AIRWAYS
making your world possible

CONSULTATION RESPONSE DOCUMENT

# PRICING FOR THE 2019-2022 PERIOD

May 2019

# Contents

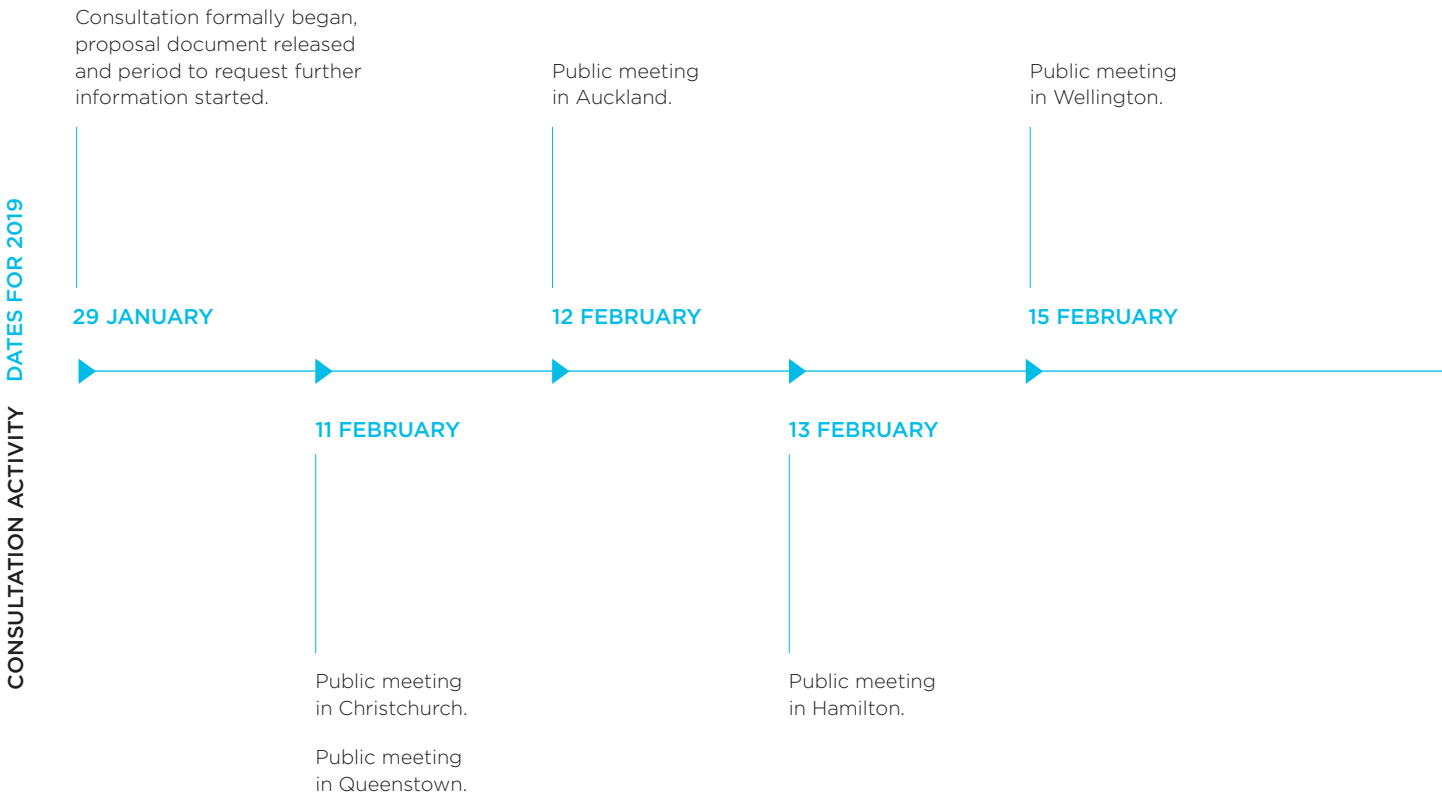
# Consultation process

**YOUR FEEDBACK HELPS AIRWAYS TO FURTHER UNDERSTAND YOUR BUSINESS AND PRIORITIES. IT IS AN IMPORTANT PART OF AIRWAYS' COMMITMENT TO PROVIDING SERVICES THAT ADD VALUE TO YOUR BUSINESS.**

Airways is committed to an open and transparent price-setting process. Your feedback has provided important guidance to finalise prices and services.

The consultation began on 29 January 2019 and the final day for submissions was 15 March 2019. Airways hosted public roadshows during February 2019 in Auckland, Hamilton, Wellington, Christchurch and Queenstown. The consultation timeline is presented in figure 1.

**Figure 1 – Public consultation timeline**



Airways received 12 submissions: six from airlines, five from General Aviation (GA), and one from airports. A copy of the submissions can be found on Airways' website at: **www.airways.co.nz/products-and-services/air-navigation-services/new-zealand-service-framework/current-public-consultation/**

## CONSULTATION ACTIVITY DATES FOR 2019

**1 MARCH** — Period to request further information ended.

**15 MARCH** — Deadline for submissions.

**20 MARCH** — Submissions published on Airways' website.

**MARCH TO MAY** — Submissions considered and prices finalised.

**29 MAY** — Final prices and Airways' response to submissions published.

**1 JULY** — New prices take effect.

# Executive Summary

To ensure safe skies today and tomorrow, Airways needs to create the aviation environment of the future. Airways will work with partners to provide our customers with safe, integrated airspace management through expert knowledge and technology enabled solutions. We are focused on providing air traffic management services that enable aircraft to navigate safely and efficiently across New Zealand.

This document provides the final set of prices that will apply to airlines and General Aviation (GA) from 1 July 2019. It also provides Airways' response to submissions received about prices for the three-year period from 1 July 2019 to 30 June 2022.

## Airline prices

In January 2019 Airways commenced consultation for the 2019-2022 pricing period. Airways proposed a revenue increase of $54.1m to ensure the continued safety and resilience of the aviation network, while anticipating and planning for the new realities of air traffic management. After applying volume growth, this resulted in a price increase of 18.9% for airline customers.

Airways carefully considered all submissions on airline prices before determining the final prices included in this document. As a result, Airways has reduced the overall revenue increase by $1.8m to $52.3m for the 2019-2022 pricing period.

In determining final prices, Airways has also reviewed the forecast of volume growth based on the latest available schedule and fleet information. Since publication of our consultation document there has been a significant reduction in the expected volume growth in the first year of the pricing period from 4.0% to 0.7%.

When the overall annual revenue change and revised volume growth are applied the total airline price change has increased to 21.4%.

The drivers of the revenue and price increase are shown in figure 2 with a summary of the drivers and Airways' consideration of submissions provided on the following pages.

**Figure 2 – Revenue and price increase drivers**

| | $ Revenue change | | | | % change | | | |
|---|---|---|---|---|---|---|---|---|
| | FY20 | FY21 | FY22 | Total | FY20 | FY21 | FY22 | Total[1] |
| 1. Enhanced services | 6.5 | 4.7 | 4.4 | **15.6** | 3.5% | 2.0% | 1.8% | **8.2%** |
| 2. Business transformation (including ATM platform) | 9.0 | 5.6 | (1.7) | **12.9** | 4.7% | 2.5% | (0.7%) | **6.8%** |
| 3. Capital to maintain current services | 2.9 | 0.1 | 1.7 | **4.7** | 1.5% | 0.0% | 0.8% | **2.5%** |
| 4. Changes to operating costs (including inflation) | 12.8 | 1.1 | 5.2 | **19.1** | 6.7% | 0.7% | 2.2% | **10.0%** |
| **Total increase** | **31.2** | **11.5** | **9.6** | **52.3** | **16.4%** | **5.2%** | **4.1%** | **27.5%** |
| 5. Volume growth | | | | | | | | |
| Opening volume adjustment | | | | | 3.0% | | | **3.0%** |
| Annual volume growth | | | | | 0.7% | 1.0% | 1.0% | **3.1%** |
| **Total price change** | | | | | **12.7%** | **4.2%** | **3.1%** | **21.4%** |

1. Total % column includes the compounding effect of the changes.

## Enhanced services

Airways is investing in new technologies and infrastructure that will support the new realities of air traffic management. The new investments will provide additional safety, resilience and flexibility benefits. These investments include:

- The implementation of a full digital tower service at Invercargill and a digital tower service at Auckland. This was strongly supported by customers. Airways will continue to investigate the viability of deploying this technology at other regional locations in future price periods.
- Supporting Auckland International Airport Limited's (AIAL's) implementation of a Flexible Contingent Runway (FCR). Airways has listened to customer submissions on the need for an FCR. If AIAL decides not to proceed with this project, Airways will review the associated capital expenditure and make an adjustment to prices in FY21 and FY22.
- Detection and management of UAVs to enhance the safety of controlled airspace around aerodromes. This has a direct benefit for airlines and their passengers. Airways understands customers' concerns that funding should be shared with other industry participants and will continue to work towards developing alternative funding methods for future pricing periods.

## Business transformation, including ATM platform replacement

Airways is committed to the implementation of the transformation programme presented in the 2016 Pricing Consultation document. The transformation programme will improve the safety, resilience and flexibility of services delivered. The business transformation focuses on the people, technology and buildings required to deliver interoperable services from Auckland and Christchurch.

Submissions indicated that customers support the initiatives but note that the programme benefits have been delayed. Airways is committed to delivering the programme benefits from FY23.

## Capital to maintain current services

Airways has a mature approach to asset management, which focuses on preventative maintenance and performance monitoring to maximise the useful life of assets. Airways proposed $92.9 million of capital projects to ensure the current target service levels are maintained.

There was general support for the capital programme with a few exceptions about individual capital items. Following customer submissions, Airways has had discussions with stakeholders and is satisfied that the proposed capital programme is required.

### Changes to operating costs (including inflation)

To ensure transparency Airways separates movements in the cost base into three specific categories: base costs, inflationary adjustments and changes to the cost of capital.

Base costs – Airways' operating cost base includes labour, property leases and equipment. Airways is currently facing cost challenges from collective employment agreements and increased lease costs driven by the requirement to move from a ground lease to a full office lease at Auckland Airport. These challenges are driving an increase to base operating costs above the level of inflation.

