- Auckland Airport has also elected to make and disclose a further downwards adjustment to remove the impact of revaluations between the start of the moratorium in 2006 and the start of the information disclosure regime in 2010 – using the carry-forward mechanism introduced by the Commission in 2016 to provide transparency to airlines and interested parties about the impact of this decision. This is discussed in more detail in Section 4.2 (in relation to the forecast value of assets employed) and Section 5 (opening and closing carry forward adjustments); and
- a key feature of the changes made by the Commission in 2016 was the addition of an internal rate of return (“**IRR**”) disclosure schedule to the price setting disclosure requirements. Auckland Airport used this IRR disclosure template to share information with airlines through the pricing consultation process – allowing airlines to understand the impact of the Draft and Revised Proposals, and the final Aeronautical Pricing Decision, in the same way as the information would later be publically disclosed to the Commission and to other interested parties.

However, we are also conscious that the Commission’s approaches represent a sector-wide model that has been developed for the purpose of performance monitoring. Although these approaches have informed our thinking, we consider that it is appropriate to ensure we are adopting pricing approaches that best reflect the circumstances and pricing considerations unique to Auckland Airport. As noted above, we have nevertheless sought to align approaches to be consistent with the information disclosure regime where appropriate.

PART B: DISCLOSURE RELATING TO FORECAST TOTAL REVENUE REQUIREMENT

This section should be read as being part of Schedules 18 and 19. A table summarising where each of the requirements in the Determination are addressed in this disclosure is included as Appendix A. This section should also be read alongside:

- Appendix B, which summarises the aims and objectives of Auckland Airport's key capital expenditure projects as required by the Determination; and
- Auckland Airport's schedule of Standard Charges effective 1 July 2017, attached as Appendix C.

3. Overview of the methodology used to determine the revenue requirement

3.1 Disclosure requirement

Clause 2.5(1)(a) and Schedule 18(v) require Auckland Airport to provide an overview of the methodology used to determine its "revenue requirement" for specified airport services ("**Total Regulated Activities**"). Schedule 19(v) requires Auckland Airport to provide an equivalent explanation for the subset of specified airport activities covered by the Aeronautical Pricing Decision ("**Aeronautical Pricing Activities**").

3.2 Forecast total regulated asset base revenue requirement

Auckland Airport's total revenue requirement for its Total Regulated Activities comprises revenue from three types of activities:

- **Aeronautical Pricing Activities.** These activities include all airfield and most specified passenger terminal services provided by Auckland Airport. Revenue associated with these activities is recovered by way of Standard Charges, where a building blocks model is used to generate the revenue requirement.³ We note that the Runway Land Charge sits outside this building blocks model, as land held for future use is not included in the pricing asset base;⁴
- **Non-Isolatable Activities.** These activities include a small sub-set of specified passenger terminal services that are **not covered** by Standard Charges but where the assets and operating costs cannot reasonably be separately identified from the assets and operating costs associated with Aeronautical Pricing Activities. The revenue associated with these

³ This revenue appears in Schedule 19(v): Total Revenue Requirement for Pricing Assets as "Forecast revenue from airport activity charges applicable to the price setting event".

⁴ Revenue associated with the Runway Land Charge is disclosed in Schedule 19(v): Total Revenue Requirement for Pricing Assets as "Forecast revenues from assets held for future use charges". The revenue requirement for this charge recovers the holding costs on the proportion of total land held for future use that is tagged for the initial stage of the second runway – 68% of the total value of Auckland Airport's assets held for future aeronautical use.

activities is treated as an offset to the building blocks revenue requirement for Aeronautical Pricing Activities;⁵ and

- Other Regulated Activities. These activities include all aircraft and freight services, along with those specified passenger terminal activities subject to leases or licences where the relevant assets and operating costs can be isolated from the assets and operating costs associated with Aeronautical Pricing Activities. These include leased identified tenancies (e.g. office space and VIP lounges) and collection facilities for duty free. Auckland Airport does not use a building blocks model to determine the revenue requirement for Other Regulated Activities. Instead, the revenue requirement for Other Regulated Activities is determined through negotiation of individual leases and/or licences between Auckland Airport and individual customers and subject to typical commercial lease dispute resolution processes.

3.3 Forecast pricing asset base revenue requirement

As discussed above, Auckland Airport has used a building blocks methodology to develop the total revenue requirement in the Aeronautical Pricing Decision. This building blocks model uses the following formula:

Revenue requirement for Aeronautical Pricing Activities = (Pricing Asset Base x Target Return + Operating Expenditure + Tax + Depreciation) – Revenue associated with Non-Isolatable Activities

The Runway Land Charge also sits outside this formula, as land held for future use is not included in the pricing asset base. This charge is NPV neutral, and will offset a proportion of the holding costs that are currently accumulating on land that would otherwise be included in the pricing asset base in the future (in a manner consistent with the IMs), thereby providing a tool that can help to reduce the price shock and the level of long term landing charges when the second runway is ultimately commissioned.

For further information on Auckland Airport's pricing methodology for setting Standard Charges, refer to Section 9.

4. Description of revenue requirement components

4.1 Overview of disclosure requirements

Clause 2.5(1)(c) of the Determination requires a description of how each of the components of Auckland Airport's revenue requirement in Schedules 18 and 19 have been determined,⁶ including an explanation of:

- the rationale for the basis of preparing these components and any related assumptions;⁷

⁵ This revenue appears in Schedule 19(v): Total Revenue Requirement for Pricing Assets as "Forecast lease, rental and concession income (applicable to the price setting event)" and "Forecast other operating revenue (applicable to the price setting event).

⁶ These components are listed in clause 2.5(1)(c)(i)-(vii) of the Determination.

⁷ Clause 2.5(1)(c)(viii) of the Determination.

- the extent to which these components were used to determine the forecast total revenue requirement;⁸ and
- the differences (if any) between the preparation of each component and the most recent corresponding historical financial information disclosed in accordance with clause 2.3 of the Determination.⁹

By way of overview, in developing each of the key inputs to the building blocks model for Aeronautical Pricing Activities, Auckland Airport's objective was to earn a normal economic return calculated using an appropriately determined target return, an appropriate asset base and efficient operating cost base. Auckland Airport was concerned to ensure that the resulting charges were reasonable by adopting a meaningful and transparent consultation process with its Substantial Customers. The allocation methodologies adopted were intended to reflect the principles that all charges should, at a minimum, cover the directly attributable costs of the relevant service and all other costs should be recovered having regard to Ramsey pricing principles.¹⁰

An overview of the components of the revenue requirement for the Aeronautical Pricing Decision is presented in the following table, and each component is discussed in more detail in the sections that follow. For each component, we discuss Auckland Airport's approach for Aeronautical Pricing Activities.

We note that a target return and building blocks model is not used to determine the revenue requirement for Non-Isolatable Activities or Other Regulated Activities, and these revenues are primarily generated through negotiated leases. The periodic nature of lease negotiations means that investment planning and revenue forecasting for these activities does not necessarily align with the five-yearly pricing cycle for Aeronautical Pricing Activities. The revenue forecasts for all Other Regulated Activities covered by way of leases (both aircraft and freight activities and tenanted properties within the terminal) are set with reference to market rents for comparable properties.

We also note that ongoing discussion is underway regarding the optimal future location of cargo processing at Auckland Airport, which is at a preliminary stage only. Any decisions that are made will affect forecasts for aircraft and freight revenues, investments, disposals and effective returns. Given the long-term land location is yet to be consulted on with Substantial Customers, it is difficult to estimate the degree of change that might occur to aircraft and freight services. In the absence of more advanced planning, the forecasts for this price setting disclosure are based on a continuation of current practices at a portfolio level. Auckland Airport's actual returns will be accurately captured in time through annual disclosures. In that context, we have discussed the approach to calculating the forecast revenue requirement components for these activities in the respective sections starting at Section 4.2.

⁸ Clause 2.5(1)(c)(ix) of the Determination.

⁹ Clause 2.5(1)(c)(x) of the Determination.

¹⁰ Ramsey pricing principles are used to vary the amount of common and fixed costs allocated to user types based on the likely impact of such a cost change on user behaviour. Users whose demand for service is more (less) sensitive to cost changes are allocated a proportionately smaller (larger) amount of common and fixed costs. Ramsey pricing principles are commonly used to assign fixed and common costs in large networks.

Table (a): Overview of approach to revenue requirement components / building blocks

Revenue requirement component	Approach in Aeronautical Pricing Decision
Forecast asset base – asset valuation	<ul style="list-style-type: none"> The pricing asset base was determined by taking current information disclosure asset values, and removing revaluations back to the start of the information disclosure regime. A further downwards adjustment was made to reflect changes in land values between 2006 (starting point for the pricing moratorium) and 2010 (start of information disclosure regulation). This approach and the resulting asset values have been audited. This approach means that historical 2006 valuations have effectively been maintained for assets in the pricing asset base, preserving the effect of the moratorium on asset valuation established in 2007. No asset revaluations are forecast over PSE3 for assets in the pricing asset base.
Forecast asset base - capital expenditure	<ul style="list-style-type: none"> The total forecast priced aeronautical capital expenditure for airfield and terminal activities (Aeronautical Pricing Activities) over PSE3 in 2017 dollars is \$1.8 billion, which averages \$359 million p.a. across the pricing period. This \$1.8 billion forecast spend in 2017 dollars is split \$502 million for airfield, \$650 million for international terminal, \$441 million for domestic terminal, and \$202 million for second runway infrastructure (in 2017\$). The key assumptions underlying this capital expenditure plan include the delivery of Pier B in FY18, significant MPI / Arrivals expansion works, the delivery of Gate 19, and the start of the project for additional remote stands to support forecast demand and resilience, as well as ongoing maintenance capital expenditure. The capital expenditure figures include forecast capital expenditure associated with the domestic jet terminal, forecast to be commissioned in late FY22, and the second runway which is now forecast to be commissioned in 2028 (i.e. the start of PSE5). These two items will not impact aeronautical prices for PSE3.
Cost of capital / target return	<ul style="list-style-type: none"> The Aeronautical Pricing Decision is based on a target return for Auckland Airport of 6.99% after tax for Aeronautical Pricing Activities. Consistent with the approach set out by the Commission, we consider it is appropriate to set our target return after considering a range of data points including the Commission's mid-point New Zealand airport-sector WACC estimate and our Auckland Airport-specific WACC calculation. We have exercised judgement to select our target return after considering a range of contextual factors, including Auckland Airport-specific circumstances. In particular, we have been guided by empirical evidence about Auckland Airport's systematic risk, and by expert evidence from NERA Economic Consulting that examined the impact of Auckland Airport's capital expenditure plans on the appropriate target return for PSE3 and concluded that an Auckland Airport-specific target return for PSE3 should be set above its WACC range of 7.5-8.1%. 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. Feedback from airlines and the regulatory framework have been key constraining factors in the process of determining the effective target return when setting prices. The overall effective return for Total Regulated Activities is 7.06%. This return is lower than

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Revenue requirement component	Approach in Aeronautical Pricing Decision
	<p>NERA's assessment of Auckland Airport's WACC (range of 7.5% to 8.1%, with a mid-point of 7.8%) and within our cross-check assessment of the Commerce Commission WACC range adjusted for Auckland Airport specific empirical evidence (6.85% to 7.55%). Combined, these two WACC reference points give an Auckland Airport-specific WACC range of 6.85% to 8.1%.</p> <ul style="list-style-type: none"> We consider that our effective return for Total Regulated Activities is consistent with the Purpose of Part 4 of the Commerce Act, in particular limbs (a) and (d). That is it promotes the long-term benefit of consumers by providing Auckland Airport the incentive to innovate and invest whilst limiting our ability to extract excessive profits. 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, provide increased resilience across our airport infrastructure, 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. Although we have set our target return for Aeronautical Pricing Activities 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. We forecast that targeting a return of 6.99% on Aeronautical Pricing Activities may require balance sheet support towards the end of PSE3 to retain our target A- long term credit rating from Standard & Poor's, particularly in light of the approx. \$1 billion of works under construction that will build up on Auckland Airport's balance sheet over PSE3 for which we will receive no return in this period. While the forecast softening in credit metrics over PSE3 is subject to a range of uncertainties, Auckland Airport will take action as deemed necessary to maintain its A- credit rating. The company has a number of capital management levers available to it including raising equity. Any additional balance sheet support is not anticipated to be required in the short term, but may arise during the second half of PSE3.
Operating expenditure - forecasting	<ul style="list-style-type: none"> Operating costs were forecasted and allocated in a manner consistent with the approach provided in the Commission's IM Determination, with adjustments to remove costs associated with aircraft and freight activities and leases not subject to standard aeronautical charges. After considering airline feedback and continuing to review and refine our operating costs through the corporate budgeting process for FY18, Auckland Airport made a number of changes to the operating cost forecasts through the pricing consultation process. Total forecast operating expenditure for Aeronautical Pricing Activities over PSE3 is \$584 million or an average of approximately \$117 million p.a. in nominal terms. In real terms, total forecast operating expenditure is \$554 million or an average of \$111 million p.a. Operating expenditure per passenger for Aeronautical Pricing Activities is forecast to decline from \$5.25 in FY18 to \$5.12 in FY22 in real terms.
Demand forecasts	<ul style="list-style-type: none"> In order to assess the demand forecasts to underpin the pricing decision, we commissioned an independent expert (DKMA) to develop facility planning forecasts for the short, medium and long term. Specifically: <ul style="list-style-type: none"> Annual busy hour passenger forecasts; Annual busy period aircraft movement forecasts; and Throughput forecasts for domestic, international and transit passenger forecasts; aircraft movements and MCTOW forecasts. Information from Auckland Airport's Substantial Customers was considered through the process as was detailed analysis underpinning our budgeting process for FY18. The pricing decision aligned the first year of the pricing period demand forecasts with the budget demand

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Revenue requirement component	Approach in Aeronautical Pricing Decision
	<p>forecast as at early June 2017. The primary source for demand forecasts was DKMA. This was compared to internal budget estimates for FY18. With the exception of international, there was no material difference between budget estimates and DKMA. For international the budget estimate was higher than forecast. The budget estimate was adopted for FY18 for international, reaching alignment with the DKMA estimate by FY22. All other forecasts were based on the DKMA annual forecast.</p> <ul style="list-style-type: none"> • Following the setting of prices new information was received including Emirates' announcement to withdraw its A380 Sydney service on 31 May 2017 and Jetstar's announcement on 28 June 2017 of a material seasonal cancellation of regional services. Whilst the demand forecasts include growth and new services, these announcements indicate yield pressures for some existing capacity. • Throughput demand forecasts for the next five years are: 4.22% p.a. average growth for international passenger movements; 3.15% p.a. average growth for domestic passenger movements; and 4.27% p.a. average growth for international transit and transfer passenger movements. • MCTOW is forecast to grow by 3.67% for international, 2.65% for domestic, and 3.25% overall, including freight over the period. • Detail on the throughput and busy hour forecasts is provided in Schedule 20.
Allocation – opex and assets	<ul style="list-style-type: none"> • Allocation of operating costs and assets was undertaken in a manner consistent with the approach provided in the Commission's IM Determination, with some adjustments appropriate for pricing purposes. Namely, any assets that are used for airfield and terminal activities were included in the pricing asset base. Aircraft and freight activities and identifiable leased assets which are not the subject of this aeronautical pricing process were excluded. • The seabed was removed from the pricing asset base. Wiroa Island, the eastern approach land, and the southern airfield approach land (Runway End Protection Areas and the surrounding restricted area) were included. • We have reduced the allocation of aeronautical commercial marketing expenditure to Total Regulated Activities from 100% in PSE2 (for committed contracts) to 80% for PSE3.¹¹
Depreciation	<ul style="list-style-type: none"> • Depreciation has been calculated on a straight-line basis for assets related to Aeronautical Pricing Activities. • Existing assets as at 30 June 2006 were depreciated according to the economic life ascribed by Opus in its valuation report to establish the initial RAB and the pricing asset base; • Additions from 30 June 2006 to 30 June 2016 were depreciated according to the economic lives determined at commissioning. • Depreciation for new assets forecast to be commissioned after 30 June 2016 was calculated by asset class according to the average economic life of that asset class, determined with reference to historical cost weighted depreciation of assets in existence prior to 30 June 2016.
Tax	<ul style="list-style-type: none"> • Auckland Airport used an average tax rate of 28%. To allow for tax payable by debt investors, taxable Aeronautical Pricing Activities income was assessed on an unleveraged basis. For existing assets, tax depreciation is forecast based on Auckland Airport's taxation fixed asset register. For forecast capital expenditure, the average tax depreciation rate of existing assets by asset class is used.
Revaluations	<ul style="list-style-type: none"> • No asset revaluations are forecast over PSE3 for assets in the pricing asset base.

¹¹ In PSE2, 100% of committed route development costs were included in the forecast, consistent with the organic demand forecasts.

4.2 Forecast asset base

4.2.1 Description of and rationale for forecast asset base

The forecast asset base for the Aeronautical Pricing Activities and Non-Isolatable Activities was determined by identifying the opening pricing asset base (discussed further below), plus forecast assets commissioned, less depreciation and forecast disposals.

The forecast asset base for Other Regulated Activities in the terminal, but which are not included in Standard Charges, was based on the same approach as for the opening pricing asset base, plus forecast capital expenditure, less depreciation.

Asset values for Other Regulated Activities related to aircraft and freight activities are based on their carrying values for information disclosure purposes. For land assets, this is the market value alternative use (“**MVAU**”) valuation undertaken as at 30 June 2011, rolled forward to forecast 30 June 2017 accounting for forecast additions, depreciation and revaluations at CPI. For specialised assets, this is the specialised asset valuation undertaken as at 30 June 2006 and based on an optimised depreciated replacement cost valuation methodology, rolled forward to forecast 30 June 2017 accounting for forecast additions, depreciation and revaluations at CPI.

The following section further explains the approach taken to determine the opening asset base and investment value for PSE3.

Approach to determining the opening asset valuations and investment value

Background to the moratorium on asset revaluations

When Auckland Airport set prices in 2007, it introduced a moratorium on asset valuation which meant that it would not revalue its aeronautical asset base used for pricing purposes for at least 10 years. The moratorium assets are used to determine the revenue requirement for Aeronautical Pricing Activities and relate to terminal and airfield activities.

After that decision was made, in late 2010 the Commission introduced its IMs setting out how land and specialised assets should be valued for monitoring purposes as part of information disclosure regulation under the Commerce Act 1986. These IMs specified that land should be valued at its Market Value Alternative Use (“**MVAU**”) as at 30 June 2009, and the value of specialised assets should be based on an airport’s most recently reported values, rolled forward to 2009. The regime also required Auckland Airport to index the regulatory disclosure value of both land and specialised assets at CPI each year, and permitted periodic MVAU revaluations of land assets in the regulatory asset base (“**RAB**”). The High Court subsequently ruled that the initial value of land in the RAB should be its MVAU as at 30 June 2010.

When prices were set in 2012, Auckland Airport consulted on the possibility of lifting the moratorium, given the introduction of information disclosure regulation and the substantially changed regulatory environment. The moratorium was ultimately retained for PSE2 in response to customer feedback, although all parties recognised that this resulted in a pricing approach that differed (for legitimate reasons) from the Commission’s approach for information disclosure and monitoring purposes. Auckland Airport noted that it would need to consult with airline customers and BARNZ ahead of PSE3 about whether the moratorium remained in place,

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was adapted, or, if the disclosure valuation methodology was applied and the moratorium lifted, how any revaluation gains or losses would be treated.

As part of the Section 56G review process undertaken by the Commission, Auckland Airport subsequently stated that if the moratorium was unwound and a revalued asset base was used in pricing, the cumulative revaluation impact would be treated as an offset to the future revenue requirement in a NPV-neutral manner.

In December 2016, the Commission published amendments to its original IMs, which require airports to not index regulatory asset values if that aligns with the approach taken in pricing. This decision also required Auckland Airport to effectively restate its historical disclosed asset values if the moratorium was retained so that Auckland Airport's RAB for information disclosure would better reflect the revaluation approach that had been taken in pricing since the start of the information disclosure regime.

Guiding principles for determining the PSE3 opening asset base

When determining the asset valuation approach for PSE3, Auckland Airport sought to:

- address the legacy impact of the moratorium in a way that provided acceptable price path outcomes for consumers and Auckland Airport;
- act consistently with the commitment it had previously given about the treatment of revaluations in the event that the moratorium was lifted and a revalued asset base was used in pricing; and
- keep solutions pragmatic and workable.

Providing regulatory transparency was also a key factor. Auckland Airport was conscious that there had historically been a conceptual disconnect between the asset values Auckland Airport used to set prices for PSE2 and the RAB for regulatory disclosure purposes.

Auckland Airport was committed to exploring the best way to create regulatory transparency about the asset values used in pricing for PSE3 and any differences between these and regulatory disclosure values. We sought to take an approach that would ensure regulatory disclosures, including this price setting disclosure, would be an accurate reflection of Auckland Airport's target and actual returns.

Approach to the opening asset base

In light of the above principles, Auckland Airport's approach to setting the opening asset value for PSE3 was as follows:

- restate the current information disclosure asset values by backing out "disclosure-only" revaluations for terminal and airfield assets, i.e. those Aeronautical Pricing Activity revaluations that Auckland Airport has been required to include in information disclosure statements from the start of the information disclosure regime, but which have not affected the pricing asset base;
- adjust the land asset values for terminal and airfield assets to provide a compliant 2010 opening land value; and

- calculate the difference in land revaluations between the moratorium asset values as at 2006 and the value of land assets as at 2010, and factor this into the pricing model as a further downward adjustment to the starting asset base. No downward adjustment was required for non-land revaluations. Our records indicate that there were no revaluations, CPI or otherwise, between the start of the moratorium and the start of information disclosure regulation for non-land assets. The opening carry-forward mechanism is discussed in more detail in Section 5.2.

This approach:

- preserves the effect of the moratorium for Aeronautical Pricing Activities (and, for consistency, for terminal activities included in Other Regulated Activities). Effective pricing investment values (i.e. after the carry-forward adjustment) are equivalent to the existing moratorium asset values;
- supports transparency about Auckland Airport's regulatory asset values and pricing approach, by aligning both sets of asset values and using the carry-forward mechanism to disclose the impact of the moratorium on asset revaluations between the start of the moratorium in 2006 and the start of information disclosure regulation in 2010;
- is consistent with Auckland Airport's stated commitment about its treatment of revaluations. The asset values used in aeronautical pricing do not include any revaluations for terminal or airfield assets from the start of the moratorium. There is no cumulative revaluation to be treated as an offset to the revenue requirement in PSE3; and
- provides information on regulatory asset values established under the Information Disclosure regime from 1 July 2010.