Inflationary adjustments – Airways' operating cost base is adjusted by standard inflation rates as forecast by the New Zealand Institute of Economic Research (NZIER). Labour costs are adjusted by the Labour Cost Index (LCI). Other operating costs are adjusted for forecast changes in the Primary Producer Index (inputs) (PPI).

Cost of capital – Airways received a number of submissions questioning the cost of capital. Airways has considered these submissions and recent changes in market conditions and has decided to reduce the cost of capital from 6.9% to 6.59% for the 2019-2022 pricing period.

## General Aviation (GA) prices

Airways helps GA customers operating aircraft less than five tonnes to operate safely within controlled airspace by providing flight information. Overall, GA activity makes up approximately 53% of movements and contributes 2% of Airways' air navigation revenue.

Following the implementation of Airways' Pricing Framework in 2012, Airways believes that GA prices contribute a fair amount to the total cost of providing services. Airways therefore proposed that GA prices are only increased by the forecast level of inflation so they remain in line with underlying operating costs. Most submissions supported this approach. Airways will increase prices by an average of 2.5% each year based on the most recent inflation forecasts.

# PART A - Airline prices

This section summarises customer submissions on airline prices and provides Airways' response to those submissions. Customer feedback provided an essential input into the price-setting process; all feedback was carefully considered before finalising prices.



## Overall revenue

Airways' Pricing Framework details the methodology used to price services and can be downloaded from Airways' website at: **www.airways.co.nz/products-and-services/air-navigation-services/new-zealand-service-framework/ans-services-and-pricing-explained**

The Pricing Framework was developed and implemented following consultation with customers in 2012 as part of Airways' commitment to transparent price-setting. Airways has addressed feedback related to the Pricing Framework in the 'Submissions on other topics' section of this document.

Using the Pricing Framework, Airways sets prices by calculating the overall revenue required, allocating the revenue to specific services and calculating unit prices based on forecast volumes.

Overall revenue has been calculated using the Economic Value Added (EVA) framework. The EVA framework calculates overall revenue as the aggregate of costs including a commercial return (the building blocks). The EVA building blocks are provided in Appendix 2.1.

### AIRWAYS PROPOSED

To continue to provide safe, high-quality services now and in the future, Airways proposed a revenue increase of $54.1m over the 2019-2022 pricing period. After taking account of volume growth, a price increase of 18.9% was required.

### SUMMARY OF SUBMISSIONS

BARNZ expressed their increasing concern about the cost of air travel in New Zealand and whether it will remain sustainable. BARNZ noted other aviation industry charges, such as biosecurity and aviation security, are also increasing from 1 July 2019.

NZ Airports noted the proposed price increases are well above the level of inflation. This places a further burden on aircraft turnaround costs, which is a factor in the competitiveness and sustainability of destinations. NZ Airports also felt that technology improvements, efficiency gains and volume growth should combine to contain price increases. They submitted that these should be signalled now, at least in principle, to provide some balance to the short-term price increases.

Aviation NZ was concerned by Airways' monopoly position, and felt that Airways is not subject to the same competitive pressures that exist in the commercial world. Aviation NZ also said there should be reimbursement when Airways does not deliver services.

## AIRWAYS' RESPONSE

Following consideration of feedback, Airways has made changes to required revenue, identifying cost savings where possible. Airways is committed to continuing to provide safe, high quality services now and in the future. The total increase in required revenue has decreased from $54.1m to $52.3m.

Airways has also reviewed the forecast volume growth based on the latest available schedule and fleet information. While overall revenue is lower than was proposed, there has been a significant reduction in the expected volume growth in the first year of the pricing period. Due to the lower volume forecast the total price change has increased from 18.9% to 21.4%.

Figure 3 summarises the changes to Airways' required revenue and prices following consultation feedback and using the revised volume forecasts. Figure 4 summarises the final revenue and price changes by price driver.

**Figure 3 – Changes to Airways' revenue and prices**

| | $ Revenue change | | | | % change | | | |
|---|---|---|---|---|---|---|---|---|
| | FY20 | FY21 | FY22 | Total | FY20 | FY21 | FY22 | Total[2] |
| **Proposed revenue and price change** | **33.4** | **11.0** | **9.7** | **54.1** | **10.3%** | **3.9%** | **3.2%** | **18.9%** |
| 1. Revised capital to maintain current services (section 3) | - | (0.0) | (0.1) | **(0.1)** | - | (0.0%) | (0.0%) | **(0.0%)** |
| 2. Changes to base operating costs (section 4.A.) | (0.8) | 0.5 | (0.2) | **(0.5)** | (0.5%) | 0.3% | (0.1%) | **(0.3%)** |
| 3. Revised inflationary uplifts (section 4.B.) | 0.0 | 0.1 | 0.3 | **0.4** | 0.0% | 0.1% | 0.1% | **0.2%** |
| 4. Reduced cost of capital (section 4.C.) | (1.4) | (0.1) | (0.1) | **(1.6)** | (0.6%) | (0.1%) | (0.1%) | **(0.9%)** |
| 5. Revised opening volume adjustment (section 5.A.) | | | | | 0.2% | - | - | **0.2%** |
| 6. Revised annual volume growth (section 5.B.) | | | | | 3.3% | - | - | **3.3%** |
| **Final revenue and price change** | **31.2** | **11.5** | **9.6** | **52.3** | **12.7%** | **4.2%** | **3.1%** | **21.4%** |

2. Total % column includes the compounding effect of the changes.

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### Figure 4 – Revenue and price increase drivers

| | $ Revenue change | | | | % change | | | |
|---|---|---|---|---|---|---|---|---|
| | FY20 | FY21 | FY22 | Total | FY20 | FY21 | FY22 | Total[3] |
| 1. Enhanced services | 6.5 | 4.7 | 4.4 | **15.6** | 3.5% | 2.0% | 1.8% | **8.2%** |
| 2. Business transformation (including ATM platform) | 9.0 | 5.6 | (1.7) | **12.9** | 4.7% | 2.5% | (0.7%) | **6.8%** |
| 3. Capital to maintain current services | 2.9 | 0.1 | 1.7 | **4.7** | 1.5% | 0.0% | 0.8% | **2.5%** |
| 4. Changes to operating costs (including inflation) | 12.8 | 1.1 | 5.2 | **19.1** | 6.7% | 0.7% | 2.2% | **10.0%** |
| **Total increase** | **31.2** | **11.5** | **9.6** | **52.3** | **16.4%** | **5.2%** | **4.1%** | **27.5%** |
| 5. Volume growth | | | | | | | | |
| Opening volume adjustment | | | | | 3.0% | | | **3.0%** |
| Annual volume growth | | | | | 0.7% | 1.0% | 1.0% | **3.1%** |
| **Total price change** | | | | | **12.7%** | **4.2%** | **3.1%** | **21.4%** |

3. Total % column includes the compounding effect of the changes.

Airways is aware of the impact the price increases will have on customers and the ongoing sustainability of some locations and services. The decision to increase prices has not been taken lightly, however the price increase is necessary to fund new investment such as digital towers that will contribute to the sustainability of services in the longer term.

Airways is operating in a challenging industrial and economic environment which is placing pressure on operating costs. Airways is proud of its track record of strong cost control, and will continue to work hard over the next three years to deliver the benefits of the business transformation programme.

Airways notes customers' concerns about monopolistic behaviour, and seeks to assure customers that it is acting in a responsible manner through transparent engagement with its customers and stakeholders in the setting of prices and reporting on financial and service performance.

Airways acknowledges Aviation NZ's comment about linking performance with financial outcomes and notes that this would likely require a change to Airways' Pricing Framework. Further discussion about the Pricing Framework is covered in 'Submissions on other airline topics'.

# 1. Enhanced services

Airways prides itself on being one of the most innovative Air Navigation Service Providers (ANSPs) in the world. Airways continues to look for new technologies that improve safety and resilience, create flexible and sustainable regional services and improve the overall sustainability of your business. Figure 5 outlines the revenue increases being driven by investments in enhanced services.

**Figure 5 – Changes in revenue from enhanced services**

| | $m change | | | | % change | | | |
|---|---|---|---|---|---|---|---|---|
| | FY20 | FY21 | FY22 | Total | FY20 | FY21 | FY22 | Total[4] |
| A. Future Aerodrome Services | 1.5 | 1.1 | 1.8 | **4.4** | 0.8% | 0.5% | 0.8% | **2.3%** |
| B. Flexible Contingent Runway | 2.1 | 2.1 | 0.8 | **5.0** | 1.1% | 0.9% | 0.3% | **2.6%** |
| C. UAV detection and management | 2.4 | 0.1 | 0.1 | **2.6** | 1.3% | 0.0% | 0.0% | **1.4%** |
| D. Other initiatives | 0.5 | 1.4 | 1.7 | **3.6** | 0.3% | 0.6% | 0.7% | **1.9%** |
| **Total enhanced services** | **6.5** | **4.7** | **4.4** | **15.6** | **3.5%** | **2.0%** | **1.8%** | **8.2%** |

4. Total % column includes the compounding effect of the changes.

## 1.A. Future Aerodrome Services

**AIRWAYS PROPOSED**

Airways has been working with stakeholders to determine the future service requirements at attended aerodromes around New Zealand. These services could range from Aerodrome Flight Information Services (AFIS), such as those currently provided at Kapiti and Milford, through to 24-hour-a-day Air Traffic Control (ATC) provision. It is Airways' objective to provide fit-for-purpose services that will increase regional connectivity.

Airways has been following the development of digital towers around the world since 2012, assessing whether digital technologies could improve the safety and flexibility of aerodrome services at a reasonable cost. Airways has visited digital towers at Budapest in Hungary, Leipzig in Germany and the Heathrow contingent tower in London. Airways is confident that the cost and capability of digital technologies presents significant opportunities for services in New Zealand.

Airways proposed a digital tower solution at Invercargill to replace the existing physical tower. Following the installation of a digital tower in Invercargill, Airways proposed one in Auckland as a contingency option if the physical tower is unusable. If the digital solution in Auckland proves to be acceptable to stakeholders, there is an opportunity to use a digital tower as the prime means of control in Auckland from 2024, avoiding the need for a costly physical tower replacement.

Airways is excited about the benefits digital towers can provide to lower-volume regional locations. Airways will complete a detailed feasibility study during the 2019-2022 pricing period of a broader roll out at suitable locations in the 2022-2025 pricing period. Airways will consult on the plan for future aerodrome services at other regional locations as part of the next pricing consultation.

## SUMMARY OF SUBMISSIONS

Airline customers were supportive of the implementation of digital tower services. BARNZ and Air NZ specifically mentioned they expected the technology would deliver flexibility and increased safety, while maintaining cost-effective services in the future. Air NZ said that they see digital tower services as "essential for long-term sustainability, particularly in regional centres".

NZ Airports supported working with stakeholders to determine 'fit-for-purpose' services to enhance regional connectivity and/or reduce costs. They also submitted that planning for future regional services needs to happen urgently, and it was not acceptable to defer planning for future regional services until the next pricing period. NZ Airports said that in most cases fit-for-purpose solutions should result in cost savings, which could then be factored into three-yearly pricing decisions.

One GA submitter opposed digital towers. He submitted that a physical presence at a location ensures a personal relationship between controllers and local pilots. He said that in his opinion locally based controllers are more aware of local conditions, and the employment of locally based controllers helps support local communities.

## AIRWAYS' RESPONSE

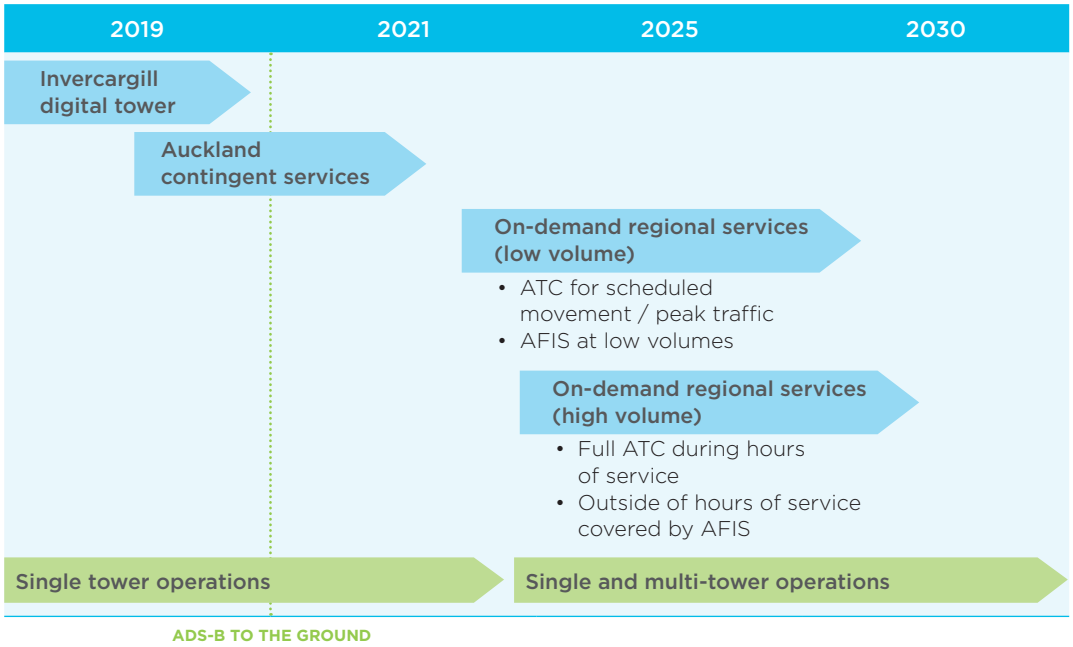
Submissions from airline customers were supportive of the implementation of digital tower services in Invercargill and Auckland. Airways will now focus on implementing the programme.

Airways would also like to reassure customers that in parallel with the implementation of digital services at Invercargill and Auckland, Airways will be continuing to develop fit-for-purpose aerodrome solutions at regional locations. This includes progressing more cost effective solutions, such as Aerodrome Flight Information Services (AFIS), with stakeholders and the regulator.

Airways remains committed to presenting a business case for future digital tower investment at suitable locations in the next pricing consultation. This is a realistic timeframe that will allow Airways to implement and learn from the Invercargill and Auckland digital towers.

Figure 6 outlines Airways' plan to implement digital towers, with the financial summary presented in figure 7.

## Figure 6 – Future Aerodrome Services roadmap




## Figure 7 – Investment in Future Aerodrome Services

| $m | FY20 | FY21 | FY22 | Total |
|---|---|---|---|---|
| Invercargill digital tower | 3.4 | 0.6 | – | **4.0** |
| Auckland digital tower | 2.0 | 3.1 | 5.2 | **10.3** |
| **Total capital investment** | **5.4** | **3.7** | **5.2** | **14.3** |
| **Transition costs** | **1.1** | **1.3** | **1.4** | **3.8** |

## 1.B. Flexible Contingent Runway (FCR)

### AIRWAYS PROPOSED

AIAL has commissioned a project to convert Taxiway Alpha into an FCR that can be enacted within 30 minutes. This will significantly improve the resilience of Auckland operations by providing an alternative runway at Auckland Airport in the event the main runway is unusable. The FCR will also allow routine maintenance on the main runway overnight without significantly impacting your operations.

Airways has made a provision to implement and own the significant aeronautical ground lighting assets associated with the FCR. Airways proposed a capital spend of $32.6m which included supporting investments in a new power centre, remote international stands and an extension of Taxiway Mike. The assets will be depreciated over a useful life of 15 years, recognising that the FCR will still be available for use when the proposed northern runway is operational. During the implementation of the FCR there are additional operating costs of $0.9 million p.a.

### SUMMARY OF SUBMISSIONS

Airlines had mixed views about the concept of an FCR, ranging from broad support (Qantas Group), to opposition (Virgin). All airlines questioned the lack of a cost benefit analysis from AIAL. BARNZ, Qantas Group and Virgin welcomed investigation of alternatives including periodic, well notified, night-time runway closures. NZ Airports supported the project.

BARNZ noted that AIAL is due to review the FCR investment and submitted if the project does not proceed Airways should remove the costs from prices. BARNZ also suggested a mechanism to review the price path at the end of FY20 and FY21 if a clear decision is not reached by AIAL before Airways' prices are set. BARNZ offered to help develop a price reset mechanism, and provided an example of the Commerce Commission's capex wash-up adjustment for electricity companies. The concept of a price adjustment mechanism was also supported by the Qantas Group, while IATA suggested the cost should be removed until the cost benefit analysis is known.

Air NZ has asked Airways to consider other pricing mechanisms to match the delivery to the charging start date. Air NZ cited Airways' Cat III and Queenstown multilat charges as examples of when this has been done in the past.

## AIRWAYS' RESPONSE

Customers have provided mixed views about the requirement for an FCR. Airways notes that this is a project led by AIAL and the decision to implement a FCR rests with them. At the time of preparing this response document the AIAL Board had not made a final decision about whether to the project would proceed.

The FCR project is a unique capital project for Airways. Airways agrees with BARNZ that a price adjustment should be made if the project does not proceed. We also note that if the project does not proceed there may still be elements of the proposed capital spend that are still required. Therefore, if the project does not proceed as planned Airways will:

1. Review the scope of any residual capital expenditure and operational costs.
2. Calculate the pricing impact resulting from the reduced scope.
3. Communicate changes to prices by 30 April 2020, at the same time as Airways advises customers of its volume forecast for the next year (as required as part of the volume risk sharing mechanism from the Pricing Framework).
4. Adjust prices from 1 July 2020, and 1 July 2021 if required.

Air NZ's suggestion of other pricing mechanisms may require a change to the Pricing Framework. Further discussion about the Pricing Framework is covered in 'Submissions on other airline topics'.

Figure 8 summarises the costs of the FCR project included in the final pricing. Note the costs are only for Airways' owned infrastructure. Other stakeholders involved in the implementation of the FCR project will recover their costs through other means.

**Figure 8 - Financial summary of the FCR project**

| $m | FY20 | FY21 | FY22 | Total |
|---|---|---|---|---|
| Capital investment | 17.4 | 15.2 | - | **32.6** |
| Operating costs | 0.9 | 0.9 | 0.9 | **2.7** |

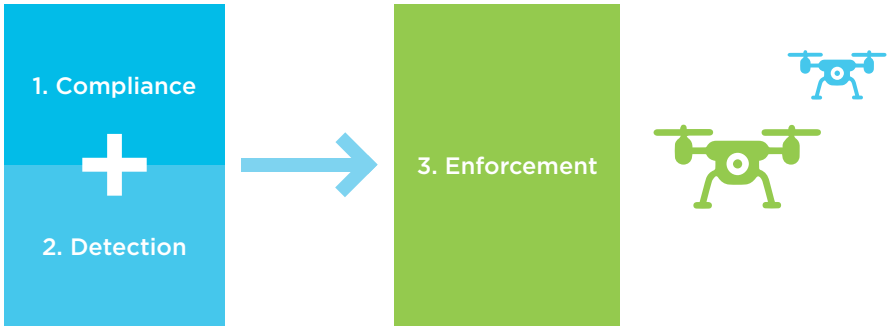
## 1.C. UAV detection and management

### AIRWAYS PROPOSED

Airways currently manages the Airshare.co.nz website to educate UAV operators about their responsibilities and provides a portal for UAV operators to request access to controlled airspace. The website was initially launched in 2015 and is now recognised as New Zealand's primary UAV resource with over 13,000 registered users. Since the AirShare website was launched, Airways has seen the number of logged flights increase by over 80% p.a. The growth in UAVs is expected to continue at a rapid pace and the current AirShare platform is no longer fit-for-purpose.

Airways' immediate priority is to ensure the safe passage of aircraft in and around controlled airspace. This means that Airways' initial focus is on increasing the compliance of cooperative UAVs while improving the detection and enforcement of non-cooperative UAVs. Figure 9 outlines Airways' approach to UAV detection and management.