The opening asset values of aircraft and freight activities have not been restated to remove revaluations. Instead, the FY16 carrying information disclosure asset values were used for these assets, rolled forward for additions and disposals, and indexed at CPI to give opening FY18 asset values. This carrying value is consistent with the requirements of Schedule A of the IM Determination. In July 2017 Auckland Airport requested and received a partial exemption from Clause 2.2 of the Airport ID determination by allowing it to not apply clause 3.7(3) of the Airport IM Determination when completing Schedule 24 of the Airport ID determination, to the extent that it prevents the inclusion of MVAU valuations for non-pricing land assets.

Our rationale for the different approach for aircraft and freight land is that prices for these activities are set outside the pricing consultation, and are based on negotiated leases rather than a building blocks model. This land is not affected by Auckland Airport's moratorium on aeronautical pricing assets, and the revaluation approach that best mirrors the approach in pricing is to maintain the current ID valuations for these assets. This incorporates the historic 2011 MVAU revaluation and indexing of that valuation over PSE2. Overall, Auckland Airport has disclosed information about asset values for all regulated activities in a manner most consistent with the approach used to set prices for these activities, bearing in mind not all revenues are set on a building-blocks based approach.

The following diagram provides an overview of the basis for the forecast value of assets employed for Auckland Airport's total asset base (the information disclosure RAB) and for the pricing asset base.

Figure (4): Relationship between regulatory and pricing asset values

DISCLOSURE RAB				
SEGMENT	REVALUATIONS	LAND BASE VALUES	PPE BASE VALUES	
Airfield	No	2010 per hectare values	2016 with no revals (i.e. 2009 rolled-forward)	PRICING ASSET BASE Carry –forward 2006- 2010 land adjustment
Terminal	No	2010 per hectare values	2016 with no revals (i.e. 2009 rolled-forward)	
Aircraft and Freight	Yes	Carrying ID (2011)	Carrying ID (2016)	

The table below shows how the Total Regulated Activities opening asset values for PSE3 (including Other Regulated Activities) were rolled forward from the most recent disclosed asset values (FY16), including the impact of the restatement to remove revaluations for the pricing asset base consistent with the moratorium.

Table (b): Summary of opening asset values for PSE3 – Total Regulated Activities (\$m)

	Land	Sealed Surfaces	Infrastructure & Buildings	Vehicles, Plant & Equipment	Total
Disclosed FY16 closing RAB values	372.5	234.7	555.1	31.3	1,193.7
Restated FY16 RAB - excludes revaluations for moratorium assets	334.8	218.0	522.4	32.0	1,107.2
Additions	0.0	74.6	97.1	21.3	193.0
Disposals	0.0	-0.4	-0.5	-0.1	-0.9
Revaluations	0.3	0.0	0.4	0.0	0.8
Depreciation	0.0	-8.7	-27.4	-9.0	-45.1
Estimated closing RAB FY17	335.1	283.6	592.1	44.2	1,254.9
Forecast allocation changes	-0.4	0.0	-9.6	-0.3	-10.4
Estimated FY18 opening RAB	334.7	283.6	582.5	43.9	1,244.6
Moratorium & Pier B carry- forward adjustment	-86.1		3.6		-82.5
Opening FY18 Investment Value – total assets	248.6	283.6	586.1	43.9	1,162.1

As shown above, Auckland Airport's estimate of the FY18 opening balance of Total Regulated Activities assets is \$1.245 billion. A downwards adjustment of -\$86.1 million is then made (and disclosed as a carry-forward adjustment) to reflect our ongoing moratorium on priced assets, and which adjusts the pricing asset base downwards for the difference in land values between 2006 and 2010. The combined effect of the moratorium carry-forward adjustment and the Pier B carry-forward adjustment means that the opening investment value for PSE3 for all regulated assets is \$1.162 billion. This opening investment value can be seen in Schedule 18(i).

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The following table shows how the pricing asset base for Aeronautical Pricing Activities and Non-Isolatable Activities relates to the forecast opening asset base for all regulated activities.

Table (c): Summary of opening asset values for PSE3 – Aeronautical Pricing Activities and Non-Isolatable Activities (\$m)

	Land	Sealed Surfaces	Infrastructure & Buildings	Vehicles, Plant & Equipment	Total
Estimated FY18 opening RAB	334.7	283.6	582.5	43.9	1,244.6
Assets associated with Other Regulated Activities – excluded from aeronautical pricing	-26.3	-1.7	-70.1	-0.8	-98.9
Estimated FY18 opening Priced Asset Base	308.3	281.8	512.4	43.0	1,145.6
Moratorium & Pier B carry-forward adjustment	-86.1		3.6		-82.5
Opening FY18 Priced Investment Value	222.2	281.8	516.0	43.0	1,063.1

As shown above, Auckland Airport's estimate of the FY18 opening balance of priced assets is \$1.146 billion. The combined effect of the moratorium carry-forward adjustment and the Pier B carry-forward adjustment means that the opening investment value for the pricing asset base for PSE3 is \$1.063 billion. This opening investment value can be seen in Schedule 19(i).

Further note on forecast asset base for Other Regulated Activities

In practice, the asset values set out above are not a key reference point for setting revenues for Other Regulated Activities within the terminal. Rather, revenues are struck following a negotiation process which references current comparable market rentals.

Aircraft and freight rentals are managed through the property leasing team, which uses standard property leasing practices to benchmark rentals for comparable industrial properties. Expert valuers determine appropriate market values based on agreed contracted rents and future market rents. In Auckland Airport's view, these tenanted properties are leased on a competitive market basis. For all tenanted regulated activities, individual agreements are negotiated with the tenants, and contracts include rental dispute escalation practices and arbitration clauses.

Valuation reports on which the value of the forecast asset base is based

Clause 2.5(1)(j) of the Determination requires that where the forecast asset base is based on a value other than that used for the purposes of the latest disclosure under clause 2.3, Auckland Airport is required to publically disclose the valuation report on which the value of the forecast asset base is based.

Auckland Airport's most recent annual disclosure is for the FY16 year. The asset values included in the FY16 disclosure include revaluations for airfield and terminal assets, i.e. Aeronautical Pricing Activities, which have been removed from the restated RAB (disclosed in Schedule 24) and are not included in the forecast asset base for the Aeronautical Pricing Decision. The asset values for aircraft and freight assets are consistent between Schedule 18

and the most recent annual disclosure, albeit that the asset values disclosed in Schedule 18 have been rolled-forward to FY18 for forecast CPI.

The table below provides a summary of the underlying valuation reports that support Auckland Airport's pricing decision, including how these compare to the most recently disclosed values and to the restated RAB as at FY16. Auckland Airport has not undertaken any new valuations for its aeronautical assets. These valuations have been previously provided and remain on Auckland Airport's website with its regulatory disclosures.

Table (d): Summary of underlying valuation reports and reconciliation to most recent annual disclosure

Segment	Type of assets	Most recently disclosed values - FY16 disclosure	Restated RAB as at FY16 (Transitional Schedule)	Pricing decision and disclosure
Airfield assets and terminal assets	Land	30 June 2011 Colliers MVAU valuation plus CPI revaluations to FY16.	Proxy MVAU valuation as at 30 June 2010 (based on Colliers MVAU valuations as at 30 June 2009 and 30 June 2011), with no revaluations.	Proxy MVAU valuation as at 30 June 2010 (based on Colliers MVAU valuations as at 30 June 2009 and 30 June 2011), with no revaluations. Downwards adjustment to preserve impact of moratorium based on difference between proxy MVAU value and Seagar valuation of aeronautical land and other land assets as at 30 June 2006.
	Specialised assets	Opus 2006 valuation of specialised assets plus CPI revaluations to FY16 (Drawn from two reports: 2006 Valuation of Specialised Buildings, and 2006 Valuation of Reclaimed Land and Seawalls, Runways, Taxiways, Aprons and Infrastructure Assets).	Opus 2006 valuation of specialised assets, with no revaluations.	Opus 2006 valuation of specialised assets, with no revaluations. Note: No downward adjustment was required for non-land revaluations. Our records indicate that there were no revaluations, CPI or otherwise, between the start of the moratorium and the start of information disclosure regulation for non-land assets.
Aircraft and freight assets	Land	30 June 2011 Colliers MVAU valuation plus CPI revaluations to FY16.	30 June 2011 Colliers MVAU valuation plus CPI revaluations to FY16.	30 June 2011 Colliers MVAU valuation plus actual / forecast CPI revaluations to FY18
	Specialised assets	Opus 2006 valuation of specialised assets plus CPI revaluations to FY16.	Opus 2006 valuation of specialised assets plus CPI revaluations to FY16.	Opus 2006 valuation of specialised assets plus actual / forecast CPI revaluations to FY18.

These valuation reports remain available on Auckland Airport's website.

Auckland Airport considers the most helpful reference points for interested parties seeking to understand the forecast asset base for PSE3, and the forecast investment value that underpins the Aeronautical Pricing Decision are:

- the restated RAB at FY16, disclosed in Schedule 24;

- the roll-forward estimate of that restated RAB to closing FY17 / opening FY18 values, disclosed in Schedule 18(vi); and
- the calculation of the downwards adjustment to account for the impact of the moratorium between 2006 (the start of the moratorium) and 2010 (the start of information disclosure regulation) – discussed in more detail in Section 5.

Capital expenditure forecast

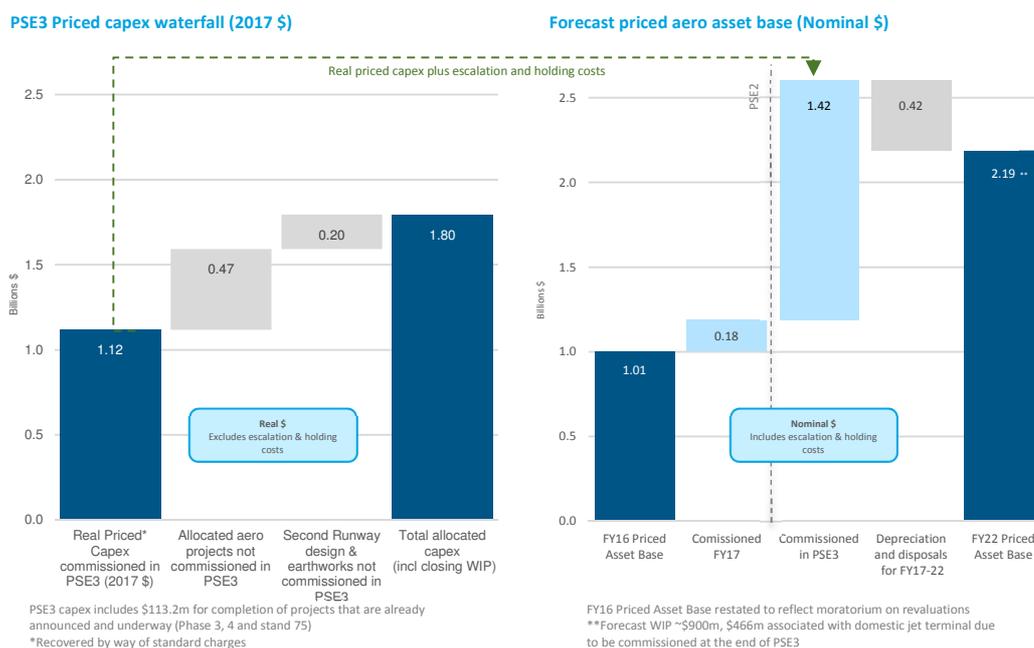
Auckland Airport's approach to forecasting capital expenditure and additions for Aeronautical Pricing Activities, Non-Isolatable Activities and Other Regulated Activities was as follows:

- a medium term approach to planning was adopted within the context of the Masterplan, primarily through the consultation on the TDP;
- Auckland Airport acknowledged that capital expenditure priorities are dependent on a range of changing factors, including demand and funding availability;
- a base case capital plan was developed and consulted on with Substantial Customers. This base case plan forecast the most likely scenario of capital expenditure over PSE3 based on factors sufficiently known at the relevant time;
- Auckland Airport used quantity surveyors to develop estimates in calendar year 2016 dollars for key capital expenditure projects, and later converted this to financial year 2017 dollars and to a nominal forecast including construction inflation (escalation). The nominal forecast accounted for expected changes in building costs and capitalised forecast holding costs at the forecast post-tax IRR of 6.99%;
- for each project, Auckland Airport estimated the commissioning time and cost and applied the estimated aeronautical share of assets for Aeronautical Pricing and Other Regulated Activities;
- Auckland Airport calculated the required return on the opening asset base plus the proportion of commissioned assets in use during the year; and
- projects which were particularly uncertain were excluded from the base case capital plan for the Aeronautical Pricing Decision (e.g. the flexible contingent runway), with these to be subsequently added if required by the airlines or regulators.¹² The flexible contingent runway has however been included in the forecast key capital expenditure projects disclosed in Schedule 18 but disclosed at a zero value, as the nature of the uncertainty is primarily which option is optimal and the cost of the option.

The following diagram summarises the impact of Auckland Airport's forecast capital expenditure on the forecast asset base for Aeronautical Pricing Activities only over PSE3. This chart focuses on the assets commissioned in PSE3 that impact the forecast revenue requirement used to determine Standard Charges.

¹² See the discussion of the Regulatory and Requested Investment mechanism in Section 9.

Figure (5): PSE3 capital expenditure and forecast asset base – Aeronautical Pricing Activities only (2017\$ and nominal\$)



As noted above, ongoing discussion is underway regarding the optimal future location of cargo processing at Auckland Airport, which is at a preliminary stage only. Any decisions that are made will affect forecasts for Other Regulated Activities – particularly investments, disposals and effective returns for aircraft and freight activities. Given the long-term land location is yet to be consulted on with Substantial Customers, it is difficult to estimate the degree of change that might occur to aircraft and freight services. In the absence of more advanced investment planning, the forecast capital expenditure for Other Regulated Activities for this price setting disclosure is based on a continuation of current practices at a portfolio level (with the exception of investment identified through the aeronautical pricing consultation process that has an element related to Other Regulated Activities). Auckland Airport's actual capital expenditure and commissioned assets for Other Regulated Activities will be accurately captured in time through annual disclosures.

Further information about Auckland Airport's capital expenditure forecast, including the planning process, for Aeronautical Pricing Activities and Other Regulated Activities can be found in Section 7.

4.2.2 Allocations

Aeronautical Pricing Activities

When setting Standard Charges, Auckland Airport has adopted an asset allocation approach that is consistent with the input methodologies used for information disclosure purposes, subject to some adjustments where appropriate.

This asset allocation methodology involved the following key steps:

- Identifying assets that are directly attributable to specified airport activities and allocating them accordingly;

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- Identifying assets that are indirectly attributable to specified airport activities (i.e. that are common or shared) and allocating those assets to specified airport activities using causal or proxy allocators;
- Primarily reviewing assets at the “business unit” level, which provides insight into the activities or services enabled by the asset;
- Reviewing assets at the “asset type” level by exception if required; and
- Adjusting asset allocators as appropriate for the purposes of setting Standard Charges and to align with the scope of the aeronautical pricing consultation.

As noted above, some adjustments were appropriate for the purpose of setting Standard Charges and determining the revenue requirement as set out in Schedule 19. By way of summary, Auckland Airport has made the following key decisions for aeronautical pricing purposes:

- Removed the direct and common share of assets relating to activities excluded from the pricing asset base (non-aeronautical assets, and assets relating to Other Regulated Activities);
- Excluded the seabed owned by Auckland Airport (229ha) from the pricing asset base;
- Excluded the second runway and second runway approach land from the pricing asset base (consistent with its treatment as a future use asset for information disclosure purposes);¹³
- Revised allocation rules which relied on the allocation of space in the international terminal building to reflect forecast changes after the commissioning of the Level 1 and Pier B developments – slightly reducing the allocation to aeronautical activities;
- Revised the electricity allocation rule to better reflect usage; and
- Revised allocations for some WIP relating to international terminal (airside emigration and dwell based on a more granular view).

Other Regulated Activities

Allocation rules for Other Regulated Activities define the share of assets associated with identified tenancies in the terminal, collection point and aircraft and freight facilities. The allocation methodologies were consistent with analysis at the time of the price setting event for Aeronautical Pricing and consistent with the approach taken for information disclosure for aircraft and freight activities.

4.2.3 Extent to which forecast asset base has been used to determine forecast total revenue requirement

The forecast asset base for Aeronautical Pricing Activities, Non-Isolatable Activities and Other Regulated Activities was based on the restated regulatory asset values of the respective activities. For Aeronautical Pricing Activities and Non-Isolatable Activities, a further downwards

¹³ Further information about the forecast revenue related to assets held for future use can be found at Section 6.

adjustment (the net impact of the moratorium adjustment and the Pier B adjustment) was made to give the investment value for each year of the pricing period.

These investment values were used to determine the forecast total revenue requirement to be recovered through Standard Charges, in accordance with the building blocks approach described in Section 3.

The following table provides a summary of the investment value for each year of PSE3.

Table (e): Summary of investment value for PSE3

(\$m, investment)	FY17	FY18	FY19	FY20	FY21	FY22
Investment value – Aeronautical Pricing Activities and Non-Isolatable Activities	1,063.1	1,190	1,525	1,781	1,933.1	2,103.4
Investment value – Other Regulated Activities	98.9	115.0	135.1	140.1	137.2	133.8
Total investment value	1,162.1	1,305.0	1,659.9	1,921.1	2,133.6	2,237.3

4.2.4 Difference compared to the most recent corresponding historical financial information

The most recent historical financial information disclosed in accordance with clause 2.3 of the Determination relates to the financial year ended 30 June 2016. These historical asset values have been restated as at 30 June 2016 to remove “disclosure-only” revaluations for airfield and terminal assets, as described above. This restated historical financial information is available in Schedule 24. The disclosure in accordance with clause 2.10 later in this document explains any differences between our historic financial disclosures and pricing approach.

Table (b) and Table (c) above explain how the opening asset values for total regulatory assets and the aeronautical pricing asset base for PSE3 reconcile to the most recent historical information – both the previously disclosed 30 June 2016 values and the restated values as included in Schedule 24.

Changes in allocation are discussed above in Section 4.2.2.

4.3 Forecast cost of capital and forecast target return

In addition to the disclosure requirements under clause 2.5(c) of the Determination relating to the forecast cost of capital, Auckland Airport is also required to describe its approach to the forecast cost of capital and its target return in Schedules 18 and 19 of the Determination.

Schedule 18(v) requires Auckland Airport to explain the differences between:

- the “post-tax WACC at price setting event” (i.e. the Commission’s sector-wide midpoint WACC estimate for information disclosure purposes) and Auckland Airport’s forecast cost of capital; and
- Auckland Airport’s forecast cost of capital and the post-tax IRR (i.e. the effective target return for PSE3).

Schedule 19(v) requires Auckland Airport to explain any difference between the post-tax IRR on the pricing asset base and the post-tax IRR on the total regulatory asset base – i.e. the

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difference between Auckland Airport's target return for the Aeronautical Pricing Decision and the overall effective return across its total regulatory asset base.

This section should be read as part of Schedules 18 and 19, and as addressing the requirements above.

4.3.1 Description of and rationale for forecast cost of capital, including explanation of the differences between the post-tax WACC at price-setting event (Commission's industry-wide WACC estimate) and the forecast cost of capital

Introduction

In its decisions on the IM Review, the Commission clearly established that the cost of capital used by an airport in pricing could be different to the Commission's industry-wide mid-point estimate. This is because airport-specific circumstances can require a different approach. The Commission explained that the airport would need to fully disclose and explain its approach, so that interested persons could assess it. That is the purpose of this disclosure.

The unparalleled level of capital expenditure we are facing in PSE3 exacerbates the material risks that Auckland Airport already faces when investing in large infrastructure projects that have a "lumpy" capital expenditure investment profile. 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. In this section we explain Auckland Airport's forecast WACC estimate for PSE3, including the differences between this forecast cost of capital and the Commission's sector-wide estimate for information disclosure purposes as at 1 April 2017 (which we understand to be the post-tax WACC at price setting event as defined in the IM Determination, being the Commission's mid-point estimate of WACC for the five year period commencing at the start of the quarter in the disclosure year immediately prior to our pricing decision).

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 received from UniServices and NERA, we considered that some adjustments to the parameters in that sector-wide monitoring model were justified when considering the cost of equity for Auckland Airport.

In particular, NERA 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. 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 capital expenditure 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;

- Auckland Airport's historical operating leverage is higher than the Commission's sample set of comparator airports used to determine its notional industry-wide asset beta. For example, Auckland Airport's capital expenditure per passenger and capital expenditure as a percentage of turnover (using FY15 data) is higher than the companies in the Commission's comparator sample for which capex performance is available through international performance benchmarking studies – demonstrating that Auckland Airport's characteristics are already materially different to these comparator companies. This gap – i.e. the extent to which Auckland Airport's operational leverage and therefore systematic risk is higher than the Commission's comparator sample set used to determine its industry-wide asset beta estimate – is expected to widen over PSE3 as Auckland Airport's capital expenditure increases substantially relative to our historical investment levels;
- 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 – further demonstrating that an Auckland Airport-specific asset beta is a better representation of Auckland Airport's systematic risk for PSE3 than a notional average derived from the Commission's sample comparators. This increase in systematic risk is specific to Auckland Airport and to the stage in our investment cycle that we are entering;
- 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 expenditure plan, and the increase in operating leverage that this will introduce over PSE3. NERA advised that Auckland Airport should seek to capture the increase in systematic risk from the anticipated capex programme for PSE3 by estimating an Auckland Airport asset beta over a shorter estimation window – 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; and
- an outdated Auckland Airport 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

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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 capital expenditure on the beta, since the market reaction to the scale of Auckland Airport's planned capital expenditure programme would not be observable until after Auckland Airport set its prices and released its forecast capital plan by way of this price setting disclosure in August 2017.

Consistent with this advice, Auckland Airport considered it was appropriate to develop an Auckland Airport-specific midpoint WACC estimate to inform the Aeronautical Pricing Decision that put 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 also reviewed the approach to other parameters in estimating the cost of equity for Auckland Airport, including the market risk premium. NERA agreed with the position put forward by UniServices Limited during the IM review in 2016 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.

Overall, NERA has estimated that Auckland Airport's forecast cost of equity for PSE3 is between 8.55%-9.27%, compared to the Commission's estimated cost of equity of 7.17% as at 1 April 2017.

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 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, albeit we are experiencing some widening of the borrowing margin. 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.

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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.

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.

This approach is similar to that which we have adopted. We have reflected the historical and projected debt financing costs for Auckland Airport, rather than the notional efficient entity embedded in the Commission's industry estimate. 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 advised that the appropriate WACC estimate for Auckland Airport sits within a range of 7.5% to 8.1%, with a mid-point of 7.8%.

We consider that this is the best evidence of Auckland Airport's forecast WACC for PSE3.

Our own cross checks – applying the Commerce Commission's WACC approach with adjustments to asset beta to reflect Auckland Airport-specific empirical evidence – provide an adjusted Commission WACC range of 6.85% to 7.55%.

Combining these two approaches generates an Auckland Airport-specific WACC range of 6.85% to 8.1%. This compares to the Commission's mid-point sector WACC estimate for information disclosure purposes as at 1 April 2017 of 6.41% (i.e. the "post-tax WACC at price setting event").

4.3.2 Extent to which the forecast cost of capital has been used to determine the forecast total revenue requirement (including an explanation of the differences between the forecast cost of capital and the forecast post-tax IRR)

In this section, we discuss the remaining contextual factors that have influenced our choice of target return for the Aeronautical Pricing Decision, and which have ultimately led us to set a target return that is lower than our airport-specific WACC estimate.

Overview of rationale for choice of target return

When considering the appropriate target return for PSE3, Auckland Airport carefully considered and weighed a range of contextual circumstances. Owing to the countervailing influence of the Commerce Commission's sector-wide midpoint WACC estimate, we have targeted a PSE3 return materially below NERA's estimate of Auckland Airport-specific midpoint WACC estimate. But it exceeds the Commission's midpoint, and this decision has 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 may continue into the future, particularly if the second runway timing remains per our present forecasts. There is evidence that Auckland Airport's borrowing margin has widened slightly as the borrowing programme ramps up to fund the increasing capital expenditure programme. This may 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 capacity limits;
- this unparalleled level of capital expenditure exacerbates the demand risks that Auckland Airport already faces when investing in large, long-term infrastructure projects that have a "lumpy" capital expenditure investment profile. The size of the investment challenge over the next five years put these risks front and centre ahead of the price-setting decision, and reinforced 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 faced choices in how we plan to deliver the required capacity. If the level of target return was not sufficient to cover our real capital costs or provide compensation for the 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, with an insufficient target return, 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 was 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 greater than planned use of remote stands and greater bussing – a less capially 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 continue to heat up, making it more difficult to accurately forecast future cost escalation;

- the capital expenditure 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 large infrastructure projects that have a “lumpy” capital expenditure investment profile and that cannot be delivered incrementally. In particular, we are forecast to 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 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 would 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; and
- 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 in reaching our decision about the appropriate target return for the Aeronautical Pricing Decision. 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 rising global interest rates and therefore a significant risk that debt costs move away from all-time lows; and

- although we have consistently achieved industry leading costs of debt historically, the large increase in our future borrowing requirements may 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. NERA estimates Auckland Airport's midpoint WACC at 7.8%.

Ultimately, Auckland Airport has not sought to target a return at or above NERA's forecast WACC estimate for Aeronautical Pricing Activities. Rather, we are targeting a return materially below that, reflecting feedback from our Substantial Customers and the regulatory framework, 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.

The returns on Other Regulated Activities vary based on the market conditions at the time the leases are negotiated, and therefore are not contingent on a five-yearly WACC calculated at a single point in time.

Explanation of difference between forecast cost of capital and the forecast post-tax IRR (forecast target return)

Our expert advisor, NERA, has assessed a forecast cost of capital in the range of 7.5% to 8.1%, with a mid-point of 7.8%.

Our own cross checks – applying the Commerce Commission's WACC approach with adjustments to asset beta to reflect Auckland Airport-specific empirical evidence – provide an adjusted Commission WACC range of 6.85% to 7.55%.

Combining these two approaches generates an Auckland Airport-specific WACC range of 6.85% to 8.1%. Both the target return for Aeronautical Pricing Activities (6.99%) and the overall effective return for Total Regulated Assets (7.06%) fall within this range.

The forecast post-tax IRR for total regulatory assets of 7.06% is the combination of the target return of 6.99% for Aeronautical Pricing Activities and the forecast revenue for Other Regulated Activities (which, as noted elsewhere in this disclosure, is based on revenue from negotiated leases that are subject to standard commercial dispute resolution processes, rather than calculated using a building blocks model targeting a particular return that aligns with Auckland Airport's 5 yearly aeronautical pricing reset cycle).

Post-tax IRR / target return for Aeronautical Pricing Activities

We consider that 6.99% is an appropriate target return for Auckland Airport's Aeronautical Pricing Activities after balancing the factors set out in the previous section 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%; and
- 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 expenditure 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 Aeronautical Pricing Decision. NERA's May 2017 advice retained its earlier estimate of the Auckland Airport-specific WACC range of 7.5% to 8.1%.

Cross-check of target return

In reaching our decision to target a return of 6.99% for PSE3, 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 Commission's 50th percentile WACC estimate as a starting point, and reflecting particular Auckland Airport-specific

empirical evidence that is 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.

This cross-check examines 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.

We note that the impact of Auckland Airport’s higher systematic risk has been estimated with reference to asset beta estimates calculated over a range of time horizons.¹⁴

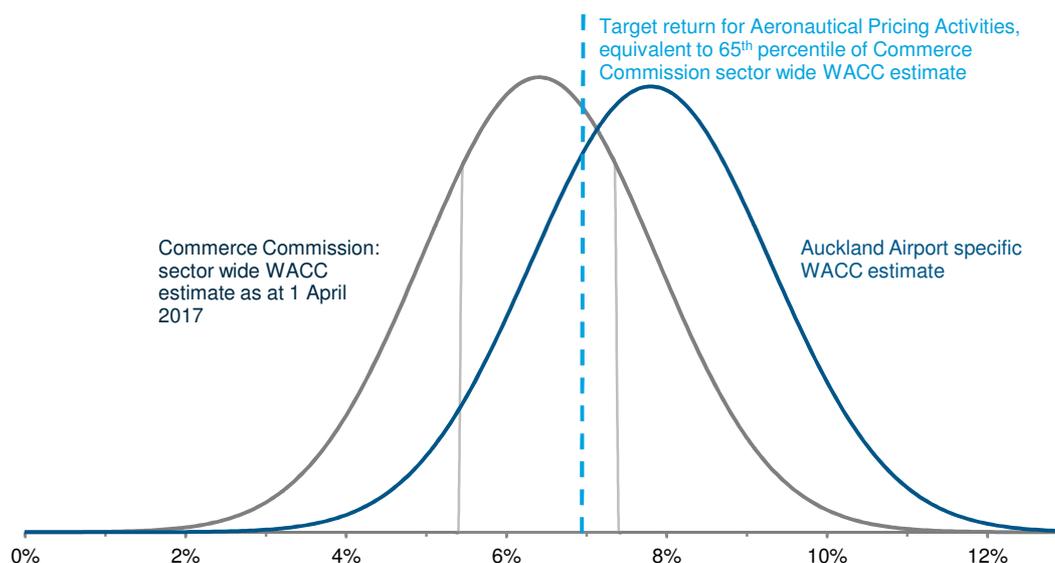
This bottom-up cross-check indicated that a target return in the range of 6.85% to 7.55% is appropriate and supported by Auckland Airport-specific empirical evidence.

We consider this bottom-up cross-check further demonstrates that our target return of 6.99% for Aeronautical Pricing Activities 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 NERA’s 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.

¹⁴ Auckland Airport does 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, and we consider there is no evidence to justify a downwards adjustment for Auckland Airport’s asset beta. However, for the purpose of informing our cross-check and understanding the range of returns that we consider the regulator will see as reasonable and appropriate, we have made a downwards adjustment of 0.05 to each of the asset beta estimates used in the cross check – consistent with the Commission’s approach to asset beta for its sector-wide WACC estimate for information disclosure purposes.

Figure (6): Uncertainty distributions of Commission’s sector-wide WACC estimate (grey) and Auckland Airport’s WACC estimate (blue)



Consistency of target return with long-term benefit of consumers

Having considered all relevant factors, Auckland Airport considers that a target return of 6.99% for Aeronautical Pricing Activities and 7.06% overall including Other Regulated Activities demonstrably achieves 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.

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 historical 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 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 sector-wide WACC estimate;
- the most appropriate way to deliver long-term benefits to consumers is to focus on developing a capital expenditure 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

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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; and

- on average over the next five years, we are forecasting to spend the equivalent of \$15 per passenger per year on common use infrastructure to deliver long-term value for passengers and airlines. As discussed in Section 7, we consider the forecast investment plan provides substantial long-term benefits for consumers, and that our target return is appropriate in this context.

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 Price Setting Disclosure, we will need to consider a range of capital management levers during PSE3.

Conclusion on target return / post tax IRR for pricing assets

Ultimately, Auckland Airport considers that the target return of 6.99% for Aeronautical Pricing Activities is in the long-term best 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.

Explanation of difference between the post-tax IRR on the pricing asset base and the post-tax IRR on the regulated asset base

As noted above, Auckland Airport's forecast post-tax IRR for pricing assets of 6.99% was the target return set by Auckland Airport as part of the Aeronautical Pricing Decision, and was informed by Auckland Airport's forecast WACC range of 6.85% to 8.1%.

The forecast post-tax IRR for total regulatory assets of 7.1% is the combination of the target return for Aeronautical Pricing Activities (6.99%) and the forecast revenue for Other Regulated Activities. As noted elsewhere in this disclosure, the forecast revenue for Other Regulated Activities is based on revenue from negotiated leases that are subject to standard commercial dispute resolution processes, rather than calculated using a building blocks model targeting a particular return that aligns with Auckland Airport's five-yearly aeronautical pricing reset cycle. For this reason, there is a slight difference between the post-tax IRR for Aeronautical Pricing Activities and the post-tax IRR for Total Regulated Activities.

4.3.3 Difference compared to the most recent corresponding historical financial information

The most recent historical financial information required Auckland Airport to disclose the Commission's post-tax sector-wide WACC mid-point estimate. The table below highlights the differences between this WACC estimate and the Auckland Airport-specific WACC and target return for the Aeronautical Pricing Decision, as well as the effective return for Auckland Airport's total regulated asset base for PSE3. Comparable information from the PSE2 pricing decision is also included for reference.

Table (f): Comparison of PSE2 and PSE3 WACC and target return information

	PSE2	FY16	PSE3
Commission WACC estimate	7.1% - 8.0% (50 th – 75 th percentile range)	6.68% (mid-point as at 1 July 2016)	6.41% (mid-point as at 1 April 2017)
Auckland Airport-specific WACC estimate	8.88% - 9.45%	-	6.85% - 8.1%
Auckland Airport five-year target return – aeronautical pricing activities	8.475%	-	6.99%
Auckland Airport effective return – five-year post-tax IRR for Total Regulated Activities	8.0%	-	7.06%

4.4 Forecast operational expenditure

4.4.1 Description of and rationale for forecast operational expenditure

Auckland Airport has disclosed its total forecast operational expenditure for Specified Airport Activities in Schedule 18, and its forecast operational expenditure relevant to Aeronautical Pricing Activities and Non-Isolatable Activities in Schedule 19.

Auckland Airport has developed an operating cost forecast for PSE3 that we consider to be efficient and realistic, and which aims to achieve realistic per passenger reductions in operating cost items where possible over the period. Having said this, we note that it is not realistic to expect continuing per passenger reductions in all operating cost line items across all time, particularly:

- in light of the complexity created during brownfields developments and periods of high construction; and

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- since Auckland Airport has, for a long time, had a highly efficient cost base compared with global airport comparators and now faces intensive development after a long period where economies of scale have been seen.

Consistent with this objective, we consider that Auckland Airport's operating costs for FY17 (used to inform the FY18 forecast) and the FY18 forecast are reasonable and efficient, and note that Auckland Airport continues to benchmark well for operating cost efficiency. Operating costs per passenger are forecast to reduce in real terms over PSE3 from the FY18 forecast.

Auckland Airport summarises below the key steps it took to determine its forecast operational expenditure for Aeronautical Pricing Activities and Non-Isolatable Activities, and for Other Regulated Activities.

Forecasting operational expenditure

Auckland Airport's objective for forecasting operating costs is to set a fair and reasonable forecast based on known information about service level requirements and forecast changes and trends. We also test the efficiency of our operating costs through benchmarking.

Auckland Airport used a forecast for the year ending 30 June 2017 as the base for forecast operational expenditure for the FY18-FY22 pricing period. Forecasting was then undertaken to determine the company-wide operating costs for PSE3. Specific adjustments were made for any anticipated changes to the baseline (positive or negative). For each key area of operating cost, cost drivers were estimated to establish forecast operating costs for PSE3. Auckland Airport also sought to identify any forecast efficiency gains, which may help to reduce forecast growth in operating costs.

When preparing its operating cost forecasts, Auckland Airport also considered requests from airline customers to both increase and reduce service levels. In response to these requests, Auckland Airport quantified the cost impact of the changes, tested proposals with customers to understand to what extent there were aligned views on whether service levels should change, and made changes to the operating cost forecasts where we considered that was appropriate.

Auckland Airport has used the same base operating cost forecast to inform the Aeronautical Pricing Decision and the company-wide budget for FY18.

Key assumptions in the operating cost forecast are described in Section 4.4.4 below.

Allocating forecast operational expenditure

Auckland Airport has based its cost allocation methodology on an analysis of direct, causal and proxy cost drivers. This approach aligns closely with the cost allocation requirements of the information disclosure regime, with a few exceptions that are explained below.

The Commission's input methodology for cost allocation requires regulated airports to:

- identify any costs that are directly attributable to regulated activities and directly attribute them accordingly; and
- identify any non-directly attributable costs (common or shared) and allocate those costs to regulated activities using causal or proxy cost allocators.

To prepare allocated operating cost forecasts for PSE3, Auckland Airport has:

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- forecasted consolidated company-wide operating costs for the pricing period;
- identified operating costs attributable to single regulated aeronautical activities and directly attributed them to that activity;
- identified common costs that are shared across more than one regulated activity and/or between regulated and non-regulated activities;
- used causal allocators where appropriate to allocate those common costs across regulated and/or non-regulated activities;
- allocated the remainder of common costs using proxy allocators; and
- excluded the costs associated with terminal space that is leased to commercial tenants and aircraft and freight buildings and facilities that are leased to aircraft and freight operators.

The following table summarises the key allocation rules applied in the Aeronautical Pricing Decision for common / shared costs. Total regulatory operating costs have been based on methodologies consistent with this. The first three columns demonstrate how the rules allocate costs amongst the three specified airport services for this Price Setting Disclosure, the fourth column shows the total allocation to total regulated activities (i.e. the revenue requirement in Schedule 18), and the final column shows the allocation to Aeronautical Pricing Activities and Non-Isolatable Activities (i.e. the revenue requirement in Schedule 19).

Table (e): Summary of cost allocation rules

RULE	Airfield	Passenger Terminal	Aircraft & Freight	Total regulatory allocation	Aeronautical pricing allocation
Company-wide	29%	45%	2%	75%	73%
Aeronautical revenues	38%	59%	3%	100%	97%
Airfield and terminal revenues	39%	61%	0%	100%	100%
Electricity utilities	1%	29%	0%	31%	30%
Water utilities	2%	39%	0%	41%	41%
Gas utilities	24%	37%	2%	63%	61%
Drainage & stormwater	58%	5%	6%	70%	64%
Roadways	31%	33%	2%	66%	64%
Engineering support services	20%	64%	1%	85%	84%

Benchmarking operational expenditure

As part of reaching the Aeronautical Pricing Decision, Auckland Airport has analysed how its operating costs have tracked over time and how these costs benchmark against other New Zealand airports and international airports. The conclusions we draw from this benchmarking analysis are that:

- Auckland Airport's total real aeronautical operating costs per passenger have been falling since the start of PSE2, but the extent of unit reductions is becoming smaller over time;

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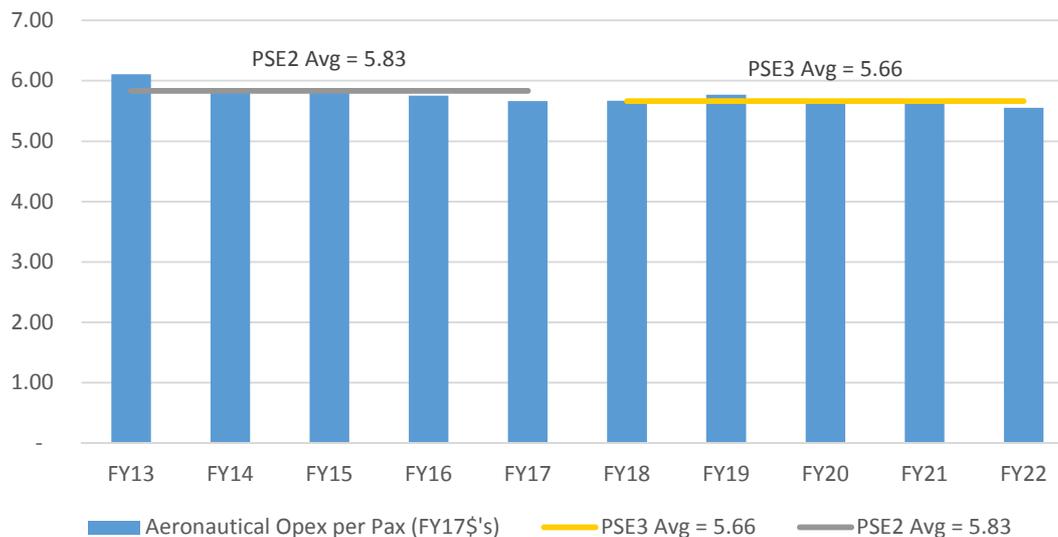
- Auckland Airport's operating costs per passenger compare favourably with the other major New Zealand airports, taking into account Auckland Airport's significantly higher number and proportion of international passengers for which the complexity of operations increases the cost base; and
- Auckland Airport benchmarks well for operating cost efficiency. Based on operating costs per passenger, total costs per air traffic movement and total costs per passenger, Auckland Airport has between the 37th and 40th lowest operating cost measures out of 50 global peers surveyed by Leigh Fisher.

Auckland Airport's cost efficiency over time

Efficiency is at the heart of Auckland Airport's strategy to be fast, efficient and effective. An operating efficiency target of a 2.8% real reduction in operating costs per passenger was built into PSE2 prices. Real operating costs per passenger have reduced by 1% per annum over the period to date. As well as having a strong growth focus, Auckland Airport sought to disconnect costs (including capital expenditure) from passenger volume growth wherever possible to help drive down unit cost and reduce pressure on prices over time.

The following chart shows a time series analysis of Auckland Airport's historical and forecast real aeronautical costs (in 2017 dollars).

Figure (7): PSE2 and PSE3 comparison – Real operating cost per passenger (2017\$)



Source: Auckland Airport FY11-FY16 disclosure statements, CPI adjusted.

Overall, the average real forecast operating cost per passenger for PSE3 is lower than the average real operating cost per passenger in PSE2 (based on actual costs for the period to date, and forecast FY17). Forecast operating costs for PSE3 are also declining in real terms over the period.

We also note that Auckland Airport's operating costs per passenger compare favourably with the other major New Zealand airports.

The following analysis compares Auckland Airport's cost performance with the other main airports in New Zealand. The three airports share the same regulatory regime, economic

environment and broad cost structures. However, there is a fundamental difference between the airports in terms of passenger mix. Auckland Airport has a much higher proportion of international passengers than either Christchurch or Wellington Airport, which significantly increases the complexity of operations and therefore the cost base.

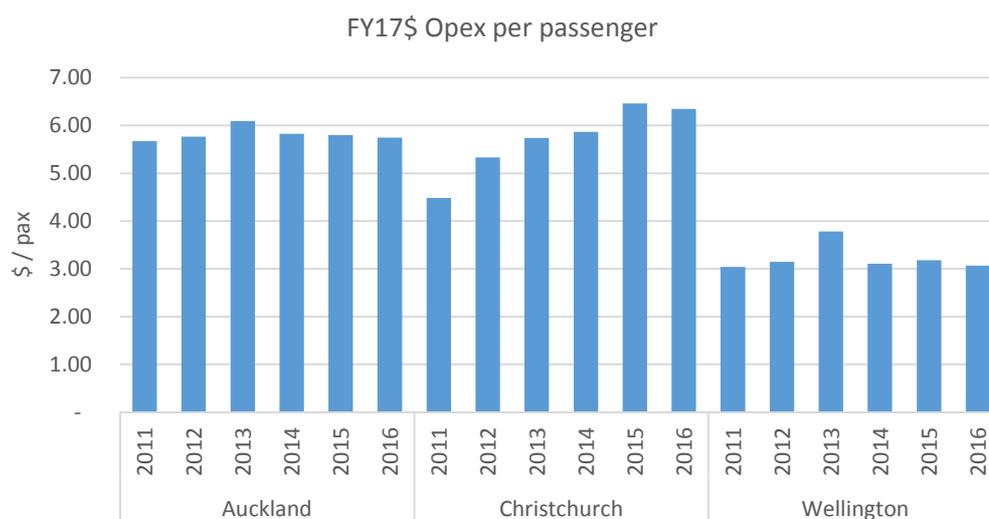
Table (g): New Zealand airport passenger mix comparison (FY16)

	International Passengers	Domestic Passengers
Auckland Airport	54.3%	45.7%
Christchurch Airport	24.6%	75.4%
Wellington Airport	15.5%	84.5%

Source: Airport Annual Regulatory Disclosures.

The following chart shows total aeronautical costs per passenger for the six years to 30 June 2016 for Auckland, Christchurch and Wellington Airports in nominal terms.

Figure (8): New Zealand airport aeronautical costs per passenger (\$nominal)



Source: Airport Annual Regulatory Disclosures.

As would be expected, Wellington Airport's operating costs per passenger are materially lower, as it is primarily a domestic operation. Auckland Airport's operating costs per passenger are lower than Christchurch Airport's despite Auckland Airport processing almost twice the proportion of international passengers.

Auckland Airport's cost efficiency compared to global airports

In order to test the relative efficiency of Auckland Airport's opening operating cost base in a global context we have benchmarked ourselves against a number of international airports using the analysis set out in Leigh Fisher's Airport Performance Indicators 2016 Report. When costs are ranked from high to low, Auckland Airport ranks:

- 40th out of Leigh Fisher's total global sample group of 50 airports for operating cost per passenger (so 10th lowest);
- 40th out of 50 airports in terms of total costs per air transport movement (again, 10th lowest); and
- 37th out of 50 airports (or 13th lowest) for total cost per passenger.

We consider this provides support for our view that Auckland Airport's operating costs have been efficient over PSE2, and that our forecast costs for PSE3 remain cost efficient by domestic and international standards.