**Figure 9 – Approach to UAV detection and management**




1. Compliance – Providing the information, tools, and infrastructure to allow UAVs to operate safely within the existing aviation system. This includes developing a national common operating model for UAV participants and working with broader aviation stakeholders and government agencies to develop fit-for-purpose policy and regulation.
2. Detection – Ensuring both cooperative (registered and obeying rules) and non-cooperative UAVs can be identified when in flight. This helps identify when UAVs are in or around controlled airspace and determine the correct actions to minimise risk to manned aircraft.
3. Enforcement – Ensuring non-cooperative UAVs that are not complying with rules, or endangering manned aircraft, can be tracked and dealt with by the relevant authorities. This includes situational and legal recording, incident management and workflow handling thereby providing authorities with suitable user information to pursue.

In the longer term, Airways' vision is to safely integrate UAVs into the existing aviation system. To achieve integration Airways will continue to work closely with government agencies to progress the necessary legislation and regulatory framework to support safe UAV operations. In parallel, Airways will work on developing a future funding model that fairly shares the costs of UAV integration.

Airways proposed an average of $2.5m p.a. for UAV management to improve the safety of aircraft operating in and around controlled airspace while working towards a longer term solution for UAV integration.

## SUMMARY OF SUBMISSIONS

Airlines generally supported Airways' initiatives to improve safety, however all airlines felt that the funding should be shared to some extent with the regulator, government and the UAV industry.

Aviation NZ questioned whether Airways' proposed funding of $0.2m p.a. for education is enough. They submitted that we need more proactive education, for example banners at international airports and multi-language leaflets for international tourists.

NZ Airports noted that airports also have a role in managing UAVs around airports and are equally concerned that a transparent approach for recovering costs has not yet been developed.

## AIRWAYS' RESPONSE

Airways' prime focus over the 2019 - 2022 period is to enhance safety in and around controlled aerodromes. Airways feels it is appropriate for airlines to fund these activities because they have a direct benefit for airlines and their passengers.

Education and regulation - There has been a significant increase in UAV incursions into controlled airspace as well as safety-related incidents with aircraft outside of controlled airspace. Airways has a new dedicated employee to engage proactively with the broader UAV community, including recreational, commercial and industrial users. The focus of this new dedicated employee will be to help educate and inform UAV operators of the rules, as well as to engage on future policy, operating model and infrastructure requirements to enable safe integration of UAVs into the existing aviation system.

Future funding models - Airways' investment for the 2019-2022 period will focus on airspace management and improved situational awareness for all aviation participants. Airways is developing tools that will deliver value to the broader UAV community. Once developed, Airways anticipates introducing charges for UAV users.

Figure 10 outlines the funding required in the 2019-2022 period to enhance safety.

**Figure 10 – Funding for UAV detection and management**

| $m | FY20 | FY21 | FY22 | Total |
|---|---|---|---|---|
| UAV system for detection and management (incl support costs) | 2.0 | 2.1 | 2.2 | **6.3** |
| Education and awareness | 0.2 | 0.2 | 0.2 | **0.6** |
| Regulation and policy development | 0.2 | 0.2 | 0.2 | **0.6** |
| **Total funding** | **2.4** | **2.5** | **2.6** | **7.5** |

## 1.D. Other initiatives

### AIRWAYS PROPOSED

In addition to the service enhancement projects outlined in Part A, Sections 1.A. to 1.C., Airways also proposed a number of smaller investments that will improve the level of service customers receive.

### SUMMARY OF SUBMISSIONS

Air NZ and the Qantas Group both supported these projects. Air NZ requested that the benefits be tracked and reported on, and the Qantas Group felt that costs should only be passed on when benefits are realised.

NZ Airports highlighted the new CAA requirement to provide real-time runway condition reporting at certified airports. NZ Airports will be raising this as part of the upcoming renewal of airport services agreements.

One GA submitter supported the projects, but submitted that Airways need to review IT costs. They submitted that reducing IT costs would mean there is more money to invest in regional tower upgrades.

## AIRWAYS' RESPONSE

Airways acknowledges the support for the other initiatives outlined in figure 11, and will now focus on delivering these, and the resulting benefits.

**Figure 11 – Other initiatives**

| Initiative ($m) | FY20 | FY21 | FY22 | Total |
|---|---|---|---|---|
| National ADS-B network | 2.7 | – | – | **2.7** |
| Network management system contingency | 0.3 | 1.8 | 0.1 | **2.2** |
| IT service management tool | 0.5 | 0.6 | 0.6 | **1.7** |
| ATM system enhancements | – | 0.4 | 0.7 | **1.1** |
| Briefing system for operational staff | – | 1.0 | – | **1.0** |
| Digital NOTAM implementation | – | 0.5 | – | **0.5** |
| Enhanced Low Visibility Operations at Auckland | 0.4 | – | – | **0.4** |
| Minor projects | 0.3 | 0.5 | 0.2 | **1.0** |
| **Total initiatives** | **4.2** | **4.8** | **1.6** | **10.6** |

Airways currently reports on the progress of capital projects as part of our annual disclosure to BARNZ members. Airways will also use this forum as an opportunity to report on the benefits being realised from these service enhancement projects.

Airways notes the Qantas Group submission about the timing of costs and benefits. This point has been raised in several submission topics and Airways' response is included in the 'Submissions on other topics' section of this document.

Airways notes NZ Airports' submission about real-time runway condition reporting and agree that the airport service agreement renewal process is the appropriate forum to agree the responsibilities between Airways and aerodrome operators.

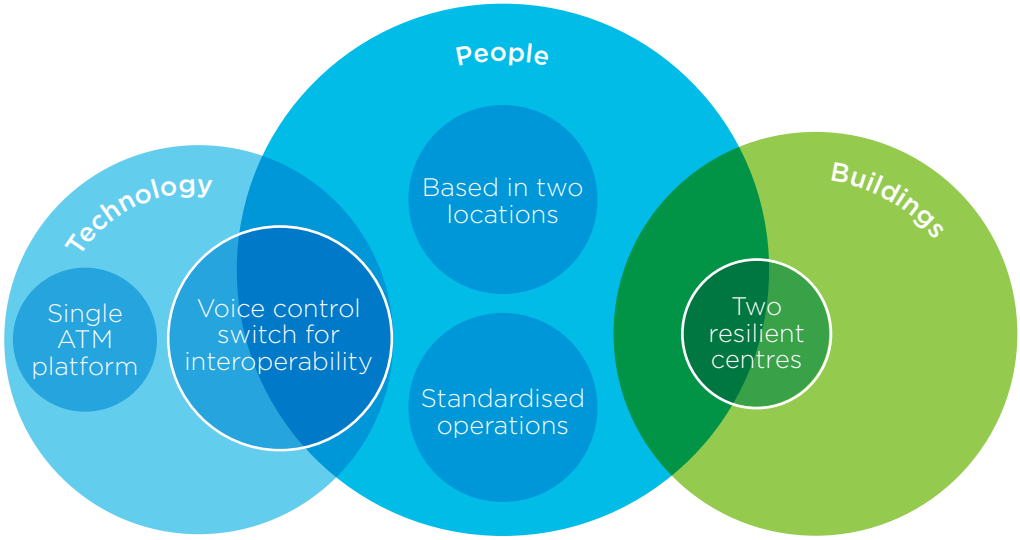
In response to the GA submitter's feedback, Airways would like to provide assurance that IT costs are reviewed annually as part of its budget setting process. IT costs are set at an appropriate level to enable Airways' staff to operate effectively and to ensure systems are secure and robust.

# 2. Business transformation

## AIRWAYS PROPOSED

Airways is committed to the implementation of the transformation initiatives presented in the 2016 Pricing Consultation, which will improve the safety, resilience and flexibility of services. The business transformation strategy focuses on the people, technology and buildings required to deliver interoperable services from Auckland and Christchurch as shown in figure 12 and summarised in sections 2.A. to 2.C.

**Figure 12 – Airways' business transformation**




## 2.A. People – Greater flexibility to meet your needs

During the next three years the one-centre-two-locations model will be implemented and balancing of the workload between Auckland and Christchurch will start. Further enhancements will enable the replacement of procedural approach units with surveillance-based services. A review of the national airspace and sectorisation model will be delivered to ensure all operational changes complement the future operating model.

The financial summary of the costs to transition staff are outlined in figure 13. The transition is due to be completed in 2022, with benefits being realised from 2023.

**Figure 13 – Financial summary of the staff transition programme**

| $m | FY17–FY19 | FY20 | FY21 | FY22 | FY20–FY22 | FY23–FY28 | Total |
|---|---|---|---|---|---|---|---|
| Transition costs | **6.1** | 3.2 | 4.4 | 0.8 | **8.4** | – | **14.5** |

## 2.B. Technology – Providing safer and more efficient tools

The combined domestic and oceanic platforms will be operational by mid-2021. Figure 14 provides the financial summary of the technology components of the business transformation programme.

**Figure 14 – Technology transformation financial summary**

| $m | FY17–FY19 | FY20 | FY21 | FY22 | FY20–FY22 | FY23–FY28 | Total |
|---|---|---|---|---|---|---|---|
| **Capital projects:** | | | | | | | |
| ATM system | **32.5** | 16.9 | 7.7 | 1.3 | **25.9** | – | **58.4** |
| Voice switching | **5.4** | 2.5 | 1.0 | 2.1 | **5.6** | 2.0 | **13.0** |
| **Total capital investment** | **37.9** | **19.4** | **8.7** | **3.4** | **31.5** | **2.0** | **71.4** |
| **Operating costs:** | | | | | | | |
| One-off training & transition | **–** | 2.0 | 2.5 | – | **4.5** | – | **4.5** |
| Ongoing support | **–** | – | 0.2 | 0.2 | **0.4** | 1.2 | **1.6** |
| **Total operating costs** | **–** | **2.0** | **2.7** | **0.2** | **4.9** | **1.2** | **6.1** |

## 2.C. Buildings – Two locations providing increased resilience

The construction of the new centres is due for completion in 2019. Following this, the transition programme will be implemented and hardware for the new ATM platform and other operational equipment will be installed. The site acceptance test for the new ATM system will be run in December 2019 followed by stability testing and operational shadowing in early 2020. The training programme will prepare the technical and operational staff for a domestic service cut-over in July 2020, with the Oceanic cut-over taking place in 2021. Figure 15 provides a financial summary of the buildings transformation programme.