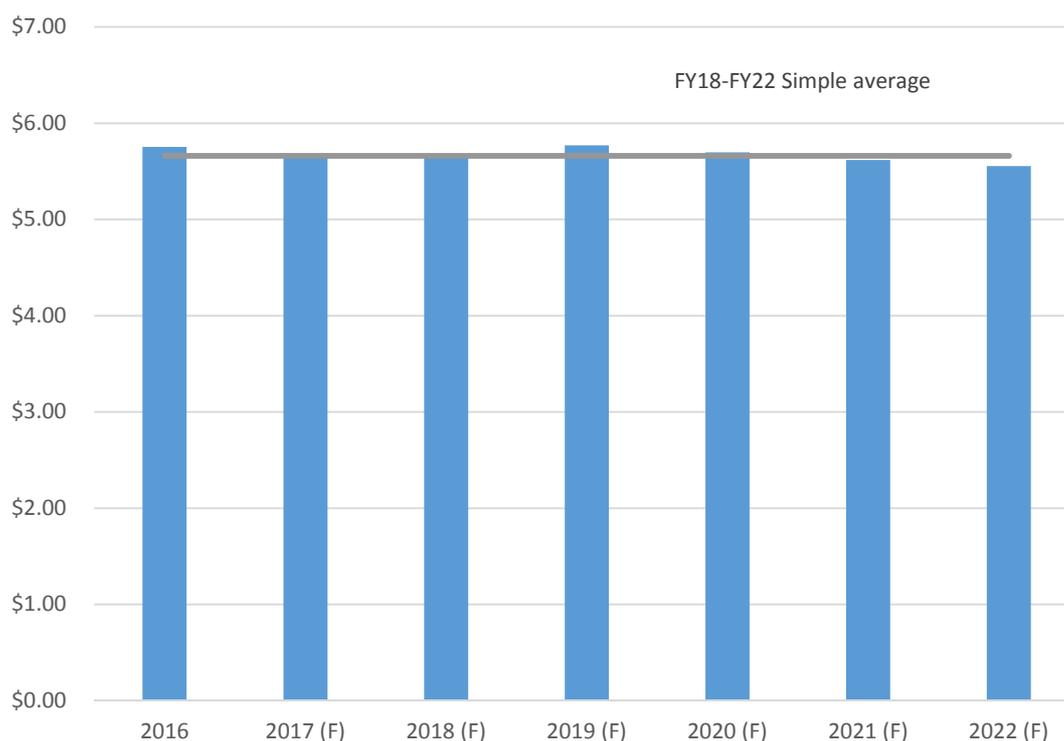
4.4.2 Extent to which operating costs have been used to determine the forecast total revenue requirement

The following table summarises the forecast operating costs that have been used to determine the forecast total revenue requirement, and the forecast revenue requirement for Aeronautical Pricing Activities and Non-Isolatable Activities.

\$m	FY18	FY19	FY20	FY21	FY22
Operating costs – Aeronautical Pricing Activities and Non-Isolatable Activities	105.3	112.9	117.3	121.7	126.8
Operating costs – Other Regulated Activities	8.4	9.5	10.0	10.3	10.6
Total Regulated Activities forecast operating costs	113.7	122.5	127.3	132.1	137.4

4.4.3 Difference compared to the most recent corresponding historical financial information

Auckland Airport is forecasting Total Regulated Activities operating costs for FY18 of \$113.7 million, which compares to disclosed Total Regulated Activities operating expenditure of \$98 million in FY16, and estimated expenditure for FY17 of \$106.5 million. The following chart presents this information as real operating costs per passenger.

Figure (9): Total Regulated Activities real operating costs per passenger (2017\$)

Some adjustments to the allocation of operating costs from the approach used for information disclosure in FY16 were appropriate for the purpose of setting Standard Charges and determining the revenue requirement as set out in Schedule 19. By way of summary, Auckland Airport has made the following key allocation decisions for aeronautical pricing purposes:

- removed the direct and common share of operating costs relating to Other Regulated Activities excluded from the pricing asset base;
- revised allocation rules which relied on the allocation of space in the international terminal building to reflect forecast changes after the commissioning of the Level 1 and Pier B developments – slightly reducing the allocation to aeronautical activities;
- revised the electricity allocation rule to better reflect usage;
- reduced the allocation of route development costs to aeronautical activities, with 80% of these costs allocated to aeronautical activities in PSE3 (compared to PSE2 where 100% of committed route development costs were allocated to aeronautical activities); and
- adjusted allocation rates to rebalance some items between Aeronautical Pricing Activities and Other Regulated Activities, including management fees and utilities.

Over PSE3, we will continue to seek opportunities to further identify and allocate costs and revenues more directly between aeronautical and non-aeronautical activities.

4.4.4 Assumptions and justifications of the forecast operational expenditure by category (clause 2.5(1)(n))

Overview of disclosure requirement

Clause 2.5(1)(n) requires Auckland Airport to publicly disclose any assumptions or justifications of its forecast operational expenditure by the following categories as disclosed in accordance with Schedule 18:

- corporate overheads;
- asset management and airport operations; and
- asset maintenance.

The assumptions and justifications for Auckland Airport's forecast operational expenditure are set out below. Auckland Airport's approach to determining its forecast operating expenditure for the purpose of the Aeronautical Pricing Decision is described above.

Assumptions and justifications for total forecast operational expenditure

At a high level, there are three broad trends that Auckland Airport considers are likely to drive increased operational expenditure over PSE3:

- resources required to manage growth, particularly during peak periods;
- operational step changes; and
- increased safety and security compliance costs, particularly as increased global security threat levels require a greater focus on security.

As these trends continue over PSE3, Auckland Airport considers that:

- the collaborative model which exists today will need to continue to evolve;
- to manage growth in demand we expect a continued focus on operational solutions in addition to investing in physical infrastructure;
- higher technology and innovation costs are forecast as we seek new ways to achieve more with existing infrastructure;
- some diseconomies of scale with increasing passenger growth are likely to be seen in the near-term as we cater for this additional growth while simultaneously addressing legacy constraints in the existing facility;
- increased bussing costs are expected, including increased cost required to respond to service quality requests from airline customers;
- there will be an ongoing need for increased investment in resource, including team and support structures to enhance planning for growth across all disciplines;
- we have experienced material increases in compliance and safety costs in PSE2, which we are forecasting to continue to grow through PSE3; and

- international best practice and policy development may also result in changes that are likely to impact Auckland Airport – often with limited notice.

The following table sets out Auckland Airport's assumptions of forecast annual growth for key aeronautical demand metrics. These metrics drive underlying costs over the period.

Table (h): Cost forecast drivers

Year Ending 30 June	FY18	FY19	FYFY	FY21	FY22	Source
CPI	1.3%	1.7%	2.1%	2.1%	2.0%	RBNZ
Aero FTE Count	9.5%	4.0%	0.9%	0.3%	0.3%	Business forecasts
Rest of FTEs	6.0%	6.0%	2.9%	0.6%	0.6%	Business forecasts
Total terminal area	12.7%	0.0%	0.0%	0.0%	5.3%	Business forecasts
International PAX (excl Transits)	6.1%	4.5%	3.5%	3.4%	3.6%	Business forecasts; DKMA
Transit PAX	8.5%	3.9%	3.0%	3.0%	3.1%	DKMA
Domestic PAX	4.1%	3.6%	2.7%	2.6%	2.7%	DKMA

The following table provides the effective growth rate for PSE3 for key operating activities.

Table (i): Growth assumptions over PSE3

Year Ending 30 June	FY18	FY19	FY20	FY21	FY22	Forecast growth comprises:
Personnel Costs	10.3%	6.1%	5.0%	3.6%	3.6%	<ul style="list-style-type: none"> 1% per annum real growth in unit salary costs (CPI+1%), based on contractual obligations and salary benchmarks reports Volume driven by employee count forecasts
Other Staff Costs	13.0%	1.7%	2.1%	2.1%	2.0%	<ul style="list-style-type: none"> CPI, no real growth
Training Travel & conference	24.4%	4.9%	3.1%	2.3%	2.3%	<ul style="list-style-type: none"> CPI, no real growth Total FTE growth volume assumption, with a 1/3 efficiency scalar applied
Repairs & Maintenance	0.8%	3.8%	3.7%	3.6%	5.0%	<ul style="list-style-type: none"> CPI, no real growth in unit costs Volume growth driven by growth in passenger movements and total terminal space, with efficiency factors applied
District plan noise obligations	1.4%	1.7%	2.1%	2.1%	2.0%	<ul style="list-style-type: none"> CPI, no real growth
Insurance	16.0%	12.0%	8.8%	7.7%	11.0%	<ul style="list-style-type: none"> Growth driven by expected increases in the Fire Service Levy, growth in total terminal space, and annual unit cost increases in line with CPI
Utilities	4.8%	12.9%	14.3%	4.8%	3.5%	<ul style="list-style-type: none"> These costs comprise electricity energy, line and metering costs, water, waste water, sullage removal, gas and refuse disposal costs They have been forecasted on a line by line basis and reflect recent trends and known upcoming events, as well as total terminal spaces and passenger growth assumptions
Rates	9.3%	6.0%	6.0%	6.0%	8.8%	<ul style="list-style-type: none"> Driven by forecast price increases, as well as growth in total terminal space. A 50% efficiency factor has been applied to these drivers.
Cleaning	11.9%	4.8%	4.7%	4.6%	6.3%	<ul style="list-style-type: none"> 1.0% per annum real growth in unit costs, based on updated information Volume growth driven by growth in passenger movements and total terminal space, with efficiency factors applied
Consultancy, Audit & Legal	-4.3%	1.7%	2.1%	2.1%	2.0%	<ul style="list-style-type: none"> CPI, no real growth

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Year Ending 30 June	FY18	FY19	FY20	FY21	FY22	Forecast growth comprises:
Business Technology	57.1%	35.8%	11.3%	9.4%	9.4%	<ul style="list-style-type: none"> Increases driven by the forecast introduction of new technology, including kiosks, automatic bag drops, e-gates, planning tools, and CCTV as well as a large number of additional network switches and wifi access points Other key drivers include the partial move to the cloud that reduces future capex and depreciation expense but tends to increase opex in the short term
Marketing, Promotions & PR	-8.4%	8.4%	-11.4%	0.6%	0.6%	<ul style="list-style-type: none"> Updated marketing costs for FY17 have been included in the forecast, with costs declining in real terms over the pricing period
Shareholder Expenses	-3.3%	1.7%	2.1%	2.1%	2.0%	<ul style="list-style-type: none"> CPI, no real growth
Total Management Fees	13.4%	8.4%	2.9%	2.6%	2.8%	<ul style="list-style-type: none"> Comprised of management contracts relating to airside bussing operations, baggage handling and, baggage trolley services, Level 2 DTB Slot Management and check in kiosks, as well as landside bus services
Other Expenses	-0.5%	1.7%	2.1%	2.1%	2.0%	<ul style="list-style-type: none"> CPI, no real growth

4.5 Forecast depreciation

4.5.1 Description of and rationale for forecast depreciation

Aeronautical Pricing Activities

Auckland Airport's approach to forecast depreciation was:

- for all assets in existence as at 30 June 2006, these assets were depreciated according to the economic life ascribed in the Opus specialised asset valuation reports used to determine the value of specialised assets in the initial RAB and the pricing asset base;
- for all asset additions from 30 June 2006 to 30 June 2016, these assets were depreciated according to the economic life as determined at or near the date of commissioning. The economic life used was extended slightly, to allow for the fact that regulatory depreciation only commences in the financial year following the commissioning date;
- for all asset additions after 30 June 2016, these assets were depreciated by asset class according to the average economic life of that asset class, determined with reference to historical cost weighted depreciation of assets in existence prior to 30 June 2016. As per asset additions from 30 June 2006 to 30 June 2016, depreciation charges only applied from the financial year following the commissioning date; and
- straight line depreciation was used in all instances.

Other Regulated Activities

- With the exception of assets allocated directly to aircraft and freight activities, the same approach was used to forecast depreciation for assets employed in Other Regulated Activities as that used for forecasting depreciation for Aeronautical Pricing Activities.
- In the case of assets allocated directly to aircraft and freight activities, these assets were depreciated using modified straight line depreciation. A modified approach was used to be consistent with the approach to CPI revalue these assets (no revaluations were forecast for all other assets). The modified straight line method uses the same economic life as the

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straight line method but involves an adjustment to offset the effect of CPI revaluations over the economic life of the asset.

4.5.2 Extent to which depreciation has been used to determine the forecast total revenue requirement

Table (j): Forecast depreciation in revenue requirement

\$m	FY18	FY19	FY20	FY21	FY22
Depreciation – Aeronautical Pricing Activities	48.6	55.8	72.8	84.8	90.9
Depreciation – Other Regulated Activities	3.7	5.0	6.3	6.7	6.7
Total Regulated Activities forecast depreciation	52.3	60.7	79.1	91.5	97.7

4.5.3 Difference compared to the most recent corresponding historical financial information

As discussed above, the most recent historical financial information is for FY16, which was published under the previous IMs that required Auckland Airport to index all assets at CPI. Depreciation of \$52m was disclosed in FY16 for Auckland Airport's total regulatory asset base based on the then-RAB values which included CPI revaluations from the start of information disclosure regulation.

Auckland Airport has provided a summary of the restated FY16 asset base excluding revaluations for aeronautical pricing assets in Schedule 24. This restatement process also involved recalculating depreciation from the start of information disclosure regulation to provide a restated value for terminal and airfield assets where the accumulated depreciation was unaffected by revaluations. Following this process, our estimate of the restated depreciation for FY16 is \$46.8m, as disclosed in Schedule 24.

Table (k): Depreciation comparison: historical disclosure vs forecast revenue requirement

	Depreciation (\$m)
Total forecast depreciation – FY18	52.3
Historical disclosed total depreciation – FY16	52.0
Restated disclosed total depreciation – FY16	46.8

4.5.4 Application of standard depreciation

Auckland Airport has used standard depreciation to determine the forecast revenue requirement disclosed in Schedules 18 and 19, and in the pricing model for Standard Charges. Clause 2.5(1)(q) of the Determination requires Auckland Airport to disclose:

- an explanation of and evidence of how the standard depreciation methodology reflects the expected value or utilisation of the RAB or parts of the RAB;
- any change in forecast asset life; and
- an explanation of any change in forecast asset life.

Standard depreciation reflects the expected value or use of the RAB

Standard depreciation is appropriate for Auckland Airport's assets for PSE3 because:

- standard depreciation is simple, easy to use, and has been used for the majority of Auckland Airport's assets in the past for aeronautical pricing purposes, information disclosure and statutory financial reporting;
- standard depreciation is the best estimate of an asset's life at the time of commissioning;
- we have not identified circumstances where non-standard depreciation would be appropriate for PSE3 to either reflect our airport-specific characteristics, reflect the expected value or utilisation of the RAB or parts of the RAB, or deliver a better outcome for consumers; and
- no customers have requested that we apply non-standard depreciation.

Changes in forecast asset lives

Auckland Airport has not made any changes to forecast asset lives for PSE3.

As noted above, depreciation was re-run as part of the RAB restatement process from the 2009 financial year onwards, to provide a restated value for terminal and airfield assets excluding revaluations. Some errors were identified in this process, and the depreciation rates for the affected assets were manually overridden to ensure that assets that were in the initial RAB were rolled forward using FY09 depreciation rates, and assets commissioned after this date were rolled forward using the current rates for those assets.

4.6 Forecast unlevered tax

4.6.1 Description of and rationale for forecast unlevered tax

Aeronautical Pricing Activities

Auckland Airport used a tax rate of 28%. To allow for tax payable by debt investors, taxable income was assessed on an unleveraged basis. This is consistent with the Commission's input methodology for taxation. Auckland Airport calculated tax by multiplying the investor average tax rate by revenue less opex, tax depreciation and disposals.

Tax depreciation was calculated using two methods:

- for existing assets, tax depreciation is calculated by using the same asset allocation percentage utilised for the regulatory assets and applying this allocation to the applicable tax depreciation for these assets; and
- for asset additions, average tax depreciation rates were applied by asset class where averages were determined with reference to historical cost weighted tax depreciation rates of existing assets

Commerce Commission default cash-flow timings were assumed i.e. tax paid mid-year on average. Hence, no allowance was made for other taxation timing differences, including timing deductions on holiday pay not paid out within 63 days, for accruals of expenditure or for immediate deductions or interest revenue on some prepayments.

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Forecast tax relating to assets held for future use is discussed in Section 6.

4.6.2 Extent to which tax has been used to determine the forecast total revenue requirement

Table (I): Forecast tax related to the total revenue requirement (excludes tax relating to the Runway Land Charge)

\$m	FY18	FY19	FY20	FY21	FY22
Tax – Aeronautical Pricing Activities	41.4	39.7	36.4	37.0	37.6
Tax – Other Regulated Activities	3.2	3.0	3.3	3.7	4.0
Total Regulated Activities forecast tax	44.6	42.7	39.7	40.6	41.6

4.6.3 Difference compared to the most recent corresponding historical financial information

Forecast tax and the most recent historical regulatory tax allowance are calculated on a slightly different basis as the latter is based on actual corporate tax paid which includes allowances for notional deductible interest.¹⁵ The pricing forecast tax includes tax payable on total enterprise capital before deducting interest expense. Hence forecast tax is higher than shown in the historical financial information (FY16: \$38.6m).

4.7 Forecast revaluations

4.7.1 Description of and rationale for forecast revaluations

Aeronautical Pricing Activities

Auckland Airport's approach to asset valuation for Aeronautical Pricing Activities has been to retain the effect of the moratorium on asset revaluations for the FY18-FY22 pricing period, and Auckland Airport has therefore decided not to revalue the assets relating to Aeronautical Pricing Activities and Non-Isolatable Activities. Airline feedback supported this approach.

Accordingly, there are no forecast revaluations for the pricing period for Aeronautical Pricing Activities.

Other Regulated Activities

For Other Regulated Activities which share similar assets to those covered by Standard Charges, a consistent approach has been taken with regards to revaluations over PSE3. In other words, there are no forecast revaluations for PSE3 for terminal assets related to Other Regulated Activities.

For aircraft and freight activities, revenues are driven by contracted rental rates and renegotiated at the end of the term of the lease. Prices are struck through benchmarking to comparative market rentals. For the purposes of providing this Price Setting Disclosure forecast for aircraft and freight activities, revaluations have been included in the asset forecast and are disclosed as part of the calculation of the forecast regulatory profit in Schedule 18(v). Forecast

¹⁵ The approximate ROI as calculated in historical financials partially reverses the notional deductible interest.

revaluations for aircraft and freight assets reflect indexing at CPI inflation expectations.

4.7.2 Extent to which revaluations have been used to determine the forecast total revenue requirement

The following table summarises the forecast value of revaluations relevant to the forecast total revenue requirement.

Table (m): Forecast value of revaluations

\$m	FY18	FY19	FY20	FY21	FY22
Revaluations – Aeronautical Pricing Activities and Non-Isolatable Activities	-	-	-	-	-
Forecast CPI	1.32%	1.71%	2.08%	2.05%	2.03%
Revaluations – Other Regulated Activities (based on forecast CPI)	0.8	1.2	1.8	1.9	1.9
Total forecast revaluations	0.8	1.2	1.8	1.9	1.9

4.7.3 Difference compared to the most recent corresponding historical financial information

As discussed above, the most recent historical financial information is for FY16, which was published under the previous IMs that required Auckland Airport to index all assets at CPI. As a result, revaluations of \$4.8m were disclosed in FY16 for Auckland Airport’s total regulatory asset base.

Auckland Airport has provided a summary of the restated FY16 asset base excluding revaluations for aeronautical pricing assets in Schedule 24. In this restated information, there were zero revaluations in FY16 related to Aeronautical Pricing Activities and Non-Isolatable Activities, and the total revaluations for FY16 (\$0.2m) relate to CPI revaluations for assets related to Other Regulatory Activities in FY16. This is based on actual CPI for FY16 (0.42%), which is materially lower than the CPI forecasts for FY18 onwards shown in the table above. The increase in forecast revaluations are a product of an increase in forecast CPI and growth in the asset base.

4.8 Other factors considered in determining the total revenue requirement

The Determination requires Auckland Airport to describe any “other factors” that were a component of the Report on the Forecast Total Asset Base Revenue Requirements in Schedule 18 and the Report on the Forecast Pricing Asset Base Revenue Requirements set out in Schedule 19.

“Other factors” is defined in the Determination to mean the value of any factor used to determine the forecast total revenue requirement as required by clause 2.5(1) other than:

- forecast asset base;
- forecast operational expenditure;
- forecast depreciation;

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- forecast unlevered tax;
- forecast revaluations; and
- forecast other operating revenue.

Other than the carry forward adjustments described below, all factors considered in determining the total revenue requirement have been discussed above.

5. Explanation of opening and closing carry forward adjustments

5.1 Disclosure requirement

Clauses 2.5(1)(d) and 2.5(1)(e) require Auckland Airport to disclose an explanation of the opening and forecast closing carry forward adjustments in Schedules 18 and 19.

5.2 Opening carry forward adjustments

5.2.1 Description of the opening carry forward adjustment and an explanation of how it has been calculated

Auckland Airport's opening carry forward adjustment is made up of two parts:

- a positive adjustment of \$3.57 million, which relates to the recovery of revenue for the Pier B development that was deferred from previous pricing periods (the "**Pier B Adjustment**"). The 2007 pricing decision (for PSE1) involved, in effect, a planned under-recovery of the Pier B connector development during PSE1 and then an over-recovery during PSE3. Auckland Airport considers it is appropriate to continue with this pricing arrangement; and
- a negative adjustment of \$86.1 million to account for the difference in revaluations between the start of the moratorium in 2006 and the start of information disclosure in 2010 (the "**Moratorium Adjustment**"). This adjustment means that the effective value of the asset base used to set Aeronautical Pricing Activity charges is equivalent to the moratorium asset base. The moratorium adjustment is intended to be carried forward at the same value in future periods unless the moratorium on asset revaluations is unwound and a revalued asset base is used for aeronautical pricing purposes in the future.

Calculation of the Pier B Adjustment

The planned phased recovery for Pier B aimed to deliver a normal return over the life of the asset. A 50% return was to be earned on the connector element of the project up until the earlier of 2012 or the construction of additional gates, with a full recovery being earned from 2012 (or four gates), followed by a recovery of over 100% once eight gates became operational.

Based on information from the historical price-setting disclosure for PSE1, and the Terminal Services Agreement that was previously in place with airlines, Auckland Airport has calculated that the deferred after-tax revenue is \$3.57 million.

This deferred revenue is recovered during PSE3 through Standard Charges and the value of the carry forward adjustment will be fully offset by the end of the pricing period. There is therefore no closing carry-forward relating to the Pier B adjustment.