**Figure 15 – Buildings transformation financial summary**

| $m | FY17–FY19 | FY20 | FY21 | FY22 | FY20–FY22 | FY23–FY28 | Total |
|---|---|---|---|---|---|---|---|
| **Capital projects:** | | | | | | | |
| Technical transition to new IL4 buildings | **1.8** | 2.0 | 0.1 | – | **2.1** | – | **3.9** |
| New Auckland building fit out | **6.3** | 0.7 | – | – | **0.7** | – | **7.0** |
| **Total capital investment** | **8.1** | **2.7** | **0.1** | **–** | **2.8** | **–** | **10.9** |
| **Operating costs:** | | | | | | | |
| Property leases | **–** | 5.9 | 5.7 | 5.5 | **17.1** | 29.7 | **46.8** |
| One-off transition costs | **–** | 0.2 | – | – | **0.2** | – | **0.2** |
| **Total operating costs** | **–** | **6.1** | **5.7** | **5.5** | **17.3** | **29.7** | **47.0** |

## SUMMARY OF SUBMISSIONS

There was widespread support for the business transformation programme, however both Air NZ and BARNZ expressed disappointment in the lack of benefits delivered to date, and clearly stated their expectation that cost savings be delivered from FY23.

Qantas Group and Virgin both said that costs should only be passed on to customers when benefits start to be realised.

NZ Airports highlighted service issues at Napier, and said "it is alarming there is a lack of resilience at an airport level" and that the cost of disruption while in contingency operations cannot be over-estimated.

One GA submitter did not agree with centralising staff, saying that Airways need locally based people in all areas.

## AIRWAYS' RESPONSE

Airways acknowledges the support for the business transformation programme and will continue to progress the initiatives proposed. This includes balancing the current en-route functions delivered from Airways' Christchurch operational centre, between new Importance Level 4 (IL4) locations at Christchurch and Auckland.

Airways understands customers' concerns about the timing of benefits being delivered by the transformation programme. We remain committed to delivering the programme which will provide benefits in future pricing periods. Airways will continue to report on progress through the Scorecard to assure customers that the programme is on track.

The business transformation programme is focused on the en-route and approach functions currently being delivered from a single operational centre in Christchurch. While the recent service disruptions at Napier have been caused by an unprecedented and rare set of staffing issues, Airways does share NZ Airports' concerns about resilience at an airport level. These issues are being addressed as part of Airways' Future Aerodrome Services initiative discussed in section 1.A.

# 3. Capital to maintain current services

## AIRWAYS PROPOSED

To maintain the current level of service, Airways proposed a $92.9m capital programme. The programme was summarised by location and service with full details of the programme outlined in the appendices of the Consultation Document.

## SUMMARY OF SUBMISSIONS

There was general support for the capital programme with the following exceptions:

1. **Instrument Landing System (ILS) at Dunedin and Wellington –** Air NZ, Virgin, BARNZ and IATA all submitted that the ILS should not be replaced. NZ Airports was the only submitter to explicitly support the replacement of ILS to address resilience, allow for operators that have not adopted newer technologies and allow time for the performance of new technologies to be proven.
2. **Non-cooperative surveillance –** Air NZ questioned whether the non-cooperative surveillance was a double up when considering the proposed spend on UAV detection and management.

   IATA does not support ongoing investment in Primary Surveillance Radar (PSR) in lieu of other superior alternatives.
3. **Main trunk contingency network –** Air NZ questioned whether the main trunk contingency network could be deferred to allow for alternative technology solutions such as multilat.
4. **Physical control towers –** Virgin does not support any investment in physical control tower assets beyond spend for critical safety and maintenance. This includes the Auckland tower where its view is that the life of the physical tower should be extended until a digital service will be implemented.
5. **Physical Navaids –** Virgin does not support the replacement of physical Navaids beyond the Minimum Operating Network (MON). Virgin has also encouraged Airways to consult with industry to review the MON. IATA also supported this view, and specifically commented on the DVOR/DME replacements.

   NZ Airports have submitted that Airways' Non-Directional Beacon (NDB) withdrawal programme should be delayed until the Civil Aviation Authority (CAA) has finalised the rules for aircraft operating under Global Navigation Satellite Systems (GNSS).
6. **Wellington Office Fitout –** Virgin does not support the Wellington office fitout.
7. **Vehicle fleet –** Virgin requested more detail about what this includes to ensure the vehicle fleet is fit-for-purpose.
8. **Resource planning system upgrade and a rostering solution –** Virgin requested that Airways explain the difference between the two projects.

## AIRWAYS' RESPONSE

Airways addresses the comments and concerns for each item raised in submissions:

1. **ILS at Dunedin and Wellington –** The useful lives of the ILS assets at Dunedin and Wellington have already been extended to the point where if they are not replaced they will need to be decommissioned (April 2021 for Dunedin and April 2022 for Wellington).

   The decision to replace the ILS ultimately rests with the aerodrome operator, and NZ Airports (on behalf of Wellington and Dunedin airports) supports the replacement of ILS. Airways will continue to engage with stakeholders prior to the scheduled ILS replacements to investigate alternatives. However, given the airports' current position it is appropriate to retain the ILS replacements in the capital plan. If an alternative solution can be found prior to the scheduled ILS replacements the resulting change in depreciation and capital charge will be reflected in future pricing periods.

2. **Non-cooperative surveillance –** There appears to be some confusion about the relationship between non-cooperative surveillance and the proposed UAV detection and management initiative, and the technology solution that Airways will invest in. This investment will replace the current PSR network with a new technology that will deliver the functionality of the current PSR network and provide a surveillance feed into the UAV management system to enhance UAV detection.

3. **Main-trunk contingency network –** This capital item represents the contingent surveillance network prescribed by the industry led forum, New Southern Sky (NSS). Airways will replace the existing Secondary Surveillance Radar (SSR) technology with the most cost-effective solution that meets the NSS requirements. Multilat is one of the technology options that Airways is considering.

4. **Physical control towers –** Airways agrees with Virgin's comments that investments in physical towers should be restricted to critical safety and maintenance. The capital programme follows this approach.

5. **Physical Navaids –** The MON requirements have been determined by industry through the NSS forum. Airways' capital plan for Navaids reflects the NSS directives.

   In response to NZ Airports' request for Airways to delay the NDB withdrawal programme, Airways is committed to withdrawing NDBs and has challenged CAA's requirements for technical alternates. Airways expects a favourable response from the CAA to be confirmed soon.

6. **Wellington office fit-out –** Airways' decision to relocate from its Wellington office was made after the pricing proposal was prepared. This item has been removed from the capital expenditure plan.

7. **Vehicle fleet –** Airways currently have a fleet of 68 vehicles across New Zealand. Airways have recently engaged an independent party to review the vehicle fleet to ensure Airways' fleet is optimised and sustainable.
8. **Resource planning system upgrade and a rostering solution –** Resource Planning System Upgrades is an Enterprise Resource Planning (ERP) system which will look to replace our financial management system, asset management and maintenance planning systems. The rostering solution refers to enhancements to the rostering system for ATC.

The final capital programme is outlined in figure 16, with full details provided in appendix 2.2.

**Figure 16 – Capital projects by service and location**

| | FY20 | FY21 | FY22 | Total |
|---|---|---|---|---|
| **Service and location ($m)** | | | | |
| Auckland | 5.4 | 5.8 | 2.9 | **14.1** |
| Christchurch, Wellington, Queenstown | 0.9 | 1.4 | 2.6 | **4.9** |
| Regional aerodromes | 2.9 | 4.4 | 4.1 | **11.4** |
| Kapiti and Milford | 0.5 | - | - | **0.5** |
| Unattended aerodromes | 0.1 | 1.2 | - | **1.3** |
| En-route | 2.8 | 10.8 | 15.0 | **28.6** |
| National operations | 8.9 | 10.7 | 12.0 | **31.6** |
| **Total capital to maintain current services** | **21.5** | **34.3** | **36.6** | **92.4** |

# 4. Changes to operating costs

To ensure transparency, Airways separates movements in operating costs into three categories – base costs, inflationary adjustments and changes to the cost of the capital. The final changes to operating costs are summarised in figure 17.

**Figure 17 – Drivers of the operating cost increase**

| | $ Revenue change | | | | % change | | | |
|---|---|---|---|---|---|---|---|---|
| Operating cost drivers | FY20 | FY21 | FY22 | Total | FY20 | FY21 | FY22 | Total[5] |
| A. Base operating costs | 7.9 | (2.9) | 1.4 | **6.4** | 4.0% | (1.1%) | 0.7% | **3.4%** |
| B. Inflationary adjustments | 6.3 | 4.1 | 3.9 | **14.3** | 3.3% | 1.9% | 1.6% | **7.5%** |
| C. Cost of capital | (1.4) | (0.1) | (0.1) | **(1.6)** | (0.6%) | (0.1%) | (0.1%) | **(0.9%)** |
| **Total change in operating costs** | **12.8** | **1.1** | **5.2** | **19.1** | **6.7%** | **0.7%** | **2.2%** | **10.0%** |

5. Total % column includes the compounding effect of the changes.

This section summarises the drivers of the operating cost changes and Airways' response to submissions.

## 4.A. Base operating costs

### AIRWAYS PROPOSED

Operating costs are the largest of Airways' building blocks, contributing approximately 65% of target revenue. Operating costs include labour, property leases and equipment maintenance.

Currently, Airways is working in a challenging industrial environment. Like others in the aviation industry Airways has faced challenges with collective employment negotiations, and lease costs driven by the requirement to move from a ground lease to a full office lease at Auckland Airport. Based on these pressures Airways proposed an increase in base operating costs of $6.9m p.a.

### SUMMARY OF SUBMISSIONS

Air NZ submitted that the cost increases seemed reasonable in the context of the environment in which Airways' operates, but reiterated the importance of the business transformation programme in delivering future cost efficiencies.

The Qantas Group questioned whether an increase in base costs is needed to maintain safe and efficient services. They look forward to considering initiatives that will improve the safety and efficiency of operations aligned with industry best practice.

BARNZ expressed disappointment that cost growth was now exceeding inflation, and stated their expectation that the business transformation programme will keep future costs at, or below, the level of inflation in future periods. BARNZ also mentioned that they supported Airways' efforts to reduce staff leave balances in the coming years.