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Calculation of the Moratorium Adjustment

As discussed above, the purpose of the Moratorium Adjustment is to adjust the restated regulatory asset values for terminal and airfield assets downwards, in order to generate an opening investment value that is effectively the same as the moratorium asset base used for pricing purposes in 2007 and 2012.

In practice, Auckland Airport's last revaluation of specialised assets and land assets was undertaken in 2006. It is these 2006 base values that formed the underlying valuation used for price-setting in 2007 (the start of the moratorium). For this reason, we consider 2006 to be the effective start date of the moratorium on asset revaluations.

Calculating the Moratorium Adjustment involved the following steps:

- determining the impact of revaluations between 2006 and 2009 for specialised assets:
 - there were no revaluations of specialised assets (CPI or otherwise) between the start of moratorium and the start of information disclosure regulation. In other words, the value of a non-land asset covered by the moratorium was the same at the start of the moratorium in PSE1 (2007) and in the initial RAB for information disclosure regulation (as at 30 June 2009); and
 - this meant that no downwards adjustment was required to obtain an effective “pricing investment value” for non-land assets. Instead, the restated regulatory value, rolled forward for depreciation, additions and disposals, was used for pricing; and
- calculating the impact of revaluations between 2006 (the start of the moratorium) and 2010 (the start of information disclosure) for land assets:
 - the average per-hectare rates from the 2006 valuation were used to identify the unallocated value and the allocated pricing value of the moratorium land assets as at 2006;
 - the average per-hectare rates from the 2010 MVAU proxy that forms the basis of the restated RAB were used to identify the unallocated value and the allocated pricing value of the moratorium land assets as at 2010.¹⁶ (Sections 12 and 13 provides more information about the restated RAB and the process used to generate the 2010 MVAU proxy value of land in the initial RAB);
 - the total allocated pricing value in 2006 was subtracted from the total allocated pricing value in 2010, to determine the difference in land value due to revaluations between the start of the moratorium and the start of information disclosure regulation; and
 - this figure (\$86.1 million) was included as a proposed carry-forward adjustment to reach the opening investment value used to determine prices for PSE3.

¹⁶ While the underlying valuation is unchanged, there have been minor changes in the size of some land areas since the moratorium was established. This results in minor changes in allocated land values for pricing purposes between the 2007, 2012 and 2017 pricing land asset base. Going forward, any changes in allocation will not affect the moratorium adjustment of \$86.1 million.

The outcome of this process is summarised in the table below.

Table (n): Calculation of the moratorium adjustment

Zones	Zone Description	Valuation Type	Rates				Area	Unallocated		Allocated (priced)		
			FY06 average rates	FY09 MVAU rate	FY11 MVAU rate	New "2010" MVAU Rate		New "2010" value unallocated	2006 Moratorium unallocated	New "2010" value priced	2006 Moratorium priced	Carry Forward priced
1A	Seabed	Nil	0.00	0.00	0.00	0.00	229.5	0.0	0.0	0.0	0.0	0.0
1B	Airfield	MVAU	0.56	0.62	0.73	0.68	348.6	235.6	193.5	235.7	193.5	42.2
1C	Southern Airfield REPA/PSZ	MVAU	0.10	0.62	0.73	0.68	38.8	26.2	3.9	26.2	3.9	22.4
1D	Southern Airfield Restricted	MVAU	0.10	0.62	0.73	0.68	26.4	17.8	2.6	17.8	2.6	15.2
3A	ITB	MVAU	0.76	0.62	0.73	0.68	8.0	5.4	6.0	4.1	4.6	-0.5
3B	DTB	MVAU	0.87	0.62	0.73	0.68	3.6	2.4	3.1	1.5	1.7	-0.2
5A	Interim Airport Commercial (Quad 5)	38% of MVAU	0.16	0.24	0.28	0.26	0.4	0.1	0.1	0.0	0.0	0.0
6	Infrastructure	MVAU	0.60	0.62	0.73	0.68	14.2	9.6	8.5	6.1	5.6	0.5
8	Roads	MVAU	0.33	0.62	0.73	0.68	24.7	16.7	8.1	12.4	6.0	6.5
							694.1	313.9	225.7	303.9	217.9	86.1
	Add carpark transfer to apron in FY15	Existing use					4.3			4.3	4.3	
	Total						4.3			308.2	222.2	

5.2.2 Summary of views expressed by Substantial Customers on the opening and closing carry forward adjustments

Pier B Adjustment

We tested the principles behind the Pier B Adjustment and its recovery over PSE3, including the value of the adjustment, with BARNZ and Air New Zealand early in consultation. The proposed calculation of the adjustment was then shared with airlines through the aeronautical pricing consultation, and it was shown as an opening carry forward adjustment in the financial information that was shared with airlines through consultation.

No Substantial Customers opposed the Pier B Adjustment or the intention to recover the deferred revenue in PSE3.

Auckland Airport considers that the Pier B Adjustment accurately captures the intention of Auckland Airport and airlines at the time prices were set in PSE1, and that this adjustment has airline support.

Moratorium Adjustment

Auckland Airport shared our proposed approach to the Moratorium Adjustment with Substantial Customers through the pricing consultation process. We consider the Moratorium Adjustment to be appropriate as it clearly accounts for the revaluations between the start of the moratorium in 2006 and the start of information disclosure in 2010. No Substantial Customers opposed the Moratorium Adjustment.

5.3 Closing carry forward adjustments

5.3.1 Explanation of the forecast closing investment value

The forecast closing investment value for PSE3 reflects the estimated remaining asset base as at the end of PSE3 that is intended to be recovered in future pricing periods. It represents the value of Auckland Airport's regulatory asset base as at closing FY22, adjusted to remove revaluations between 2006 (the start of the moratorium) and 2010 (the start of information disclosure regulation) for airfield and terminal assets.

In this way, the forecast closing investment value represents the ongoing impact of the moratorium on asset valuations on the estimated remaining capital as at the end of PSE3.

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5.3.2 Purpose and appropriateness of the forecast closing carry forward adjustment

For the moratorium adjustment, there is a closing carry forward for PSE3 which is equivalent in value to the opening carry forward adjustment. This records the continuing impact of this downward adjustment, to be carried forward in future periods unless the moratorium is unwound.

The purpose of this closing carry forward is to reduce the regulatory investment value below the regulatory asset base – i.e. to a value commensurate with the moratorium on asset revaluations for terminal and airfield assets that has been in place at Auckland Airport since 2006. This adjustment means that the effective closing value of the pricing asset base used to set Standard Charges over PSE3 is equivalent to the moratorium asset base.

5.3.3 When the forecast closing carry forward adjustment will be fully offset

As noted above, the moratorium adjustment is intended to be carried forward at the same value in future periods unless the moratorium on asset revaluations is unwound and a revalued asset base is used for aeronautical pricing purposes in the future.

5.3.4 Explanation of why a forecast closing carry forward adjustment is the most appropriate method of accounting for the moratorium adjustment

Auckland Airport considers the forecast closing carry forward adjustment is the most appropriate way to account for the impact of the moratorium as at the end of PSE3 because:

- it provides a transparent adjustment to Auckland Airport’s regulatory asset values to reflect the impact of the moratorium between 2006 and 2010;
- the information is clear and accessible – allowing interested parties to understand the impact of the moratorium on the pricing asset base and the calculation of Standard Charges, as well as providing a clear record for future Auckland Airport management; and
- if Auckland Airport decides to unwind the moratorium in the future and to use a revalued asset base to set prices, the closing carry forward relating to the moratorium adjustment provides clear information about the value of the revenues that would be treated as an offset to the future revenue requirement (in a NPV neutral manner).

6. Explanation of assets held for future use charge

Clause 2.5(1)(k) requires an airport that has included an assets held for future charge as part of its price setting event to publicly disclose information relating to the airport’s forecast assets held for future use as set out in Schedule 18, as well as the assumptions and justifications of the forecast assets held for future use net revenue.

An “assets held for future use charge” is defined in the Determination as a charge associated with assets held for future use that forms part of an airport activity charge. An “airport activity charge” is in turn defined as revenue earned by an airport in relation to a specific charge or group of charges, other than lease, rental and concession income.

Auckland Airport has included a Runway Land Charge in its Standard Charges. This charge relates to a forecast recovery of the holding costs associated with a proportion of Auckland

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Airport's assets held for future aeronautical use. The forecast revenue associated with the Runway Land Charge is disclosed in Schedule 18(ix), along with information about the forecast operating costs and asset values (including accumulated holding costs) associated with Auckland Airport's assets held for future use balance.

This section provides a description of Auckland Airport's rationale for the Runway Land Charge and an explanation of the assumptions and justifications of the net revenue associated with this charge.¹⁷

6.1 Description of the Runway Land Charge and assumptions

Auckland Airport has decided to introduce a Runway Land Charge of \$1.19 per passenger + GST no earlier than FY21 to help provide a sustainable price path for the second runway over time. This represents a NPV-neutral charge that will be tracked in a transparent way over time against the carrying value of Auckland Airport's assets held for future use.

After carefully considering feedback from Substantial Customers, Auckland Airport has decided that the Runway Land Charge will only be introduced in FY21 or later if two triggers are met. As set out in the Schedule of Charges, under this approach, the Runway Land Charge will apply from the later of (1) 1 July 2020 or (2) the first day of the month following the month in which the board of directors of Auckland Airport:

- determines that Auckland Airport has, including expenditure from the start of PSE3 onwards, incurred expenditure of more than \$50 million associated with development of a second runway, with such costs including (but not limited to) design, planning, and construction;¹⁸ and
- resolves to proceed with construction of a second runway.¹⁹

The Runway Land Charge has been informed by the following assumptions:

- Auckland Airport has sought expert advice on the latest timing forecast for the second runway based on the demand forecasts used for pricing and facility planning, and an analysis of certain operating parameters and estimates of when delay on the existing runway will exceed international benchmarks for acceptable delay. This advice recommends that Auckland Airport plans to commission a second runway in 2028, provided that collaboration with Airways and airlines successfully achieves the efficiencies necessary to increase the capacity of the existing runway from today's levels. If those efficiencies cannot be achieved in practice, the second runway may be required earlier than 2028;
- experience in Australia suggests that planning and construction for a second runway involves approximately a ten year lead time. Auckland Airport's current best estimate is that earthworks will start somewhere between FY20 and FY21 (as soon as practical after

¹⁷ We note that Auckland Airport has also forecast minor other revenue associated with assets held for future use, consistent with previous disclosure years. This revenue is summarised in Section 6.3 below.

¹⁸ As we discuss below, after the pricing decision was announced, Auckland Airport received questions from airlines about when expenditure would start to contribute towards the \$50 million capital spend trigger. To provide airlines with certainty about the impact of this trigger and when it is likely to be met, Auckland Airport wishes to clarify that only expenditure from the start of PSE3 onwards will count towards the \$50 million threshold. Auckland Airport has reflected this clarification in the updated Schedule of Charges released as Appendix C to this price setting disclosure and now available on Auckland Airport's website.

¹⁹ For the avoidance of doubt, reference to 'construction' in this clause includes any earthworks or other preparatory and/or enabling works.

the Notice of Requirement and regional council consents are confirmed, and following consultation with airline customers); and

- Auckland Airport has undertaken analysis of the actual land parcels associated with enabling this initial stage of the second runway, and has determined that these parcels represent 68% of the total land held for future use value.²⁰ The Runway Land Charge therefore provides for a full recovery of forecast holding costs on this proportion of the land value only from the time it is introduced. This is a conservative approach as it is yet to be determined if a full or staged runway is optimal.

Auckland Airport also notes that:

- a capital expenditure threshold has been introduced as one of the triggers for the Runway Land Charge, so that it is clear to all parties that a charge will not be levied before Auckland Airport has already made a material investment over and above the land already owned and is, or will very shortly be, using the land for construction;
- linking the trigger to the decision to proceed with construction also means that it coincides with the point in time that Auckland Airport makes an ongoing commitment to develop the second runway. FY21 represents Auckland Airport's best forecast of when the triggers will be met and therefore when the charge will be levied. If the triggers are not met by FY21, Auckland Airport will defer the introduction of the Runway Land Charge until such time as the triggers have been met; and
- Auckland Airport is committed to working with our customers to find ways to maximise the efficiency of the second runway (in fact, efficiencies are required to delay the need for the runway until 2028), as well as committed to consulting with our Substantial Customers ahead of any decision to proceed with construction of the second runway.

6.2 Rationale and justification for the Runway Land Charge

The commissioning of the second runway will be a significant milestone for Auckland Airport, our airline customers, the travelling public, and our air cargo community. It will affect the entire aviation industry and have substantial flow-on implications for the regional and national economies. Auckland Airport is currently ten years out from the planned commissioning of the second runway, which is our expert adviser's guide as the industry-standard lead time for planning and development of new runways, and will be undertaking a considerable programme of works over PSE3 to determine the optimal design for a second runway and secure necessary planning permissions. As noted above, current forecasts also indicate that Auckland Airport will need to commence earthworks between FY20 and FY21. In this context, Auckland Airport considers that a sustainable price path is a crucial element of a successful pathway to commissioning this major investment in a second runway.

The land for the second runway has already been acquired by Auckland Airport, but sits outside our aeronautical asset base for regulatory monitoring purposes, and was excluded from the asset base on which charges were set for PSE2. We are not aware of any major customer

²⁰ No decisions have been made at this point about the length and possible staging of the second runway, but the current base case assumptions have been built around an initial stage runway followed by a final stage runway. This is considered a conservative approach, which will be tested through the design and consultation process, including through consultation with airline customers. Building a full-length runway in one stage remains a possible option.

group that does not think that it is efficient for Auckland Airport to hold the land set aside for the second runway.

If Auckland Airport continues to apply the Commission's input methodologies in price setting, the value of the land held for the future runway will compound over time as holding costs are accrued and tracked each year, serving to exacerbate the size of the price spike when the runway is commissioned into use and enters the RAB.

This substantial land asset was worth \$277 million in FY16. Holding costs added \$22 million to the value of this land asset in FY16. Prior to 2016, Auckland Airport has accrued \$104 million in holding costs in relation to the land held for the future second runway development, and this figure will continue to increase over time. In the absence of any pricing mechanism to smooth prices, the land set aside for the future aeronautical development is forecast to increase substantially in its carrying value by the time the second runway is forecast to be commissioned. This compounding in value is solely due to the accrual of holding costs, and does not include any revaluation to the underlying land from its value as at 2010 (the start of the Part 4 information disclosure regulatory regime).

Due to the scale of the investment required for an additional runway and the large land requirement, and in the absence of any smoothing, airfield charges would be forecast to increase substantially at the time the second runway is commissioned.

One of our key objectives in setting charges is to establish a reasonable price path for airlines and passengers over time for the use of Auckland Airport's services and facilities. Auckland Airport considers the long-term price path for consumers will be more affordable if we are able to find principled methods to smooth the price path both in advance of and following the introduction of the second runway. The decision to introduce a Runway Land Charge is therefore a modest first stepping stone towards achieving a long-term price path for existing and future customers that is affordable, and reduces the prospect that a price shock becomes the key barrier to the realisation of a second runway.

The following factors have informed Auckland Airport's rationale and justification for the introduction of the Runway Land Charge and the associated forecast revenue:

- as noted above, Auckland Airport's primary objective behind the Runway Land Charge is to provide a tool that can help create a sustainable price path for the second runway development over time. It is aimed at addressing our core underlying issue – creating a sustainable price path in the transition to a second runway and lowering long-term landing charges. Over the long term, the Runway Land Charge will lower the price at commissioning of the second runway and therefore required landing charges relative to no Runway Land Charge, as compounded holding costs will reduce;
- Auckland Airport considers the long term benefit of consumers is better promoted by the introduction of the Runway Land Charge compared to an approach of only recovering accumulated holdings costs once the runway is commissioned. In particular, the Runway Land Charge ensures a more equitable distribution of currently accruing holding costs over both current and future users. This is particularly the case given that:
 - current users are contributing to the need for and timing of a significant, once-in-a-generation second runway investment that is forecast to substantially increase airfield charges at the time of commissioning; and

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- current users agree the relevant land should be protected and that it is prudent and efficient in the long term for Auckland Airport to hold this land. In other words, holding the land today is valued by today's customers.
- the introduction of a small Runway Land Charge in PSE3 also provides greater confidence that the second runway will be constructed when needed, because a small step has been taken toward smoothing prices and making the new capacity more affordable to airlines and their passengers over the long term. We note that:
 - consumers can be adversely affected if airports do not have necessary capacity, by delays, a lack of availability in peak and high costs of peak travel. Airlines are affected by delays through additional crew costs, maintenance costs, fuel costs, and lower fleet utilisation;
 - in our view, introducing a Runway Land Charge which seeks to smooth and reduce long term prices and take incremental steps towards a sustainable investment and pricing pathway will help to avoid costly delays to airlines, passengers, and the local and national economies; and
 - we consider consumers will value the fact that long-term planning will have been completed to secure the right to operate the second runway and that the charge will be introduced only following significant spend on permissions and design and a decision to proceed with capital works;
- the charging mechanism is linked to an existing cost that is currently accumulating through PSE3 on specific and existing land assets that are currently held by Auckland Airport for the second runway development, and to specific triggers associated with the construction of the second runway (albeit the PSE3 charge itself only relates to a recovery of holding costs on a portion of unimproved land, and not to any capital expenditure associated with construction);
- the forecast revenues provide for a only a partial recovery of currently accruing holding costs, which together with the \$50 million second runway expenditure trigger provides the right incentives for Auckland Airport to seek to maximise the efficiency of the existing runway and commission the second runway at the right time;
- Auckland Airport considers the charge is consistent with economic principles, including providing signals about the cost of demand in the transition to a second runway. The presence of the charge and its trigger-based nature provides airlines with a clear signal and a corresponding opportunity to influence when the charge comes into effect through behaviour change that could efficiently delay the need for the second runway (eg peak spreading). Airlines that fly the most frequently (particularly domestic airlines at peak), and which would be most impacted by the charge, may be prompted to think more carefully about alternatives other than growing peak services, and to plan for upgauging. This means that airlines have the opportunity to adjust their behaviour and to contribute to the deferral of a decision to commence construction of the second runway if they consider it is efficient to do so – thereby delaying triggering the Runway Land Charge beyond FY21. Alternatively, airlines may determine that relative to their broader network costs, it remains efficient to grow the peak at Auckland – which will influence the decision to commence construction of a second runway;

- the charge is also consistent with and has been informed by available regulatory guidance, including a consideration of the impact on Auckland Airport's indirect incentives. Auckland Airport has also taken guidance from the High Court, which has indicated that price smoothing in advance of commissioning future assets may be economically efficient;
- the information disclosure regulatory regime enables the revenue from the Runway Land Charge to be transparently disclosed and tracked over time because it has been established as a separate identifiable charge. Auckland Airport notes that:
 - under this approach, the forecast revenues will be included as part of the price setting disclosure (Schedule 18 and 19), and the actual revenues will be tracked in each annual disclosure (Schedule 4), and can be assessed by interested parties and the Commission over time. This disclosure approach ensures that airlines, the Commission, and future Auckland Airport management will have clear transparency about the amount of actual revenue that has been collected from this charge;
 - the disclosure regime requires all actual net revenues received prior to the date of commissioning of the second runway to be offset against the carrying investment value of the assets held for the second runway development. Consumers can therefore have confidence that any dollar collected will serve to reduce long-term landing charges in an NPV-neutral manner;
 - the Runway Land Charge is NPV-neutral to Auckland Airport, and as such does not create any risk of Auckland Airport extracting excessive profits, or increase the risk that this may occur over time. On this basis, the charge is therefore consistent with consumer interests over the long term;
 - Auckland Airport also intends to use the annual disclosures to report on the accumulated capital expenditure associated with the second runway in PSE3, so that interested parties can understand when the triggers for the charge are likely to be met; and
 - after the pricing decision was announced, Auckland Airport received questions from airlines about when expenditure would start to contribute towards the \$50 million capital spend trigger. To provide airlines with certainty about the impact of this trigger and when it is likely to be met, Auckland Airport wishes to clarify that only expenditure from the start of PSE3 onwards will count towards the \$50 million threshold. Auckland Airport has reflected this clarification in the updated Schedule of Charges released as Appendix C to this price setting disclosure and now available on Auckland Airport's website.

Auckland Airport notes that it has considered whether the Runway Land Charge should apply to all traffic or to peak traffic only. On balance, Auckland Airport considers it is appropriate for the Runway Land Charge to apply to all passengers, not just passengers travelling at peak times. Although peak demand will be a key contributor to the need for and timing of the second runway, the broader resilience of the runway system will also be a key factor in the decision to commence construction on the second runway. As demand grows today, this will result in a flatter profile across the operational day, which will have little resilience to recover or accommodate abnormal conditions, e.g. weather disruptions or unexpected runway incidents. For this reason, given the charge is to be introduced once a decision to start construction has

been made, we consider it is fair and equitable for the charge to apply to all consumers. Given the charge is proportionately larger for domestic customers, they have been provided a clear signal of the impact of their peak scheduling choices.

6.3 Summary of forecast assets held for future use net revenue

In addition to the forecast revenue associated with the Runway Land Charge, Auckland Airport currently earns a small amount of revenue on land held for the second runway development (approximately \$0.2 million annually). This is more than offset by the operating costs in relation to this land (predominantly rates expenses) of approximately \$1.2m to \$1.6m per annum over PSE3. This amount and the forecast revenue from the Runway Land Charge are disclosed together in the “Forecasts assets held for future use net revenue” line of Schedule 18(ix).

For transparency, the table below shows the forecast assets held for future use values over PSE3 with these two revenue streams and the forecast operating costs presented as separate lines.

Table (o): Forecast assets held for future use value over PSE3 – revenues separated

\$m	FY18	FY19	FY20	FY21	FY22
Balance at beginning of year	299.9	322.0	345.8	371.2	379.9
Forecast holding costs	21.0	22.5	24.2	25.5	26.1
Forecast net revenue from Runway Land Charge	-	-	-	(18.2)	(18.8)
Forecast other revenue	(0.1)	(0.1)	(0.1)	(0.2)	(0.2)
Forecast operating costs	1.2	1.3	1.4	1.5	1.6
Balance at end of year with Runway Land Charge	322.0	345.8	371.2	379.9	388.6

All revenues and operating costs in the table above are expressed after tax. We note that the revenue information presented in Schedule 18(v) is expressed pre-tax, and the revenue information in Schedule 18(ix) relates to *net* revenue – i.e. is post-tax and after operating costs have been deducted.

7. Forecast capital expenditure

7.1 Overview of disclosure requirements

Clause 2.5 of the Determination requires disclosure of Auckland Airport’s forecast capital expenditure on a five and ten year forecast basis.

Clause 2.5(1)(l) of the Determination requires that Auckland Airport publicly disclose:

- its forecast capital expenditure over a ten year forecast period by category, as disclosed in Schedule 18; and
- the aims and objectives of the key capital expenditure projects over a ten year forecast period, as disclosed in Schedule 18.

Clauses 2.5(1)(m) of the Determination require the public disclosure and a description of each key capital expenditure project²¹ for the period of five consecutive years immediately following the price setting event, including an explanation of:

- the process by which the need for the key capital expenditure project was determined, including any assessment criteria;
- any consumer engagement undertaken as part of the process referred to in clause 2.5(1)(m), including a description of how consumer demands have been assessed;
- any alternative expenditure projects considered, and the rationale for excluding those alternative projects;
- the extent to which the key capital expenditure project is reflected in pricing; and
- any constraints or other factors on which successful completion of each key capital expenditure project is contingent.

In this section, Auckland Airport provides an overview of its approach to capital expenditure planning, along with a summary of the benefits intended to be delivered by the forecast capital expenditure programme for PSE3.

This section should be read together with Schedule 18(x), and with Appendix B, which sets out the more detailed requirements for forecast capital expenditure by category and for key capital expenditure projects.

7.2 Overview of Auckland Airport's capital expenditure planning

Conditions at Auckland Airport have changed materially in the last 22 months as growth has arrived faster than anyone could have 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 significant benefits 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 60% more than forecast for PSE2 in response to demand), acknowledging 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.

²¹ A "key capital expenditure project" for the purpose of the Determination means a current or future project or programme of capital expenditure that involves total expenditure of more than \$5 million over the life of the project or programme.

Auckland Airport commenced its most recent round of consultation on capital priorities in January 2016, as part of the iterative process that began with the release of the revised Masterplan in 2014. This capital consultation process has informed the versions of the capital expenditure forecast that have been shared through the pricing consultation process, with consultation information based on the status of the DP / TDP feasibility study as well as other relevant capital planning studies at the time that consultation materials were prepared.

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;
- we explained in broad terms 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); and
- we made material changes to our capital plan in response to feedback from Substantial Customers. We understand that most of our 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 have observed a high degree of alignment between Auckland Airport and our airline customers on the capital plan for the next five years (although, as noted above, some airlines had reservations about the scale of expenditure). We also note that we have undertaken a 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.²²

7.3 Forecast five and ten year capital investment programme

This disclosure (including Appendix B) provides a high level overview of the 5 and 10 year capital investment programme, projects, sub-projects and costs. The aeronautical pricing

²² TNS Survey May 2016, sample size 1000.

process involves a thorough review of inputs and priorities and establishes the priorities for the next five years.

This plan represents our best estimate of project delivery over PSE3, as at June 2017. As discussed with Substantial Customers through the pricing consultation, we consider that it is important and efficient for Auckland Airport to retain flexibility in how and when we invest to solve capacity and other operational challenges. A range of options typically exist for resolving any given issue, and there will inevitably be differences between the forecast capital plan and the way investment is actually delivered over the pricing period as new information comes to hand.

We propose to continue to work with the BARNZ Cost and Regulatory Committee over the next five years to discuss any material changes to timing, costs, or re-purposing of capital expenditure compared to this forecast plan. We consider this process has worked well for PSE2, and enabled Auckland Airport to make the necessary trade-offs to respond to changing circumstances over the period, based on a good understanding of what our airline customers value. There has been broad support for this approach from some of our customers.

Auckland Airport's approach to capital planning has also involved looking ahead to PSE4, to ensure consistency of fit between the projects planned for PSE3 (and included in aeronautical pricing) and the medium to longer-term development pathway. Information about these forecast projects has been shared and tested with airlines through the pricing consultation process.

However, our experience has been that the forecast capital expenditure for the 6-10 year forecast (i.e. PSE4) will require significant review ahead of the next pricing period to recalibrate the material capacity that will be delivered over the next five years against the inevitable changes in industry conditions, fleet mix, business models and technologies. The capital plan for PSE4 will also be retested through consultation with our Substantial Customers in five years' time. It is therefore possible that there may be material changes in the scope and form of the projects set out in this price setting disclosure.

7.4 Benefits to consumers of the investment plan

The forecast capital plan for PSE3 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 very good 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 will also provide dedicated and/or wider lanes for families, passengers with restricted mobility, and premium and fast track passengers.

In addition, the development will provide a flexible environment that can respond to future changes in processing technology, adapt to the constantly-changing security environment and/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. We note that:

- 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); and
- 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 instead in remote stands would have provided 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 **a staged expansion of the MPI and arrivals area**, initially through the development of a new purpose built facility expected to be delivered in FY20, with a subsequent capacity increase in FY25 when the new facility is integrated with the existing terminal. 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 improve processing efficiency and 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 for check-in 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;
- 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 priority gates connected to the international terminal on Pier A**, including the transit facility;
- a once-in-a-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 useful 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 up-gauging 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. For airlines, this will also reduce fuel burn associated with taxiing. 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;
- investment in terminal roads and our 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; and
- **technology investment** to enable new modes of operating 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.

8. Services in the revenue requirement not applicable to price setting event

Clause 2.5(1)(u) requires, for each service that is included in the revenue requirement not applicable to the price setting event as disclosed in accordance with Schedule 18, Auckland Airport to publicly disclose:

- a description of the service;
- the forecast total revenue requirement that is forecast to be earned from the service for each disclosure year of the price setting event;
- the revenue earned from the service during the most recent disclosure year; and
- reference to any price setting event that the service has been applicable.

In this section the disclosure requirements are set out for the categories of service that form part of the forecast total revenue requirement but that did not form part of the price setting event consultation (i.e. Other Regulated Activities). These are:

- aircraft and freight services; and
- other passenger terminal services.

Aircraft and freight services

Under Section 2 of the AAA, aircraft and freight activities mean the activities undertaken (including the facilities and services provided) to enable, within a security area or areas of the relevant airport, the servicing and maintenance of aircraft and the handling of freight transported, or to be transported, by aircraft; and includes:

- (a) the provision within a security area or areas of the relevant airport, of any one or more of the following:
 - (i) hangars;
 - (ii) facilities and services for the refuelling of aircraft, flight catering, and waste disposal;
 - (iii) facilities and services for the storing of freight; and
 - (iv) security, customs, and quarantine services for freight; and
- (b) the holding of any facilities and assets, including land acquired or held to provide aircraft and freight activities in the future (whether or not used for any other purpose in the meantime).

Auckland Airport's aircraft and freight activities are predominantly landlord and tenant services. The rental agreements for these tenancies are periodically negotiated between parties and are generally based on market comparables and subject to normal commercial dispute resolution procedures. A key exception to this is the licence fee for the Joint User Hydrant Installation ("JUHI"), which relates to the provision of assets by Auckland Airport to enable fuel suppliers to deliver aviation fuel to aircraft. The price for this service is set on an annual basis following consultation. In practice agreement is reached with JUHI as the licensee.

As discussed above, ongoing discussion is underway regarding the optimal future location of cargo processing at Auckland Airport, which is at a preliminary stage only. Any decisions that are made will affect forecasts for aircraft and freight revenues, investments, disposals and effective returns. Given the long-term land location is yet to be consulted on with Substantial Customers, it is difficult to estimate the degree of change that might occur to aircraft and freight services. In the absence of more advanced planning, the forecasts for this price setting disclosure are based on a continuation of current practices at a portfolio level. Auckland Airport's actual returns will be accurately captured in time through annual disclosures.

The following table sets out the revenue that is forecast to be earned for aircraft and freight services for each disclosure year of the price setting event. The estimate of revenue earned from these services for FY17 is \$12.6 million (FY16: \$12.8 million).

Table (p): Aircraft and freight forecast revenue

\$m	FY18	FY19	FYFY	FY21	FY22
Aircraft and freight forecast revenue	13.4	15.0	16.5	16.8	17.2

Other passenger terminal facilities

Under Section 2 of the AAA, specified passenger terminal activities mean the activities undertaken (including the facilities and services provided) in relation to aircraft passengers while those passengers are in a security area or areas of the relevant airport; and includes:

- (a) the provision, within a security area or security areas of the relevant airport, of any one or more of the following:
 - (i) passenger seating areas, thoroughfares, and airbridges;
 - (ii) flight information and public address systems;
 - (iii) facilities and services for the operation of customs, immigration, and quarantine checks and control;
 - (iv) facilities for the collection of duty-free items; and
 - (v) facilities and services for the operation of security and Police services.
- (b) any activities undertaken (including the facilities and services provided) in a passenger terminal to enable the check-in of aircraft passengers, including services for baggage handling; and
- (c) the holding of any facilities and assets (including land) acquired or held to provide specified passenger terminal activities in the future (whether or not used for any other purpose in the meantime),

but does not include the provision of any space for retail activities.

Most specified passenger terminal activities are covered by Standard Charges (typically passenger charges). However, some of these services are landlord and tenant services, and therefore the rental agreements for these tenancies are periodically negotiated between parties. The exceptions to this are services owned and operated by Auckland Airport, namely the Emperor Lounge, VIP Meet & Assist Service and the Duty-Free Collection Point.

The following table sets out the revenue that is forecast to be earned for these services for each disclosure year of the price setting event.

Table (q): Other passenger terminal services total revenue

\$m	FY18	FY19	FYFY	FY21	FY22
Other Passenger Terminal Forecast Revenue	10.9	11.4	11.8	12.5	13.0

The estimate of revenue earned from these services for FY17 is \$10.8 million (FY16: \$13.6m). In the course of preparing this Price Setting Disclosure, Auckland Airport has identified an historic over-allocation of revenue to aeronautical activities where business technology services are provided to airline customers and recovered through Standard Charges (by way of costs allocated to the revenue requirement), as well as provided to retail tenants and recovered

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through commercial revenues (e.g. internet costs paid by retail tenants). Historically, these commercial revenues relating to non-regulated services were incorrectly allocated as aeronautical revenues for disclosure purposes. Auckland Airport has corrected this issue for this Price Setting Disclosure.

9. Pricing methodology

As required by clause 2.5(3) of the Determination, this section provides an overview of Auckland Airport's pricing methodology used to set Standard Charges, and other pricing-related information underpinning Auckland Airport's Standard Charges for FY18 to FY22. The final schedule of Standard Charges is attached as Appendix C.

9.1 Summary of pricing methodology

As discussed in Section 3 above, the pricing methodology used to set Auckland Airport's Standard Charges for Aeronautical Pricing Activities was based on a building blocks approach. The required revenues were estimated using an Excel-based model that reflected both the economic principles recommended by Auckland Airport's advisors and adjustments made through the aeronautical pricing consultation as a direct result of feedback from Substantial Customers.

As in PSE2, Auckland Airport's overarching rationale in reaching its Aeronautical Pricing Decision was to earn a fair and reasonable return on an appropriate asset base, as well as recovery of our efficient operating costs. As discussed in Section 4.3, Auckland Airport exercised its judgement to determine a fair and reasonable target return that reflected our airport-specific risks and challenges over PSE3, and which was necessary to help support an investment programme that is forecast to deliver substantial long-term benefits for consumers.

9.1.1 General approach to pricing methodology and efficiency

When developing its pricing methodology and considering the structure and efficiency of its prices, Auckland Airport sought to build on the approaches established in PSE2. At the beginning of the pricing process for PSE3, Auckland Airport engaged Estina to assist it with developing an efficient pricing methodology and a set of efficient pricing principles for setting Standard Charges. As was the case in PSE2, a key issue for the Aeronautical Pricing Decision remained how to balance signalling long-run costs of demand with setting commercially acceptable returns over the five year forecast period (to airlines, shareholders and the regulator) in an environment where the airport is being monitored on a relatively prescriptive building blocks basis.

Estina's recommendations were consistent with its advice provided to Auckland Airport in 2011 before the PSE2 pricing decision. After considering this advice, Auckland Airport determined that its pricing methodology and the resulting charges should:

- be consistent with achieving economic efficiency;
- encourage efficient use of Auckland Airport's assets, and ensure that Auckland Airport is encouraged to invest in the airport and run it efficiently;
- seek to reflect the costs driven by the consumption of Auckland Airport's services;

- reflect long-run costs by having reference to a five-year building block approach, and introducing an additional charge to start to provide efficient pricing signals and for efficient price smoothing ahead of the second runway development; and
- balance economic principles which promote efficient pricing with price structures that are transparent, easy to understand, stable over time, and simple for the airport and airlines to administer.

Auckland Airport has also sought to reflect the pricing principles that were developed and adopted for PSE2, to promote stability of pricing over time where this is considered appropriate. In this way, Auckland Airport has sought to:

- allow airlines to consume and pay for only what they wish to consume by:
 - setting Standard Charges for a common set of needs for aircraft and passenger movements;
 - treating specific asset requirements separately through leases and common-user licenses, e.g.: VIP Check-In, VIP Lounges, office space, dedicated plant, etc; and
 - remaining open to entering into negotiations with individual airlines to reach agreement on variations from "charged services" (e.g. more for more or less for less, although acknowledging the challenges of this in a common user environment).
- reflect different cost drivers by:
 - separating services where there are distinctly different cost drivers or demand-side factors (price elasticity) (e.g. domestic vs international);
 - setting prices such that the cost of a service is no more than its stand alone cost;
 - recognising that, to a significant degree, airfield services are related to the aircraft type rather than passengers on board, and therefore that it is appropriate to continue to use maximum certificated take-off weight ("**MCTOW**") based charges for aircraft landings, and to move to a combination of aircraft size and a time dimension to reflect the utilisation of apron and/or stands associated with aircraft parking; and
 - using per passenger charges for passenger movements and airside terminal costs.
- reflect demand-side factors by:
 - allocating common costs to reflect differences in demand elasticity;
 - considering the transition of price paths from current prices to the new prices for different services to avoid price "shocks" to a service;
 - considering long-run pricing issues and seeking to price in a way that avoids price shocks in the future where appropriate; and
 - treating the cost of common goods, such as roads, forecourts, utilities and landside circulation areas as common costs, the aeronautical portion of which are included in

passenger charges and allocated between passenger types, in a way that is likely to enhance price efficiency.

- consider congestion costs. Auckland Airport considered whether peak pricing was appropriate, and concluded that it was mainly appropriate where there are no cost effective options to expand supply. Given Auckland Airport has cost effective expansion options, the use of peak/off-peak differentials is not considered appropriate for PSE3.
- Auckland Airport's pricing philosophy also involved:
 - benchmarking charges to ensure they are competitive with charges offered by other airports flown to from Auckland Airport;
 - seeking to smooth prices, to the extent practical; and
 - being mindful of the economic conditions faced by our airline customers.

In balancing these economic considerations with delivering a commercially acceptable outcome, Auckland Airport has taken into account the following practical considerations:

- Airlines and the Commission prefer to use a five-year bounded NPV building block evaluation for transparency purposes, even though reflecting forward-looking economic cost data would be more efficient from a pure economic perspective.

Using the five-year bounded NPV method means that investments with lumpy expenditure profiles create volatility in returns and the price path for consumers over time. Through consultation with Substantial Customers, Auckland Airport has explored mechanisms to address the challenges associated with two large investments with lumpy expenditure profiles in the medium-term – the new domestic jet facility and the second runway development. Auckland Airport's consideration of price smoothing for the new domestic jet facility is discussed below, and charges associated with the land held for the second runway are discussed at Section 6 above.

- Auckland Airport has considered the building blocks for airfield activities and passenger activities, and has made changes from the approach in PSE2 to rebalance landing charges and passenger charges. In previous pricing periods, MCTOW charges covered a partial share of common costs, and passenger charges made a contribution to airfield common costs and airfield passenger-driven assets. This contribution has been removed in PSE3, and MCTOW charges cover all direct airfield costs as well as a full share of common costs. Passenger charges no longer make any contribution to airfield direct or the airfield share of common costs.
- There are varying views on the demand-side impact of allocating common costs to domestic compared to international services. Generally, international airlines (represented by BARNZ) considered that domestic charges should be increased to make a greater contribution towards common costs. Domestic carriers considered that the proposed cost allocation between domestic and international services was reasonable. In the final Aeronautical Pricing Decision, Auckland Airport sought a recovery from domestic operations that covered direct costs and made a modest contribution to common costs as domestic consumers were considered to have higher price elasticity.

9.1.2 Approach to particular price structure concepts

Through the pricing consultation process, Auckland Airport explored a number of specific price structure concepts as part of our objective to set efficient prices. These concepts included:

- the relative effectiveness of pricing versus policy tools to encourage efficient use of and investment in taxiways, aprons and stands. This included exploration of “on the ground” or parking charges, and the potential introduction of differentiated prices for bussed operations. Following consultation on these topics, Auckland Airport decided:
 - to introduce across-the-board parking charges along with a new stand allocation policy to better encourage efficient use of apron and stand infrastructure; and
 - to maintain the same airfield and terminal charges for aircraft allocated a contact stand and aircraft allocated a remote stand and serviced by a bussed operation (as discussed further in Section 9.3.3 below).
- price and policy changes to support the evolving international check-in service and the efficient utilisation of terminal space for check-in services. Following consultation, Auckland Airport has introduced a new charging structure for check-in that distinguishes between traditional check-in counters and common-user check-in technology, supported by a check-in and bag drop allocation policy;
- signalling the long run cost of the second runway. Auckland Airport explored the introduction of a charge to reflect how increments in demand for runway capacity today impact the timing of the lumpy investment in the second runway. Following consultation with Substantial Customers, Auckland Airport has introduced a trigger-based Runway Land Charge that seeks to recover holding costs on a portion of the land held for the second runway, to be introduced no earlier than FY21 and only once construction-related triggers have been met (as discussed further in Section 6 above);
- the potential for price smoothing in advance of the commissioning of the new domestic jet facility. Following feedback from airline customers, domestic prices reflect the assets and facilities in use over PSE3, and do not make any contribution to the cost of the new domestic jet facility, which is forecast to be commissioned at the very end of PSE3 and has been excluded from the revenue requirement used to determine Standard Charges for PSE3. This will require a step change in price when the new domestic jet facility is commissioned into the pricing asset base (forecast from the start of PSE4); and
- the most appropriate and efficient approach to risk allocation at Auckland Airport. Auckland Airport considered airline requests for modified risk allocation approaches for demand and capital expenditure, including requests for wash-ups on these pricing variables. Following consultation, Auckland Airport has maintained the general approach to risk allocation that applied in PSE2 – where Auckland Airport bears both the risk and reward of actual performance across the full range of pricing elements differing to forecast, with a limited exception in the event of operating expenditure or capital expenditure resulting from airline-requested or unforeseen regulatory requirements (where charges can be adjusted through the Regulatory and Requested Investment (“**RRI**”) mechanism). We note that, although this mechanism was in place in PSE2, Auckland Airport chose not to utilise it – instead making trade-offs across different building-block elements in response to higher capital expenditure and operating cost requirements. In PSE3, Auckland Airport contemplates that

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this mechanism will be utilised to adjust charges to account for the contingent runway once consultation has progressed with airlines and the optimal design identified.

9.2 Description of charged services

A “charged service” under the Determination means a category or group of specified airport services in respect of which a standard charge applies.

Auckland Airport’s “charged services” in respect of the Aeronautical Pricing Decision are as follows:

Table (r): Summary of charged services

Services	Charge	Basis of charge
Airfield landing facilities and services	<ul style="list-style-type: none"> Landing charge 	<ul style="list-style-type: none"> Aircraft MCTOW
Airfield parking facilities and services	<ul style="list-style-type: none"> Airfield parking charge 	<ul style="list-style-type: none"> Hourly rate by aircraft code (after six hours)
Passenger terminal facilities and services	<ul style="list-style-type: none"> Domestic Passenger Charge (“DPC”) Regional Passenger Charge (“RPC”) International Passenger Charge (“IPC”) Transit Passenger Charge (“TPC”) 	<ul style="list-style-type: none"> Per passenger
Check-in facilities and services	<ul style="list-style-type: none"> Check-in charge 	<ul style="list-style-type: none"> Varies according to check-in mode

We have also set a Runway Land Charge associated with holding land for the future aeronautical development of a second runway at Auckland Airport, as discussed further in Section 6.

Airfield facilities and services

Airfield landing charges and parking charges are payable in respect of the facilities/assets and operational costs directly associated with:

- runway, taxiways and taxilanes;
- aprons including hardstands and aircraft manoeuvring areas;
- nose-in guidance and ground power units for international contact stands;
- airside safety services;
- airport fire services;
- asset management of airfield services, including planning, repairs and maintenance;
- a share of common costs associated with corporate-wide functions (e.g. Chief Executive and board, corporate, accounting and finance, legal, human resources, information technology, health and safety, security and shared aeronautical functions); and
- a share of infrastructure, including the utility networks and access roads.

Landing charges are charged on the basis of an aircraft’s MCTOW. Parking charges are levied on hourly rates by size of aircraft.

Passenger terminal facilities and services

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The DPC and the RPC cover the common use facilities (assets) and operational costs associated with:

- check-in hall (domestic only);
- a share of landside congregation, circulation areas, toilets and egress for passengers and visitors;
- airside congregation, circulation, seating, and public areas, toilets and egress for passengers and visitors;
- baggage makeup hall, baggage claim areas, breezeway, conveyor areas outside baggage halls, baggage collection area;
- common use airbridges and bussing costs;
- terminal systems required for processing or administration of passengers including security, flight display system, public address system, building fire system, closed circuit television system and communication systems;
- public facilities and services for aviation security, including queueing areas;
- a share of building infrastructure and plant;
- operations staffing and management to facilitate effective daily operation of the terminal building and interaction with airlines;
- asset management services including planning and repairs and maintenance for Auckland Airport common use assets; and
- a share of infrastructure including the utility networks, access roads and forecourts.

International passenger charges (which include the IPC and TPC) cover the facilities/assets and operational costs associated with:

- a share of landside congregation and circulation areas, toilets and egress for passengers and visitors;
- a share of airside congregation, circulation areas, seating areas and lounges, toilets and egress for passengers and visitors;
- operational areas for New Zealand Customs and the Ministry of Primary Industries operational space;
- baggage makeup areas, baggage claim areas, breezeway, conveyor areas outside baggage halls, baggage collection area; baggage trolleys
- airbridges or bussing, including inter-terminal busses;
- terminal systems required for processing or administration of passengers including security, flight display system, public address system, building fire system, closed circuit television system and communication systems;
- a share of building infrastructure and plant;
- operations staffing and management to facilitate effective daily operation of the terminal building and interaction with airlines;

- asset management services including planning and repairs and maintenance;
- share of common costs associated with corporate wide functions (e.g. Chief Executive and board, corporate, accounting and finance, legal, human resources, information technology, health and safety, security and shared aeronautical functions); and
- a share of infrastructure including the utility networks, access roads and forecourts.