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NZ Airports was concerned at the high price increase and cited examples of cost drivers that they expected would reduce costs eg 'volume-driven costs', 'cloud-based software' and 'digital towers'.

## AIRWAYS' RESPONSE

Since the proposed prices were published the ATC collective employment agreement has been settled. This has resulted in a cost saving of $0.8m in FY20, $0.3m in FY21 and $0.5m in FY22. Overall this reduces Airways' proposed price increase by 0.3%.

While cost growth is now exceeding inflation, Airways has a proud record of controlling costs, and the increased costs are a reflection of the challenging industrial and economic environment that Airways is operating in. As BARNZ and Air NZ have pointed out, Airways is focussed on delivering the benefits of the business transformation programme. Managing staff leave balances is also a focus of Airways' management over the 2019 - 2022 pricing period.

In response to concerns raised by NZ Airports, Airways would like to clarify that 'volume-driven costs' are additional base costs involved in servicing additional traffic volume. When offset with the additional volume growth presented in section 5, the net impact is a reduced price. 'Cloud-based software costs' are an additional operating cost, but have resulted in avoided capital spend - the net effect being a lower price increase. Similarly the digital tower costs included in this pricing period will lead to avoided capital expenditure, which will result in a lower price impact for customers.

The final increase in base operating costs is $6.4m p.a., as outlined in figure 18.

**Figure 18 – Increase in base operating costs 2019-2022**

| Operating costs above inflation ($m) | FY20 | FY21 | FY22 | Total |
|---|---|---|---|---|
| Collective settlements | 0.1 | 1.4 | 0.7 | **2.2** |
| Auckland property costs | 1.3 | 0.1 | 0.1 | **1.5** |
| Cloud-based software costs | 1.0 | – | – | **1.0** |
| Volume-driven costs | 0.7 | – | – | **0.7** |
| Minor projects | 4.8 | (4.4) | 0.6 | **1.0** |
| **Total increase in base operating costs** | **7.9** | **(2.9)** | **1.4** | **6.4** |

## 4.B. Inflationary adjustments

### AIRWAYS PROPOSED

Inflation inputs are used to adjust Airways' base operating costs. The inflation rate differs depending on the type of cost it is being applied to. The proposed prices were based on NZIER forecasts from September 2018.

### SUMMARY OF SUBMISSIONS

Airline customers were supportive of the approach taken to applying inflation.

One GA submitter questioned why inflation is being generated by passing money between government entities and State Owned Enterprises. The submitter also said that insurance should be a tender process and Airways should stop using only Government approved providers.

### AIRWAYS' RESPONSE

As indicated in Airways' proposal we have revised the inflation rates based on the March 2019 forecasts from NZIER. The updated rates are outlined in figure 19 and are slightly higher than the forecasts from September 2018. The increase in inflation forecasts are contributing an additional 0.2% to the final price increase.

**Figure 19 – Final inflation assumptions for 2019-2022**

| Cost type | Inflation source | FY20 | FY21 | FY22 |
|---|---|---|---|---|
| ATC salaries | ATC collective settlement | 2.8% | 2.8% | |
| | NZIER LCI forecast (Mar 19) | | | 2.5% |
| Other labour costs | NZIER LCI forecast (Mar 19) | 2.4% | 2.5% | 2.5% |
| Other costs | NZIER PPI (inputs) forecast (Mar 19) | 3.8% | 3.4% | 3.0% |

In regards to Airways' process for procuring insurance. Airways uses an international broker for its insurances (appointed on the basis of a biennial international closed tender) who in turn sources insurance globally on the basis of tenders. The Government is not involved in this process.

## 4.C. Cost of capital

### AIRWAYS PROPOSED

Airways proposed a capital charge rate of 6.9%. This is the same cost of capital that Airways has used for the 2016-2019 pricing period. However, it reflected a different mix of underlying parameters. The proposed risk-free rate, debt premium and debt issuance cost parameters were lower, while leverage was higher. The proposed leverage reflected Airways target leverage for the 2019-2022 pricing period.

### SUMMARY OF SUBMISSIONS

Several submitters commented on the increase in the leverage parameter. For example, BARNZ supported all inputs used by Airways for its proposed capital charge rate, other than the asset beta and/or leverage inputs. BARNZ's view was that the asset beta and leverage were not consistent and should be based on either:

- unweighted averages of the asset beta and leverage of overseas Air Navigation Service Providers (ANSPs), or
- the parameter values determined by the Commerce Commission for New Zealand airports

Some submitters suggested other reasons that a lower cost of capital be adopted including Airways' low-risk position as a State-Owned Enterprise; the volume risk-sharing mechanism changes in 2017, and the diversified nature of Airways' services and revenue compared to airports.

### AIRWAYS' RESPONSE

Airways' capital charge rate for the 2019-2022 pricing period is 6.59%.

The change from the pricing proposal reflects a fall in the risk free rate. It is consistent with Airways' previous practice to update the risk free rate to reflect the most recent data available.

Airways carefully considered the submissions made in relation to asset beta and leverage and sought expert advice on the best estimates for the cost of capital parameters.

Airways' asset beta is estimated from the asset betas of comparable entities. The most directly comparable entities are AirServices Australia, NERL (NATS) and IAA. Given that the business of Airways depends on the business of airports the asset beta of the airports in New Zealand must also provide guidance on an appropriate asset beta for Airways. The estimated asset beta for New Zealand airports is 0.6 and the comparator air navigation services asset betas lie in a range of 0.505-0.65. Therefore, Airways considers that 0.6 is a reasonable estimate of Airways' asset beta.

The actual cost of capital that Airways faces for financing its statutory business can be expected to reflect the level of leverage chosen by Airways' management. While increasing gearing increases the cost of capital in the model, there is no evidence that the level targeted by Airways is excessive. It is consistent with the choices of other ANSPs. The target leverage of ANSPs is more relevant than the leverage adopted by the Commission for NZ Airports. This leverage assumption is not based on the actual leverage targeted by any of the airports, and the appropriate leverage for an ANSP should not necessarily be similar to that for an airport.

Airways does not agree with submissions that the organisation's risk position means a lower cost of capital should be adopted. The parameters used to estimate cost of capital, including asset beta, reflect the relative risk profile of Airways compared to the market.

Airways has also adopted the two decimal place format for the cost of capital used by the Commerce Commission.

Figure 20 outlines the components of Airways' cost of capital calculation.

**Figure 20 – Cost of capital inputs and components**

| Cost of capital components | FY17-FY19 Pricing | FY20-FY22 Pricing | Approach |
|---|---|---|---|
| Risk-free rate | 2.23% | 1.67% | The Commerce Commission recommends using a bond rate that matches the period of the pricing agreement. The current estimate is based on a three-year term. |
| Asset beta | 0.6 | 0.6 | An asset beta of 0.6 is still appropriate when compared to international ANSPs and the Commerce Commission's estimate for airports. |
| Tax-adjusted market-risk premium | 7.0% | 7.0% | Based on the Commerce Commission's input methodologies estimate. |
| Debt premium | 1.26% | 1.09% | This estimate is based on the approach used by the Commerce Commissions and a three-year term. |
| Debt issuance cost | 0.35% | 0.20% | Based on the Commerce Commission's input methodologies estimate. |
| Leverage | 40% | 58% | This is the target leverage for Airways' statutory business. This is consistent with the leverage of other Air Navigation Service Providers (ANSPs). |
| Capital charge range | 67th percentile | 67th percentile | The risk and cost of underinvestment for Airways is likely to be higher than that of airports, gas pipeline and electricity distribution businesses. Airways has conservatively used the 67th percentile. |
| Cost of capital | 6.9% | 6.59% | |

# 5. Volume growth

Once total required revenue is determined in Part A, Sections 1 – 4, forecast volumes are used to set prices. Volume growth comprises an opening volume adjustment to account for variances from the 2016–2019 period and forecast annual volume growth. Figure 21 summarises the final volume growth assumptions, with an explanation and responses to submissions provided in sections 5.A. and 5.B.

**Figure 21 – Components of volume growth**

| | $ Revenue change | | | | % change | | | |
|---|---|---|---|---|---|---|---|---|
| | FY20 | FY21 | FY22 | Total | FY20 | FY21 | FY22 | Total[6] |
| A. Opening volume adjustment | | | | | 3.0% | – | – | **3.0%** |
| B. Annual volume growth | | | | | 0.7% | 1.0% | 1.0% | **3.1%** |
| **Total volume growth** | | | | | **3.7%** | **1.0%** | **1.0%** | **6.1%** |

6. Total % column includes the compounding effect of the changes.

## 5.A. Opening volume adjustment

### AIRWAYS PROPOSED

At the start of each pricing period a one-off adjustment is made to reflect any unexpected volume movements in the previous pricing period. Airways proposed an opening volume adjustment of 3.2%. This means that in FY19 Airways expected to collect 3.2% more revenue than the required revenue set during the 2016 Pricing Consultation. Airways proposed to review the volume forecasts based on the most up to date information available at the time of setting final prices.

### SUMMARY OF SUBMISSIONS

There were no submissions about the opening volume adjustment.

### AIRWAYS' RESPONSE

Airways' forecast of revenue for FY19 has softened since the proposed prices were calculated. Airways now expects to collect 3.0% more revenue than the required revenue set during the 2016 Pricing Consultation. Airways has updated the opening volume adjustment to reflect the FY19 forecast.

## 5.B. Annual volume growth

### AIRWAYS PROPOSED

Airways proposed volume forecast was based on airline schedules available in November 2018 and historical growth rates. Airways committed to reviewing the volume growth forecast in April 2019 to reflect the most current airline schedules and any additional information supplied in submissions.

## SUMMARY OF SUBMISSIONS

IATA was the only submitter to provide additional information. They forecast travel growth for New Zealand to be between 3.75% and 4.25% p.a. over the next five years. IATA also made the point that while the risk-sharing mechanism has been effective, Airways' base forecasts should be more realistic, so that price resets are not required.

Air NZ considered the forecasts appropriate, and BARNZ did not identify any additional information to consider.

## AIRWAYS' RESPONSE

Airways has now reviewed the latest published airline schedules for the FY20 year. The schedules show a significant reduction in forecast volume growth when compared to the information available in November 2018. Accordingly Airways has reduced the volume growth forecast for FY20 from 4.0% to 0.7%.

In the absence of any additional information Airways has not made any adjustment to the forecast volume growth for FY21 and FY22. Airways note that changes to the volume risk-sharing mechanism in the Pricing Framework provide an opportunity to reset prices within a pricing period. This would occur at the end of FY20 and FY21 if airline schedules indicate that volume growth is more than 2% different from the assumptions used to set prices.

Figure 22 shows the revised volume growth forecasts for domestic and international traffic. Figure 23 details the major changes in the FY20 forecast between the proposed pricing and the final pricing.

### Figure 22 – Volume growth forecasts for FY20-FY22

| | FY20 | FY21 | FY22 |
|---|---|---|---|
| Domestic | 0.5% | 0.8% | 0.3% |
| International | 0.9% | 1.3% | 2.1% |
| **Weighted average growth** | **0.7%** | **1.0%** | **1.0%** |

### Figure 23 - Changes to FY20 volume growth forecast

| Proposed FY20 volume growth forecast | 4.0% |
|---|---|
| Deferred delivery of three A320/1 NEOs | (0.9%) |
| Hong Kong Airlines withdraw from New Zealand | (0.9%) |
| Reduced international schedules | (1.8%) |
| Increase to domestic schedules | 0.3% |
| **Final FY20 volume growth forecast** | **0.7%** |

# Other pricing changes

This section describes two minor changes to charges in the Standard Terms and Conditions.

## Queenstown night operations

### AIRWAYS PROPOSED

In 2016 a new charge was added to the Standard Terms and Conditions for Queenstown night operations. The charge covered new investment in lighting infrastructure to allow night operations into Queenstown and applied to all aircraft over 30 tonnes.

The ATR fleet was excluded from the new charge as ATRs were not certified to operate RNP-AR approaches into Queenstown at the time. Since 2016, the majority of the ATR fleet has been certified to operate RNP-AR approaches into Queenstown.

Accordingly, Airways proposed that the costs for Queenstown night operations be spread across all airline operators. To achieve this outcome Airways proposed to remove the separate charge from the Standard Terms and Conditions and consolidate the costs into the Queenstown Aerodrome Charge.

### SUMMARY OF SUBMISSIONS

All submissions on this topic supported the proposed change.

### AIRWAYS' RESPONSE

Airways will remove the separate charge from the Standard Terms and Conditions and adjust the Queenstown Aerodrome Charge with effect from 1 July 2019.

## Extended or unscheduled out-of-hours service

### AIRWAYS PROPOSED

Where extended coverage is requested and approved outside the published 'core hours' of watch at regional aerodromes, Airways charges a flat fee for a maximum of three hours. Currently, there is one charge listed in the Standard Terms and Conditions, which applies to all regional aerodromes.

Airways proposed introducing a second lower charge for aerodromes where Airways provides an Aerodrome Flight Information Service (AFIS). The lower charge reflects that Airways' costs for recalling AFIS staff are lower than costs for recalling ATC staff.

## SUMMARY OF SUBMISSIONS

All submissions on this topic supported the proposed change.

## AIRWAYS' RESPONSE

Airways will amend the Standard Terms and Conditions to include a separate, lower rate, for extensions at locations where Airways provides an AFIS. The final charges are outlined in figure 24, and reflect the final inflationary adjustments discussed in section 4.B. of this document.

**Figure 24 – Final out-of-hours charges**

| | FY20 | FY21 | FY22 |
|---|---|---|---|
| Regional airports where an ATC service is provided | $396.87 | $406.79 | $416.96 |
| Regional airports where an AFIS is provided | $238.12 | $244.07 | $250.17 |

# Submissions on other airline topics

This section summarises and responds to submissions on topics that were not directly raised in the Pricing Proposal. Each topic summarises the submissions received and Airways' response.

## Pricing Framework topics

### AIRWAYS PROPOSED

Airways' proposed prices were calculated using the Pricing Framework that was implemented in 2012, following extensive consultation with stakeholders.

### SUMMARY OF SUBMISSIONS

Some submitters raised issues that would require changes to the Pricing Framework. Most of these submissions related to the timing of new charges, which are not consistent with the Economic Value Added (EVA) methodology outlined in the Pricing Framework.

### AIRWAYS' RESPONSE

The Pricing Framework has now been used as the basis for setting prices for three pricing periods. Airways acknowledges the submissions received and agrees that it is appropriate to review the Pricing Framework. Airways will undertake a project in the 2019-2022 pricing period to consider whether the Pricing Framework is still achieving the objectives and principles established in 2012.

If there is merit in making changes to the Pricing Framework Airways intends to consult with stakeholders and apply the updated framework in the 2022-2025 pricing period.

## Regional sustainability

### AIRWAYS PROPOSED

Airways' proposed pricing for the 2019-2022 period included increases to charges at Kapiti and unattended locations. The proposed price increase at Kapiti was driven by declining volumes, while at unattended locations the price increase was driven by a combination of lower volumes and increasing costs.

## SUMMARY OF SUBMISSIONS

Air Chathams has highlighted the impact of these price increases on the sustainability of some regional routes. Its submission highlighted where it considers there are limitations in Airways' pricing model, including:

- at low volume locations higher prices can lead to reduced volumes, which in turn creates a spiral of further price increases, until the location becomes unsustainable.
- the aerodrome operator determines the level of service required, without a direct financial incentive to progress a fit-for-purpose service level.

Air Chathams' submission offered two suggested solutions to these issues:

- Airways' pricing should be at a network level, so costs are spread more equitably amongst operators.
- There should be an independent determination of the level of service required at each aerodrome.

## AIRWAYS' RESPONSE

Airways is very aware of the impact Airways' charges can have on the sustainability of aviation at lower volume regional locations. Airways continues to focus on providing fit-for-purpose services to ensure prices are appropriate.

Network pricing - Airways uses location specific pricing to ensure that the price for services at a location reflect the underlying costs of providing services at that location. This is important so that prices send efficient signals about the appropriate level of service and resourcing at each location. However, Airways bundles regional locations into two groups based on the level of service provided – this has the effect of smoothing the price impact of capital investment. Kapiti is the only stand-alone AFIS location, and as such has its own specific price.

The aerodrome operator determines the level of service provided - While the aerodrome operator does not directly pay for the cost of the service that Airways provides, it does have an incentive to determine an appropriate service level. As Air Chatham's submission has highlighted, the ultimate consequence of not considering the cost impact on aircraft operators is that the aerodrome becomes unsustainable.

## Airways' dividend policy

### AIRWAYS PROPOSED

Airways' dividend policy was not included in Airways' pricing proposal.

### SUMMARY OF SUBMISSIONS

While not part of Airways' pricing proposal, we received three submissions referring to Airways' dividend policy.

Virgin felt Airways should reduce the dividend in order to offset rising costs.

BARNZ highlighted the increasing dividend payments since 2014, and suggested that the shareholder take a reduced dividend to continue to support growth in the aviation sector, and minimise cost increases.

Aviation NZ felt a portion of the Airways' dividend should be reinvested to retain a basic aviation infrastructure. This investment should be a cost and deducted from revenue before tax and dividends are calculated.

### AIRWAYS' RESPONSE

Airways is a State Owned Enterprise and is run as a commercial business. It is governed by an independent Board of Directors. Airways' dividend policy reflects the expectations of its shareholder.

# Scorecard

## AIRWAYS PROPOSED

Airways proposed to make several changes to the Scorecard metrics to ensure reporting reflects what is important to you. The proposed changes included:

- A new 'ATC availability' metric.
- A new 'core systems availability' metric.
- Renaming the current 'service availability' metric 'technical availability'.
- Removing the 'planned maintenance completion' metric.
- Updating the initiatives section to provide status updates for business transformation, future aerodrome services, FCR, and UAV management and detection.
- Removing CANSO metrics.
- Updating targets for existing measures.

## SUMMARY OF SUBMISSIONS

Air NZ and NZ Airports questioned the usefulness of the proposed new ATC availability metric if it is reported at an aggregate level because this could mask sub-optimal performance at one location. Air NZ also suggest that this could be addressed by reporting locations where performance is not achieved.

Aviation NZ said the metrics are fine, but questioned what benefits come to industry if Airways does not achieve its targets.

BARNZ suggested that 'Average delay per flight' is not useful, a better target might be 'no more than x% of flights with a delay of more than y seconds'. They also mentioned that proposed targets of 'IFR movement per core FTE' and 'Cost per IFR flight hour' are higher than actual performance. If these metrics are useful then there is a concern that the targets are not being met. If they're not useful they should be removed.

One GA submitter did not support reporting systems as they take time away from more valuable activities. He submitted that Airways should employ a simple reporting system, and spend the funds on employing more staff to operate towers and radars.

NZ Airports also suggested that the following metrics should be added:

- The maximum aggregate period of time at any controlled airport where normal ATC service was not provided.
- The aggregate period of time across all controlled airports where normal ATC service was not provided.
- The delay metrics should be extended to include regional airports collectively.

The Qantas Group supported the metrics but would like more information as to how they are set and what they are used for. They submitted that there should be more focus on performance management with the intent of uncovering systemic issues and identifying areas for improvement.

## AIRWAYS' RESPONSE

Airways' Scorecard is intended to be simple and transparent. It is a summary of Airways' performance, not an exhaustive list. It requires minimal input from staff to maintain. Airways also has a performance management team that continues to seek opportunities to improve safety, and operational and financial performance, in consultation with customers. Examples of those opportunities include the development of flow management tools, runway occupancy reporting, and the Auckland Capacity Enhancement (ACE) forum.

**Service availability metrics -** Airways acknowledges the submissions by Air NZ and NZ Airports on the usefulness of the proposed aggregate ATC availability metric. Airways will add a complementary metric to report on the number and details of locations not meeting service targets.

Airways will also adopt the suggestion by NZ Airports to report aggregate periods of time where normal service is not provided. This will be achieved by reporting all availability metrics in both percentage and hour figures. In cases where a location has not met its service target, the hourly figure will be provided with the details. The inclusion of availability figures in hours provides context to the generalised percentage figures currently being utilised.