The Regulatory and Requested Investment Charge as per the Regulatory and Requested Investment policy appended to the Standard Charges covers unforecast:

- capital expenditure over \$5 million that results from regulatory change or is requested by airlines; and/or
- operating expenditure over \$1 million that results from regulatory change or as a result of changes requested by airlines.

Check-in facilities and services

The check-in charge covers common use facilities and operational costs associated with the ITB check-in hall. The check-in charge does not cover dedicated single-user areas that are separately charged by way of lease or licence. For PSE3, the structure of the check-in charges varies according to the check-in mode adopted.

9.3 Description of relationship between quality of service and cost for each charged service

Charged services relate to services provided in a common-user environment.²³ Auckland Airport appreciates that the quality of the services it provides is important to its customers and we are committed to continuous engagement with our customers in relation to service quality. Over PSE3, we endeavour to maintain a very good quality of service (circa a score of “4” on the quarterly ASQ surveys on average across the period), taking into account the requirements of our airlines and passengers, across the common-use services and facilities included in Standard Charges. However, we recognise that, on average, delivery of quality services in off-peak periods is less challenging to achieve than during peak periods. We also acknowledge there are likely to be short and medium term challenges to achieving our intended quality outcomes through periods of heavy construction and in the lead-up to commissioning of new facilities – particularly in relation to domestic services ahead of the expected commissioning of the new domestic jet facility in FY22.

Auckland Airport will undertake a number of quality of service initiatives for its charged services over PSE3. These include:

- providing key support functions to deliver the charged services;

²³ Where a customer has additional service level demands to the common-user requirements, these are met through specific leasing arrangements with those customers. Examples include dedicated check-in areas, VIP check-in areas and VIP lounges. In these instances, the cost of the charged service is based on market-based rental comparisons.

- committing to regular operational forums with airport partners to monitor system-wide performance for charged services, and to set collaborative aspirations for improvement where appropriate;
- setting up a working group on service levels for charged services, aiming to develop a refined set of service measures for performance monitoring, and to formalise the process for notification and rectification of service level matters; and
- committing to steps to address service quality matters of particular importance to airlines, including reflecting necessary operating costs and capital expenditure in the forecast revenue requirement where appropriate.

9.3.1 Key support functions

Auckland Airport provides a number of key support functions to deliver the quality of service required by airline customers and passengers for charged services. These include:

- operations: a monitoring centre with support staffing provided 24 hours per day to enable the prompt resolution of minor service interruptions, CCTV monitoring, service breaches, alarm door activations, fire alarm monitoring and general customer service responses via trained staff in the contact centre;
- Emergency Operations Centre ("**EOC**"): a fully equipped EOC is activated and co-ordinated by Auckland Airport. The EOC operates under the Co-ordinated Incident Management System. Part of this service includes an emergency notification system via text to all airlines and relevant agencies;
- incident management: Auckland Airport Operations Centre co-ordinates all on-airport incidents (outside of EOC), for example unattended luggage, medical emergencies, suspicious articles/devices and vehicle traffic incidents;
- maintenance: undertaking preventative maintenance programmes and responding to breakdowns in facilities;
- utility infrastructure: Auckland Airport provides and maintains high quality and reliable water, electricity and gas infrastructure;
- airside: a monitoring team for compliance and safety issues for all aircraft movement areas;
- fire and rescue service: emergency response service required by Civil Aviation Authority regulations;
- health and safety: Auckland Airport leads and co-ordinates at least three health and safety forums across the airport. This includes regular joint stakeholder auditing and reporting of hazard identification and risk;
- medical and environmental: Auckland Airport provides first response to medical and environmental incidents;
- peak period management: during peak periods Auckland Airport proactively deploys staff into identified problem areas to facilitate efficient queue management (although we do not

consider this displaces the fundamental need of MPI and other Government agencies to provide adequate resource during peak periods); and

- sustainability: Auckland Airport proactively manages for the sustainability of its practices and has silver certification under the Earthcheck global sustainable tourism scheme.

9.3.2 Collaborative approach and working group on service levels for charged services

Auckland Airport is a complex operation that relies on many organisations working together. Auckland Airport sees improving service quality as an ongoing journey, and has undertaken to continue to foster a collaborative culture where the many parties that are critical in delivering quality services work together to solve issues.

Similarly, Auckland Airport considers that service monitoring and reporting – including setting collaborative or individual service targets if appropriate – is a process that will take place over multiple pricing periods and after thorough engagement with our airline customers and other key stakeholders such as ground handlers and border security agencies.

During PSE2, Auckland Airport invested substantial time and resource into developing collaborative working relationships with its airport partners in order to optimise performance.

At the heart of collaboration has been the development of the Collaborative Operations Group (“**COG**”) programme, which was in its infancy at the beginning of PSE2. Over the past five years, the COG framework has evolved to support short, medium and longer term operational planning through three main COG forums that draw together key airport stakeholders under an agreed vision and set of operational principles, as well as a range of performance measures. The main COG forums are as follows:

- Daily COG – a daily cross-agency tactical forum supporting daily operational planning;
- Senior COG – a monthly cross-agency strategic forum providing direction on continuous improvement projects; and
- CEO COG – a quarterly cross-agency forum providing oversight and governance on initiatives.

All three forums provide an opportunity for the open sharing of information and collaboration to monitor and improve the quality of service for charged services. Considerable investment has been made to support the COG framework over PSE2, including investment in a number of decision-making and planning tools – promoting the gathering and sharing of operational data to enhance decision-making, increase efficiency, and improve on time performance.

The COG partners continue to work together on continuous improvement projects to drive improvement in service quality, including through bespoke forums on key issues such as on time performance. Auckland Airport plans to use these forums to work with our airport partners to refine service level aspirations for charged services over PSE3, and to build on the current constructive platform by forming a working group on service levels over PSE3.

The aim of this working group is for the airport, airlines and key stakeholders to work together to identify a core group of service levels that the group agrees to monitor. As discussed above, Auckland Airport currently monitors a range of service performance data and shares this with

our airline customers through our existing COG forums. There are also a range of COG service targets currently in place. We think that the COG forums are already monitoring a lot of the right data, but this will be tested through the working group to ensure that the service measures are meaningful and valuable to all stakeholders.

The group is also expected to identify the minimum service level for all services monitored, and the process for notification and resolution if minimum service levels are not met. Auckland Airport envisages that such remedial measures will include regular meetings and the use of existing or bespoke working groups to agree and communicate actions to raise service levels above the minimum agreed standard.

9.3.3 Service and pricing approach for particular service performance matters and/or charged services

Throughout the aeronautical pricing consultation, Auckland Airport carefully considered feedback from airlines on specific service performance matters, and explained the programme of actions that have already been undertaken or are in place to address these matters for PSE3. Feedback on the two issues that appeared most material to airlines – baggage handling systems and bussed operations – indicated that the steps already taken by Auckland Airport to improve the baggage handling process are likely to address the issues that are important to airlines, and that airlines acknowledge the range of improvements to the quality of bussed operations that Auckland Airport is planning to deliver over PSE3.

Through the pricing process, Auckland Airport thoroughly tested whether a pricing differential or discount was warranted for bussed operations, relative to aircraft using a contact stand and an airbridge to connect passengers between the aircraft and the terminal (and vice versa). Auckland Airport carefully considered airline feedback on this point, as well as the range of service quality and performance improvements proposed for the bussing product and the overall efficiency of bussed operations for Auckland Airport and consumers. On balance, Auckland Airport decided not to introduce a pricing differential or discount where an aircraft is bussed. We note that:

- Auckland Airport has a planned programme of actions to improve the bussing product for airlines and passengers, including a new bussing contract and fleet of buses, as well as a plan to invest in Avi-ramp technology to more closely approximate an airbridge experience for passengers and to improve the on-boarding and off-boarding process for airlines;
- International bussing is predominantly used in peak (and for off-schedule operations), and bussing has been acknowledged as an efficient peak solution by the airlines. As such, bussing is an efficient part of the solution to manage peak capacity and to efficiently manage capital expenditure, and (as with other major international airports) will be an important part of Auckland Airport's operational model over the medium-term as we seek to cater for existing peak services and growth in peak periods at the same time as managing through an intensive construction period; and
- to the extent that some airlines may still face additional operating and/or ground handling costs associated with bussed operations, Auckland Airport considers that these additional costs are part of the overall cost faced by airlines who choose to operate at peak times and effectively provide an efficient price signal to airlines about the cost of operating in peak periods at Auckland Airport.

9.4 Description of methodology used to allocate costs to particular charged services

Auckland Airport has set two key types of charged services in the Aeronautical Pricing Decision – landing charges and passenger charges. Together these represent 95% of the forecast revenue consulted on as part of the Aeronautical Pricing Decision. Auckland Airport's process for allocating assets and costs to charged services was to develop separate building blocks information for airfield services and passenger terminal services.

In the interests of simplicity, the approach taken to cost and asset allocation was based on the Commission's input methodology determination that is required to be used for information disclosure purposes, which focuses on the allocation of costs to airfield, passenger terminal and aircraft and freight services.

Key principles involved direct allocation of costs in the first instance and allocation of common costs using causal or proxy allocators. A causal relationship exists when an allocator or factor influenced the utilisation of an asset, or a cost driver lead to an operating cost being incurred during the last 18 months. A proxy relationship is used when a causal relationship does not exist, so instead costs / assets are allocated via transparent quantifiable metrics. Analysis has been undertaken of the activities conducted by each business unit. For common costs which are shared across the entire business the company-wide business rule is an important allocator and forms the basis of the allocation between regulated and non-regulated activities. Common costs attributed using the company-wide business rule are first shared between regulated and non-regulated activities based on international terminal space usage and then across airfield, terminal and aircraft and freight activities in proportion to relative revenues. Only common costs are shared by the company-wide rule. Costs that are directly attributable to non-regulated activities, e.g. investment property, retail and car parking, including the specific management overhead associated with those activities, are not allocated in any proportion to regulated aeronautical activities.

The advantage of this approach is to provide consistency with disclosure requirements.

As discussed above, high level assessments and sense checks were made to ensure that the Standard Charges covered the direct costs associated with airfield and terminal services and common costs were allocated to minimise the expected impact on demand. Passenger terminal and airfield services were also approached on a NPV = 0 basis, with Standard Charges recovering the building blocks costs associated with these services.

The broad principles of asset and cost allocation processes are provided in the comments in Section 4.2 (asset allocation) and Section 4.4 (cost allocation) above.

9.5 Description of significant changes to, or rebalancing of prices from, the previous pricing period

The following bullets describe the significant changes to, or rebalancing of, prices from the previous pricing period compared to the Standard Charges to apply from 1 July 2017:

- differential charges have been introduced for domestic passengers travelling on trunk and regional routes: the DPC and RPC respectively. The DPC applies to all arriving or departing passengers from/to Wellington, Christchurch, Dunedin or Queenstown (and any other domestic location primarily service by jet aircraft). The RPC applies to all other domestic

destinations. This distinction reflects that domestic passengers travelling on trunk routes are more costly to service than regional passengers which currently still benefit from a simpler process;

- the TPC has been maintained. However, there has been a slight rebalancing of the TPC, and the discount versus the IPC has been slightly reduced over the period compared to PSE2;
- as discussed above, MCTOW charges cover all direct airfield costs as well as an allocation of common costs. This differs to PSE2, where the IPC made a contribution to airfield costs;
- across the board parking charges have been introduced for time on the ground over six hours with specified exemptions. Improved stand and apron efficiency has been targeted both through sending price signals and the application of stand allocation principles. Although apron parking charges were part of Auckland Airport's schedule of charges for PSE2, it was Auckland Airport's practice to only implement these charges in the event of increased congestion and these charges have not been consistently implemented in practice over the last five years. We note that:
 - with increasing aircraft movements, longer layovers and an increased awareness around the importance of efficient use of the available resources, Auckland Airport has introduced a stand allocation policy and considers the consistent implementation of aircraft parking charges is an important tool alongside the stand allocation policy to help encourage efficient asset usage;
 - recent growth has reduced available capacity and resilience, and congestion has been building on particular taxiways and the international apron. In the next five years, the apron will continue to be a valuable asset as we seek to cater for existing services and forecast growth in an efficient manner. Ensuring the right incentives are in place to encourage efficient use of the apron will be critical over the next five years as a material airfield investment programme is planned, and enabling and construction works will be underway across the stand, apron and taxiway systems;
 - in light of these challenges, Auckland Airport considered there was merit in introducing parking charges to assist in encouraging efficient utilisation of aprons, taxiways and stands for their intended purposes, reducing inefficient long layovers, encouraging the use of leased areas where possible, and encouraging quicker turns of aircraft. As indicated above, this price signal is intended to work together with the new stand allocation policy to support an efficient airfield system, and Auckland Airport will continue to work closely with customers through PSE3 on how policy tools can support efficient outcomes;
 - the consultation process on the possible introduction of parking charges has already led to the promise of efficient behaviour change and signals that aircraft will be removed. We consider that following through on introducing the price signals is important to ensure that this efficient behaviour occurs. This is particularly important because Auckland Airport is aware of at least eight aircraft that have been parked on taxiways for extended periods of time – some since September 2016, and many of which are currently unable to fly; and

- Auckland Airport has delayed the introduction of parking charges for all customers to 1 November 2017 to provide customers with additional time to explore alternatives to avoid the charge (e.g. through use of existing or new leased space, or through schedule changes), and/or for the new charge to be factored into their business model and on-charged to their customers, enabling clear price signals to be in effect prior to the next busy season.
- a range of options have been proposed for airlines to provide check-in and bag drop services to international passengers. Differentiated charges have been introduced for different check-in modes, and distinguish between traditional check-in counters (which continue to be charged on a per hour rate, but at increased rates compared to PSE2 to reflect the greater cost associated with the floor space required for traditional check-in relative to newer check-in technologies), common-use kiosk/bag drop facilities (charged per passenger), and dedicated kiosk/bag drop facilities (charged per passenger at a higher rate than common-use facilities). We note that:
 - Auckland Airport considers that the final changes to the structure and price points for international check-in charges are warranted to encourage efficient use of common-use check in facilities and to better align with the service choices that will be available through PSE3. This approach will allow airlines to select the service which best meets their own strategy and customer experience intentions, and provides a differentiated charging structure that reflects the cost and relative spatial efficiency of the different check-in modes that are available;
 - in response to feedback from customers, the price points for international check-in were reduced during the consultation process, effectively meaning that a partial recovery of the costs of check-in space usage is also made through the IPC; and
 - the pricing decision is supported by a check-in and bag drop policy, and the implementation of the new check-in charging structure has been delayed to 1 July 2018 in response to customer feedback. This is intended to allow for a smooth operational transition to the new check-in modes, including providing airlines with additional time to work through specific technological and logistical matters around the implementation of new check-in modes. Traditional counter charges will increase by \$1 per hour in FY18.
- as discussed above, a Runway Land Charge has been introduced to help provide a sustainable price path for the second runway development over time. A Runway Land Charge of \$1.19 + GST per passenger will be introduced no earlier than FY21 and once two triggers are met. The rationale for this charge is discussed in more detail in Section 6; and
- two changes were made to the RRI mechanism that was in place for PSE2, as follows:
 - the previous RRI mechanism in place over PSE2 did not have an operating cost threshold. Instead, operating cost increases driven by a regulatory event or airline request could only be recovered under the mechanism if the capital investment threshold of \$5 million had also been triggered by that same event or request. In practice, regulatory events can impose significant increases in operating expenditure without also triggering capital investment. We have therefore introduced a separate

operating cost threshold of \$1 million over the 5-year period, which will allow Auckland Airport to recover material operating costs driven by a regulatory event or airline request. Auckland Airport did not receive any feedback that opposed this proposal overall; and

- Auckland Airport received feedback that it should have incentives to resist unnecessary regulatory changes. In practice, Auckland Airport already resists these changes where we consider this is appropriate. Nevertheless, we acknowledged there was merit in ensuring these incentives were captured in the RRI mechanism, and therefore decided to introduce only an 80% pass through of regulatory-related costs for PSE3 where the RRI mechanism is triggered.

9.6 Description of methodology for determining pricing for charged services and how these were reconciled with the forecast revenue requirement

In determining pricing for charged services, Auckland Airport endeavoured to:

- ensure that prices covered direct costs and an appropriate share of common costs;
- ensure that prices were set on an NPV = 0 basis for airfield and terminal services; and
- avoid price shocks and provide a smoothed price path where possible.

Benchmarking was undertaken to ensure that overall charges were reasonable. As there are a variety of price structures at different airports, benchmarking focused on comparison of overall charges, rather than within each pricing element. However, Auckland Airport did also consider the new price points for aircraft parking charges against international comparator airports.

Volume forecasts were developed consistent with the price structure and together with the price points provided a forecast of aeronautical pricing revenues.

The table below shows the reconciliation of forecast revenues for the Aeronautical Pricing Decision to each of the standard charged services.

Table (s): Reconciliation of prices for charged services to forecast revenue for Standard Charges

Overall revenue		FY17	FY18	FY19	FY20	FY21	FY22
Revenue As Forecast							
Terminal Charges	[\$m]	173.7	180.1	187.6	197.4	209.8	223.0
International Terminal Check-in Standard Charges	[\$m]	3.1	3.2	4.3	3.3	3.1	3.6
Landing Charges	[\$m]	117.5	117.2	119.0	122.6	126.1	130.2
Aircraft Parking	[\$m]	-	6.2	9.6	9.9	10.2	10.5
Runway Land Charge	[\$m]	-	-	-	-	25.3	26.1
Total	[\$m]	294.2	306.7	320.6	333.1	374.5	393.3
Airfield (excl Aircraft Parking)							
Price							

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Less than 6 tonnes	[\$ per landing]	57.40	57.00	58.35	59.78	61.28	62.79
6 to 40 tonnes	[\$ per tonne landing]	9.66	9.11	8.96	9.02	9.05	9.10
> 40 tonnes	[\$ per tonne landing]	15.67	14.78	14.54	14.61	14.69	14.80
Volume							
Less than 6 tonnes	[000' landings]	4.0	4.0	4.1	4.1	4.2	4.2
6 to 40 tonnes	[megatonnes landed]	0.6	0.6	0.6	0.6	0.7	0.7
> 40 tonnes	[megatonnes landed]	7.1	7.5	7.8	8.0	8.2	8.4
Revenue As Forecast							
Less than 6 tonnes	[\$m]	0.2	0.2	0.2	0.2	0.3	0.3
6 to 40 tonnes	[\$m]	5.6	5.5	5.6	5.8	5.9	6.1
> 40 tonnes	[\$m]	111.6	111.4	113.2	116.5	120.0	123.9
Total Airfield Charges (excl Aircraft Parking)	[\$m]	117.5	117.2	119.0	122.6	126.1	130.2
Terminal Activities (excl International Check-In Charges)							
		FY17	FY18	FY19	FY20	FY21	FY22
Price							
International Passenger Charge	[\$ per passenger]	16.09	15.65	15.44	15.54	15.85	16.15
International Transit Charge	[\$ per passenger]	4.03	4.27	4.82	5.33	5.90	6.50
Domestic Passenger Charge	[\$ per passenger]	2.18	2.28	2.48	2.73	2.98	3.23
Regional Passenger Charge	[\$ per passenger]	2.18	2.13	2.29	2.45	2.60	2.75
Volume (>2 years old)							
International Passengers	[000's passengers]	9,591	10,177	10,631	11,006	11,385	11,791
International Transit Passengers	[000's passengers]	314	341	354	365	375	387
Domestic Passengers	[000's passengers]	5,985	6,223	6,439	6,603	6,765	6,938
Regional Passengers	[000's passengers]	2,325	2,445	2,542	2,620	2,697	2,780
Revenue As Forecast							
International Passenger Charge	[\$m]	154.3	159.3	164.1	171.0	180.4	190.4
International Transit Charge	[\$m]	1.3	1.5	1.7	1.9	2.2	2.5
Domestic Passenger Charge	[\$m]	13.0	14.2	16.0	18.0	20.2	22.4
Regional Passenger Charge	[\$m]	5.1	5.2	5.8	6.4	7.0	7.6
Terminal Activities Charges (excl International Check-In Charges)	[\$m]	173.7	180.1	187.6	197.4	209.8	223.0

9.7 Description of terminal access charges

There is no specific charge for terminal access in Auckland Airport's Standard Charges. Access to the terminal is provided by way of paying landing charges and passenger charges. As discussed above, Auckland Airport explored the possibility of differential charges for bussed

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operations with Substantial Customers through the pricing consultation, but has ultimately decided to maintain the same position as PSE2 – i.e. a charging structure that has no explicit differential terminal access charge for airbridges, transfer bus or walking access.

9.8 Explanation of the extent to which Auckland Airport's pricing methodology will lead to efficient prices including whether there are any cross-subsidies

Auckland Airport considers that its pricing methodology fully implements the pricing philosophy referred to in Section 9.1 above, and therefore leads to efficient prices.

Auckland Airport considers that its Standard Charges are allocatively efficient, and that revisions to the price structure for PSE2 have been made in an effort to increase efficiency and in a way that will have the least possible impact on demand.

Auckland Airport's approach has been to set Standard Charges for common-user services and facilities.

At the service level, individual prices reflect the key cost drivers for direct costs. For example, MCTOW-based charges for aircraft landing charges, terminal charges reflecting passenger numbers, and lease charges based on market rates or cost for specific space and plant.

There are no cross-subsidies in Auckland Airport's Aeronautical Pricing Decision. Standard Charges for airfield and terminal services are forecast to achieve NPV = 0 over the pricing period.²⁴ In other words, the charges for each activity segment are forecast to recover at least their direct costs.

9.9 Standard Charges as at 1 July 2017

Auckland Airport's schedule of Standard Charges, Terms and Conditions effective 1 July 2017 (unless a delayed implementation is otherwise specified) is attached as Appendix C.

²⁴ Subject to very small rounding errors.

PART C: DISCLOSURE RELATING TO DEMAND FORECASTS

Auckland Airport has completed the Report on Demand Forecasts set out in Schedule 20 of the Determination. All quantitative demand forecast outputs can be found in that Schedule. Schedule 20 requires Auckland Airport to provide a description of the basis for its forecasts, and/or assumptions made in forecasting. These are set out below for:

- facility planning forecasts for a ten year forecast period, specifically:
 - annual busy hour passenger forecasts; and
 - annual busy period aircraft movement forecasts.
- aeronautical pricing forecasts for a ten year forecast period:
 - passenger forecasts; and
 - aircraft movements and MCTOW forecasts.

Forecasting demand is a challenging exercise because in practice information changes constantly and facility forecasts depend on baseline throughput forecasts. Key changes to our approach at this price setting event have been to increase the alignment between the forecasts used for pricing and the forecasts used for facility planning by bringing the responsibility for throughput and peak forecasting of passenger and aircraft demand under one independent expert.

Given the interdependence between the facility forecasts and the demand forecasts the approach required the throughput forecast to be fixed first in order to complete the busy hour analysis that is a key input to capital planning.

For Auckland Airport, calendar 2016 was a critical time for developing a base case capital plan. For that reason DKMA commenced the demand forecasting process in January 2016. Following consideration of feedback on the August 2016 annual forecasts, DKMA commenced the busy hour analysis and finalised the overall report in January 2017. DKMA also reconsidered in March 2017 whether new information led them to believe their forecasts were too low. On balance, DKMA considered that whilst external factors had invariably evolved since August 2016, the forecasts remained reasonable.

The Aeronautical Pricing Decision and Schedule 20 set out the busy hour forecasts developed by DKMA. DKMA was also the primary source for throughput demand forecasts. DKMA's forecast was compared to internal budget estimates for FY18. With the exception of international, there was no material difference between budget throughput estimates and DKMA's forecast. For international the budget estimate was higher than the DKMA forecast. The budget estimate was adopted for FY18 for international, reaching alignment with the DKMA estimate by FY22. All other forecasts were based on the DKMA annual forecast.

10. Facility planning forecasts

The primary purpose of facility planning forecasts is to facilitate mid to long range planning of major elements of aeronautical infrastructure and facilities. Facility planning forecasts are

updated approximately every five years or in advance of significant development and approximately 12 to 18 months prior to an aeronautical pricing event.

Facility planning forecasts may also be updated if triggered by:

- a significant change to plans, which in turn triggers an unscheduled pricing event; and/or
- a significant change in the aviation market.

Internally, Auckland Airport regularly monitors how actual traffic outcomes compare to forecasts, but annual deviations in and of themselves are not cause to update the long term planning forecasts. However, changes versus forecast may inform and modify individual project prioritisation.

10.1 Projection of passenger busy hour and day forecasts

Key steps in the development of facility forecasts were to:

- identify a typical historical busy day which has peak hour values as close as possible to the 30th hour value for domestic arrivals, domestic departures, international arrivals, international departures, total arrivals and total departures and a traffic and aircraft mix that is as close to the typical profile occurring during busy day operations. The selected busy day was Friday, 12 February 2016;
- construct future schedules by first understanding a detailed composition of each flight during the busy day, with the peak hour values for each traffic category used as projections of 30th hour values. In addition to the historical tower log information, the airlines' schedules for Northern Winter 2016/2017, were considered to reflect the extensive redesign of schedule from Air New Zealand and the introduction of new long-haul services in the forthcoming season. Rather than construct the FY17 schedule based on an extension of FY16, DKMA decided to incorporate, to the maximum extent possible, the new schedules for Northern Winter 2016/2017;
- project total busy day passengers for each key route area, to be consistent with the annual growth projections over the forecast period. The key issue was to determine whether or not growth in passenger demand would follow the same trend as annual demand or could be different based on changes in seasonality or weekly pattern;
- project the passenger load factors to derive seats for each route area. The key here was to determine, for each route area, what the practical limit in load factor improvements could be;
- project the average aircraft size to derive aircraft movements. The key challenge here was to anticipate the future evolution of aircraft mix and determine the impact on the average aircraft size and how it might evolve in the future;
- allocate additional flights between existing routes and new routes to ensure that growth in existing routes within the same route area is evenly distributed (unless there is compelling evidence of particular strong growth on specific routes);
- for each of the routes in each route area, distribute the additional flights by airline, aircraft type and time of the day;

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- for new routes, in particular long haul routes, DKMA had to ensure that the schedule times selected were compatible with reasonable aircraft rotations by taking into account flying time, hub connectivity and operation at commercially attractive times;
- DKMA checked that additional flights were not scheduled at the same time as existing flights;
- determine new routes based on three criteria namely:
 - first, identify routes not served during the busy day but that are served other days of the week or on a seasonal basis;
 - second, relying on MIDT²⁵ data identify true origin and destination markets and select those with the highest traffic volumes but with no current direct service; and
 - third, to determine new routes in the later portion of the forecast DKMA analysed the route network at Sydney Airport to identify routes currently served at Sydney Airport but not at Auckland Airport. From this basket of routes DKMA determined if traffic growth on some of these routes could justify future new routes from Auckland Airport; and
- finally, for each origin and destination, breakdown passengers into local, transit and transfer traffic.

The definitions of peak hour and peak day forecasts provided in this disclosure are set out within the schedule. It is important to note that the busy day is defined with the intention of striking a balance between providing capacity at an acceptable level of service for most of the time without incurring the cost of building for the single busiest day or the busiest time of that day.

DKMA has international experience in developing peak forecasts and noted that the selection of a busy day for any airport in the world is an exercise where a series of compromises invariably need to be made, since no single day at an airport adequately represents a busy day for all types of traffic handled at the airport, in part because each traffic category has its own seasonal pattern. For this reason Substantial Customers were provided with the opportunity to comment on the approach to forecast and selection of the busy day before this was finalised.

It is important to note that on key domestic trunk routes, such as Christchurch and Wellington, DKMA expects the number of flights to rapidly reach a maximum limit as they already have a high level of frequencies, with at least hourly flights throughout the day and 30 minute frequency separation at peak hours. Adding frequencies would make the scheduled times of the new flights too close to existing times and DKMA considered it very unlikely that the airports involved will have the capacity to accommodate a series of movements with 15 minute separations. DKMA considered adding more flights in these business markets will likely not stimulate demand and will only increase airline costs, possibly reducing route profitability by cannibalising traffic from the existing flights.

It is also likely that the “value” of a slot will only increase as the airport grows, especially if runway capacity constraints are introduced into the slot allocation process. DKMA has seen

²⁵ MIDT: Market Information Data Tapes

numerous examples of airports around the world where this has happened and with the dominant hub carrier continuously up-gauging their domestic flying while reserving new slots for network expanding international flights. DKMA thus assumed that, under such circumstances, the airline would choose not to increase frequencies on domestic trunk routes but instead use larger aircraft. DKMA considered the increasing use of category E aircraft on domestic routes is a validation of this assumption. Category E aircraft are expected to operate on the two key domestic trunk routes to Christchurch and Wellington starting in FY27 and by FY44 they are forecast to account for 5.6% of total domestic aircraft movements.

It remains to be seen what strategy the domestic carriers will take.

10.2 Projection of runway busy day aircraft movements

The runway busy day is defined as the 18th busiest day of the year in terms of total aircraft movements. In FY16 it occurred on 22 December 2015 and totalled 499 movements. Compared with the total number of movements recorded during the passenger busy day (492), the runway busy day figure was just 1.4% higher. Consequently, the busy day selected for passengers on the basis of the 30th hour for planning purposes has a total number of flights that almost matches the runway busy day movements.

DKMA considered that since the numbers of flights for the passenger busy day and runway busy day are very close, it is reasonable to assume that the future evolution of flights during the runway busy day would have a projected trend similar to the total number of flights during the passenger busy day. Consequently, DKMA forecast total movements during the runway busy day to increase from 499 in FY16 to 595 in FY23.

11. Aeronautical pricing forecasts

11.1 Passenger forecasts

The Traffic Forecast study by DKMA was the primary source of information for the aeronautical pricing throughput volumes. Unlike PSE2 the demand forecasts were unconstrained and did not exclude more speculative demand (consistent with the approach of including a share of route development costs, which are regarded as necessary to deliver the forecast demand).

Auckland Airport also asked the airlines to provide their own forecasts, which would be treated confidentially and provided to the expert advisors. A few airlines took this opportunity.

The basis for the DKMA annual forecasts involved a detailed consideration of factors affecting forecast demand such as the economic outlook, tourism development, and resident population.

Economic growth is the strongest driver of aviation demand. DKMA reviewed the latest economic forecasts from the Economic Intelligence Unit, World Bank and OECD Economic Forecast Summary.

The following GDP assumptions formed the basis of the economic input assumptions.

Table (t): Forecast GDP (PPP) Growth: World, Asia-Pacific Region and Select Countries

Markets	2017	2018	2019	2020	2021	2022
New Zealand	2.8%	2.5%	2.1%	1.9%	2.0%	2.1%
Australia	2.6%	2.6%	2.6%	2.5%	2.6%	2.7%
India	7.3%	7.3%	7.2%	7.2%	6.9%	6.6%
China	6.0%	5.0%	4.4%	4.2%	4.3%	4.3%
Asia-Pacific	3.3%	3.5%	3.5%	3.6%	3.4%	3.2%
World	3.5%	3.5%	3.1%	3.3%	3.3%	3.2%

Source: EIU and DKMA. Note: Asia-Pacific Economy excludes New Zealand, Australia, China and India.

DKMA considered the factors affecting supply: global airline forecasts, oil prices, airlines' performance and outlook. This was then summarised into separate international and domestic market forecasts considering traffic performance and market composition.

Auckland Airport has had a relatively stable set of approximately 18 airlines for over 10 years, but this has markedly changed since 2015 with the on-boarding of 11 new airlines between 2015 and the pricing decision in June 2017. DKMA noted that the growth experienced since 2015 had been unprecedented. Growth has been largely driven by the Jetstar domestic expansion, Air New Zealand's and foreign carriers' international route development and a strong economy (which also includes strong tourism inputs).

DKMA considered that "one-off" type events (e.g. Jetstar expansion) are unlikely to be repeated and that while the economy (and tourism) will remain strong, growth is projected to taper off (even from emerging markets such as China). Further, prospects for global economic growth have become more uncertain – especially in light of the prospective policies (e.g., protectionist measures) that the new US Administration may enact and their potential impact on the global economy.

11.2 Aircraft Movements and MCTOW forecasts

DKMA translated the passenger forecasts through seat and load factor assumptions into landings. Landings were then converted into MCTOW through average MCTOW per aircraft assumptions.

11.3 Airline feedback on throughput forecasts

The process for refining the forecast included:

- DKMA initial development of annual forecasts between January 2016 and May 2016;
- Starting in July 16 and ending in January 17, DKMA updated annual forecast, completed busy hour forecasts and constructed future schedules;
- requests for airlines feedback on the forecast; and
- further review of throughput forecasts by DKMA following feedback, including:
 - reconsideration of macro-economic changes by DKMA in March 2017; and
 - Auckland Airport re-forecasting of FY17 and preparing budget FY18 forecasts.

During consultation demand forecasts for FY18 to FY22 were not a significant area of debate, with the main outstanding difference of note being whether the DKMA forecast trend line for international passengers should be raised or whether the five year forecast remained appropriate. Auckland Airport decided to adopt its best international forecast at the time of pricing (which aligned to the international budget forecast) and to revert to the DKMA forecast by FY22. Shortly after the pricing decision China Airlines, Emirates and Jetstar announced schedule reductions. Over the five year period Auckland Airport considers the forecasts remain reasonable.

PART D: TRANSITIONAL REPORT ON REGULATORY ASSET BASE VALUE

Clause 2.10(a) provides that, when complying with clause 2.5(1) for the first price setting event after 31 December 2016, Auckland Airport must complete the Transitional Report on Regulatory Asset Base Value in Schedule 24 (“**Transitional Schedule**”) by:

- inserting all information relating to the specified airport services supplied by the airport for the disclosure year ending on 30 June 2016, to the extent that the information required to be disclosed in Schedule 24 differs to the most recent corresponding historical financial information that has been disclosed; and
- publically disclosing an explanation of the differences (if any) between the preparation of each component of the forecast total revenue requirement in Schedule 18 and:
 - the corresponding historical financial information prepared and disclosed in the Transitional Schedule; and
 - for the financial information that was not disclosed in the Transitional Schedule, the most recent corresponding historical financial information that has been disclosed.

Auckland Airport has complied with these requirements by completing Schedule 24 for the disclosure year ending on 30 June 2016. Auckland Airport has also completed Schedule 24 as it relates to the prior four disclosure years, as we understand this information may be helpful for interested parties.

Where the preparation of each component of the forecast total revenue requirement in Schedule 18 differs from either the corresponding information in the FY16 annual disclosure (the most recent corresponding historical financial information) or the Transitional Schedule, this has been discussed for each component in Section 4 above.

12. Description of process undertaken to produce Transitional Schedule

Following the amendments to the Determination and the Commission’s Input Methodologies Determination (“**IM Determination**”) in December 2016, Auckland Airport has undertaken a bottom-up restatement process to generate restated regulatory asset values for all individual assets as at 30 June 2016.

This process has resulted in restated asset values that remove the impact of all revaluations for airfield and terminal assets from the start of information disclosure regulation, consistent with the approach that Auckland Airport has taken to these assets for pricing purposes (i.e. consistent with the moratorium on asset revaluations). Aircraft and freight assets have not been affected by the restatement process. Their regulatory asset values remain the same as the FY16 annual disclosure values (including revaluations), which is more consistent with the market-based approach to determining the revenue associated with these assets – covered by leases negotiated with individual customers.

These restated asset values have been used to complete the FY16 section of Schedule 24.

However, the new asset register we have developed cannot reliably produce values for each of the prior disclosure years in Schedule 24, as it does not hold historic information on assets that have been disposed between the start of information disclosure and the end of FY16. Instead, Auckland Airport has used a top-down estimation process to complete the earlier financial year information in Schedule 24 (i.e. FY12 to FY15). This top-down process takes the initial RAB and rolls this forward with no revaluations for terminal and airfield assets, revised depreciation assumptions, and minor adjustments to disposals and cost allocation to reflect the removal of CPI indexing for airfield and terminal assets.

Restated regulatory value of assets held for future use

Auckland Airport has restated its airfield and terminal assets to exclude all revaluations from the initial RAB value as at 30 June 2010.

For assets held for future use, the “base value” as defined in the IM Determination was not updated as a result of the High Court’s decision that the initial RAB should be determined as at 30 June 2010. The base value of these assets therefore continues to reference the 30 June 2009 MVAU valuation as required by the IM Determination.

To be as consistent as possible with the value of airfield land included in the RAB, Auckland Airport has restated the value of land included in assets held for future use as follows:

- The base value remains the 30 June 2009 MVAU as required by the IMs;
- Auckland Airport has rolled this forward to align the value of assets held for future use with the 30 June 2010 MVAU proxy value used for airfield land in the RAB – effectively including a periodic land revaluation in 2010 for land held for future use. These revaluations have been recorded in the regulatory register and disclosed as “tracking revaluations” in accordance with the IM determination; and
- No further revaluations – CPI or periodic land revaluations – have been included for assets held for future use after 30 June 2010.

13. Application of alternative methodology with equivalent effect

13.1 Disclosure requirement

Clause 3.13 of the IM Determination allows airports to apply an alternative asset valuation methodology to that specified for asset valuation in clauses 3.3 to 3.5, 3.7, 3.9 and 3.10 of the IM Determination. An alternative asset valuation methodology must:

- be likely to produce an equivalent effect to the methodology that would otherwise apply under this determination; and
- not detract from the purpose of Section 52A of the Commerce Act.

Clause 3.13(3) of the IM Determination provides that, when applying an alternative asset valuation methodology, an airport may treat the RAB values of all or some of the relevant assets in aggregate rather than separately.

Where an airport uses an alternative methodology, it must do so in accordance with the requirements of the ID Determination. If an alternative methodology with equivalent effect is used as part of the Report on the Forecast Total Asset Base Revenue Requirements set out in Schedule 18, clause 2.5(1)(t) requires that an airport must publically disclose:

- a description of the alternative methodology with equivalent effect;
- an explanation of how the alternative methodology with equivalent effect complies with clauses 3.13(2)(a) and (b) of the IM Determination;
- the component of the Report on the Forecast Total Revenue Requirements set out in Schedule 18 to which the alternative methodology with equivalent effect has been applied;
- an explanation of the reasons for the application of the alternative methodology with equivalent effect; and
- the evidence on which the certification in Schedule 23 that is disclosed in accordance with clause 2.7(3) is based.

13.2 Auckland Airport's alternative methodology

Auckland Airport has used an alternative methodology with equivalent effect in producing the Transitional Schedule required by clause 2.10 of the Determination. Under Schedule 24, Auckland Airport is therefore required to provide a description of and explanation for any alternative methodologies with equivalent effect that have been applied and which components they have been applied to (including evidence to support that it is likely to have equivalent effect).

No alternative methodologies have been applied in rolling this restated FY16 value forward to generate the estimate of total regulatory asset base at start of price setting event disclosed in Schedule 18, or the estimate of regulatory asset base (applicable to the price setting event) disclosed in Schedule 19. However, the restated RAB is disclosed in Schedule 18.

We therefore describe the alternative methodology with equivalent effect as required by clause 2.5(1)(t) in the sections that follow.

We have also provided the required certification around the application of the alternative methodology with equivalent effect in Schedule 23 of the Determination.

13.3 Description of alternative methodology with equivalent effect

The IMs require the initial RAB value of land assets to be generated by taking a straight line interpolation between the total value of disclosed land assets in 2009 and the disclosed value of land assets in 2011.

The Transitional Schedule requires Auckland Airport to disclose the value of its land assets (among other assets) as at 30 June 2016 – i.e. to take the new 2010 initial RAB value for land and to roll this forward to 2016 consistent with the revaluation approach that Auckland Airport has applied in pricing.

Some of Auckland Airport's land assets have changed in size or allocation since information disclosure came into force (i.e. since the date of the initial RAB). At the overall portfolio level, these changes have a very minor impact.

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Under clause 3.3 of the IM Determination, Auckland Airport would be required to produce its restated FY16 land asset value by taking the restated initial RAB value as at 30 June 2010 (based on a straight line interpolation between the MVAU value of a land asset as at 30 June 2009 and its MVAU value as at 30 June 2011), and then rolling-forward this value for changes in size or allocation of individual land parcels over the period since information disclosure came into force.

Rather than taking the restated initial RAB value as at 30 June 2010 as per the IM Determination and going through an exercise of rolling-forward land assets each year based on minor changes in parcel size and allocation, Auckland Airport has used an alternative methodology with equivalent effect to determine a rolled-forward land asset value as at 30 June 2016.

To generate the rolled-forward value of land assets as at 30 June 2016 for airfield and terminal assets, Auckland Airport has:

- used the 2009 and 2011 MVAU land valuation reports (undertaken by Colliers) to identify the per-hectare value of the relevant land assets in 2009 and 2010;
- averaged these values to generate a 2010 per-hectare rate for each land asset; and
- multiplied the 2010 per-hectare rate by the current area of each land asset (as at the end of FY16) to generate the rolled-forward asset value as at FY16 for the Transitional Schedule, based on the underlying 2010 MVAU valuation rate.

13.4 Explanation of how the alternative methodology with equivalent effect complies with the IM Determination

In this section we discuss how the alternative methodology with equivalent effect is likely to produce an equivalent effect to the methodology that would otherwise apply under the IM Determination, and how it does not detract from the purpose of s 52A of the Commerce Act.

Auckland Airport considers that the alternative methodology that has been applied is likely to have equivalent effect to the approach that would otherwise apply under clause 3.3 of the IM Determination because:

- the alternative approach uses the same underlying independent valuations (the 2009 and 2011 MVAU valuations undertaken by Colliers) as would be reflected under the application of the IM roll-forward provisions;
- the alternative approach reflects the same size and allocation of land parcels as at the end of FY16 that would be reflected under the application of the IM roll-forward provisions; and
- the overall disclosed value of Auckland Airport's aeronautical land assets as at FY16 under the alternative approach is therefore likely to be equivalent to that which would be the case under the application of clause 3.3.

Auckland Airport also considers that use of the alternative methodology with equivalent effect will have no detrimental impact on an interested person's ability to assess whether the purpose of Section 52A is being met. Auckland Airport's restatement of RAB values will make it much easier to assess profitability, and given that the alternative methodology is likely have equivalent effect to the approach that would otherwise be used, we do not see any risk that our approach will detract from the purpose of Section 52A.

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13.5 Components of the Transitional Schedule and Schedule 18 to which the alternative methodology with equivalent effect has been applied

The alternative methodology with equivalent effect has been applied to the total opening and closing RAB values for FY16 in Schedule 24(i), and to the RAB value of land in Schedule 24(ii). This restated FY16 RAB is also disclosed in Schedule 18(vi).

As noted above and for the avoidance of doubt, no alternative methodologies have been applied in rolling this restated FY16 value forward to generate the estimate of total regulatory asset base at start of price setting event disclosed in Schedule 18(vi), or the estimate of regulatory asset base (applicable to the price setting event) disclosed in Schedule 19(vi).

13.6 Explanation of the reasons for the application of the alternative methodology with equivalent effect

As noted above, some of Auckland Airport's individual land assets have changed in size or allocation over the period since information disclosure regulation came into force.

Rolling forward the re-calculated 2010 MVAU proxy value for each individual year between FY10 and FY16 based on minor changes in land parcel size and allocation would be a hugely time consuming process that would be extremely unlikely to provide meaningful information for interested parties, given that:

- Auckland Airport considers that the application of the alternative methodology produces FY16 asset values that are likely to be equivalent to the application of the IM roll-forward provisions in clause 3.3;
- the only likely differences between the application of the IM roll-forward provisions and the alternative methodology would therefore be in each of the intervening disclosure years only (i.e. FY11 to FY15), and would have no impact on the roll-forward of the RAB from FY16 onwards; and
- even then, the differences between the methodologies in each of these intervening years would be small, as the changes in size or allocation of individual land parcels have a very minor impact at the overall portfolio level (i.e. the aggregated disclosed value of Auckland Airport's airfield and terminal land).

We consider that the application of the alternative methodology with equivalent effect to produce the restated RAB values of airfield and terminal assets as at 30 June 2016 (as disclosed in Schedule 24 and incorporated in schedule 18) is a proportionate response to the IM amendments introduced in December 2016 that ensures the restated RAB is robust and reliable, and can be rolled-forward at an individual asset level consistent with the ordinary IM roll-forward provisions in the future.

13.7 Evidence on which the certification that the methodology is likely to have equivalent effect is based

As discussed above, Auckland Airport has provided certification that all reasonable enquiry has been made to ensure that the alternative methodology with equivalent effect is likely to comply with clause 3.13(2)(a) and (b) of the IM Determination.

This certification is based on the following evidence:

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- The explanations provided in Sections 12 and 13 of this disclosure, along with Section 4.2 in relation to the forecast value of assets employed; and
- A review of Auckland Airport's restated RAB undertaken by Deloitte, including the alternative methodology with equivalent effect; and
- Deloitte's limited assurance report over the RAB and the compliance of the Schedules (including Schedule 24) with the ID and IM Determinations.

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