**Delay metrics -** In response to BARNZ's submission that the 'average delay per flight' is not useful because it is a smoothed average figure, Airways agrees that it does not add much information over the 'monthly inflight delay' metric. In addition, Airways notes that airline-specific delay and performance reports are provided to airlines on a monthly basis, and any duplication of similar information would not be an efficient use of the Scorecard. Consequently, the 'average delay per flight' metric will be removed in order to keep the Scorecard focussed and concise.

Regarding NZ Airports' submission on extending delay metrics to include regional airports, Airways is unable to do this, as delay metrics are provided by the flow management system which only covers Auckland, Wellington, Christchurch and Queenstown.

**IFR movements per core FTE -** The current 'IFR movements per core FTE' metric target is lower than the current performance. To clarify this measure Airways will restate this target as '>940' to indicate that 940 is the minimum level of performance that is targeted.

**Cost per IFR hour -** The current 'cost per IFR flight hour' metric target is higher than the current performance due to Airways providing a more cost-effective operation than targeted. This target is increasing over the FY20-FY22 period due to the increasing costs being driven by the significant enhanced service projects scheduled for this period.

Figure 25 provides a complete revised set of Scorecard measures.

**Figure 25 – Scorecard measures for FY20-FY22**

| Metric | Target | | | Description |
|---|---|---|---|---|
| | FY20 | FY21 | FY22 | |
| **Safety** | | | | |
| Critical safety incidents for commercial passenger flights | | Nil | | Number of high severity safety incidents. |
| Critical safety incidents for GA | | Nil | | Number of high severity safety incidents. |
| **Operational** | | | | |
| Core systems availability (% and hour) | | 99.99% | | Measures the availability of core systems on a 12-month rolling average basis. Also reported as the actual hourly disruption. |
| Technical availability (% and hour) | | 99.95% | | Measures the availability of technical systems on a 12-month rolling average basis. Also reported as the actual hourly disruption. |
| ATC availability (% and hour) | | 99.95% | | Measures the availability of ATC units on a 12-month rolling average basis. Also reported as the actual hourly disruption. |
| Number of locations not meeting ATC availability targets | | 0 | | Measures the number of tower and AFIS locations not meeting ATC service availability targets. |
| Monthly inflight delay (minutes) | | 4,000 | | Measures the inflight delay for arriving flights into Auckland, Wellington, Christchurch and Queenstown on a 12-month rolling average basis. |
| IFR movements per core FTE | | >940 | | Measures the number of IFR movements handled per core FTE on a YTD basis. |
| **Financial** | | | | |
| Annual revenue ($m) | 221.4 | 232.9 | 242.5 | Measures actual ANS revenue for the year. |
| Annual EVA ($m) | | 0 | | Measures EVA as net profit for the year after capital charge deductions. |
| Annual total CAPEX ($m) | 70.6 | 66.8 | 46.8 | Measures actual capital expenditure for the year. |

| Metric | Target | | | Description |
|---|---|---|---|---|
| | FY20 | FY21 | FY22 | |
| Cost Per IFR Flight Hour ($) | 535 | 550 | 565 | Measures the average cost to Airways for staffing an IFR flight over an hour. |
| Proportion of shared services and governance costs | 14.0% | | | Proportion of corporate overhead functions, like finance, legal, safety, risk management etc. |
| **Initiatives** | | | | |
| Business Transformation – People, Property and Technology | Red/Amber/Green | | | Status update based on time, quality, cost and overall. |
| Digital Services –Invercargill | Red/Amber/Green | | | Status update based on time, quality, cost and overall. |
| Digital Services – Auckland | Red/Amber/Green | | | Status update based on time, quality, cost and overall. |
| UAV detection and management | Red/Amber/Green | | | Status update based on time, quality, cost and overall. |
| Flexible Contingent Runway | Red/Amber/Green | | | Status update based on time, quality, cost and overall. |

# PART B – General Aviation (GA) prices

Airways helps GA customers operate safely within controlled airspace by providing flight information. Overall, GA activity makes up approximately 53% of movements and contributes 2% of Airways' air navigation revenue.



## Pricing methodology for GA

Airways' Pricing Framework sets out the methodologies to calculate prices for the services provided to GA operators. The Pricing Framework was finalised in 2012 after an extensive consultation process. The Framework can be found on Airways' website at:

www.airways.co.nz/products-and-services/air-navigation-services/new-zealand-service-framework/ans-services-and-pricing-explained

## GA inflationary adjustments

### AIRWAYS PROPOSED

Airways proposed that all GA prices are increased by inflation to ensure they stay at current levels in real terms. As part of the consultation response in 2013, Airways stated that it would adopt the NZIER inflation forecasts as standard policy to provide a consistent long-term measure. As per the Pricing Framework, GA prices are national. Prices are calculated by simply adding inflation to current prices.

### SUMMARY OF SUBMISSIONS

There was broad support for the inflationary adjustments being used, however Aviation NZ noted that simply increasing prices by inflation does not encourage Airways to make productivity improvements.

Flying New Zealand acknowledged that price increases have been minimised, but is concerned that any charges discourage the use of ATC services by recreational users. Two other GA submissions supported this view.

### AIRWAYS' RESPONSE

Airways acknowledges the submissions received on the inflationary adjustments, and notes that GA prices are set at a lower level than airline pricing, reflecting the lower value GA customers derive from Airways' services. Airways believes that the Pricing Framework allocates costs equitably to the services provided. Adjusting prices by forecast inflation ensures that they remain in line with underlying costs. This approach is consistent with the previous pricing period.

Airways has updated the inflation forecasts to reflect the latest available forecasts (March 2019). The latest inflation forecasts are the same as those proposed with the exception of a slightly higher value forecast for FY22, as summarised in figure 26.

### Figure 26 – Final inflation forecasts

| Inflation source | FY20 | FY21 | FY22 |
|---|---|---|---|
| NZIER LCI forecast (Mar 19) | 2.4% | 2.5% | 2.5% |

The final prices for GA-specific activities are outlined in figure 27 and the final prices for parachute activities are outlined in figure 28. Appendix 1.1 provides the prices for aerodrome landings, IFR approaches and en-route.

### Figure 27 – Circuit, vicinity landing and controlled VFR transit prices

| | FY20 | FY21 | FY22 |
|---|---|---|---|
| Circuits, vicinity landings and controlled VFR transits | $3.80 | $3.90 | $4.00 |
| VFR flight plans (online) | $5.14 | $5.27 | $5.40 |
| VFR flight plans (phone) | $7.38 | $7.56 | $7.75 |
| Overdue SAR times | $39.74 | $40.73 | $41.75 |

### Figure 28 – Parachute prices

| | Airspace Complexity | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Low | | | Medium | | | High | | |
| Aircraft Weight | FY20 | FY21 | FY22 | FY20 | FY21 | FY22 | FY20 | FY21 | FY22 |
| Low (<1,700 kg) | $2.24 | $2.30 | $2.36 | $2.84 | $2.91 | $2.98 | $11.35 | $11.63 | $11.92 |
| Medium (1,700-2,500 kg) | $3.42 | $3.51 | $3.60 | $4.55 | $4.66 | $4.78 | $11.35 | $11.63 | $11.92 |
| Heavy (>2,500 kg) | $4.55 | $4.66 | $4.78 | $6.79 | $6.96 | $7.13 | $11.35 | $11.63 | $11.92 |

# Milford services

## AIRWAYS PROPOSED

Airways provides an Aerodrome Flight Information Service (AFIS) to operators at Milford. To ensure Milford remains cost-effective, Airways' approach is to minimise investment as much as possible while ensuring safe services at a fit-for-purpose service level. Airways proposed a price path to fully recover the costs of labour, maintenance, and the depreciation and capital charge associated with a $0.5m investment in new staff accommodation.

## SUMMARY OF SUBMISSIONS

Aviation NZ felt that the capital cost of the new accommodation should not be included in Milford pricing because Airways will likely make a capital gain on the property when this is sold. They also sought more advice on the cost recovery model – noting their view that any changes should be spread evenly over the three years.

Aviation NZ also noted that Airways' volume forecasts don't reflect the changes the Department of Conservation (DoC) intends making.

## AIRWAYS' RESPONSE

Airways' Economic Value Added (EVA) model separates operating activities from non-operating activities in order to provide a more relevant measure of sustainable economic performance. Any capital gain (or loss) from the sale of assets is removed from Airways' pricing calculations in accordance with this framework.

Aviation NZ's submission that changes should be spread over the three years would be inconsistent with the Pricing Framework. In effect it would involve moving the cost recovery of the new accommodation forward, into a year when it would not be in use.

The decrease in prices in FY20 reflects the significant volume growth over the 2016 -2019 pricing period. In response to Aviation NZ's submission and feedback received from Milford users at the public meeting, Airways has met with DoC and is comfortable that the current traffic volumes will continue.

Airways continues to investigate the operational performance and cost-effectiveness of alternative service provision models, including providing the service remotely using digital technologies.

The only changes to the proposed prices for Milford are those being driven by changes to inflation rates and the cost of capital. Airways' costs at Milford are summarised in figure 29 and the price changes are outlined in figure 30.

## Figure 29 – Milford costs

| $m | FY20 | FY21 | FY22 |
|---|---|---|---|
| Operating costs | 0.3 | 0.3 | 0.4 |
| Depreciation and capital charge | 0.1 | 0.2 | 0.2 |
| **Total costs** | **0.4** | **0.5** | **0.6** |

## Figure 30 – Price changes at Milford

| | FY20 | FY21 | FY22 |
|---|---|---|---|
| Price changes at Milford | (19.1%) | 32.5% | 4.5% |

# Submissions on other GA topics

This section summarises and responds to GA submissions on topics that were not directly raised in the Pricing Proposal document. For each topic, the submissions received are summarised and Airways' response is explained.

## VFR access to controlled airspace

### AIRWAYS PROPOSED

Airways' pricing proposal did not cover VFR access to controlled airspace.

### SUMMARY OF SUBMISSIONS

AOPA NZ raised concerns about VFR access to controlled airspace, including:

- GA aircraft are seen as 'second class' citizens and requests for 'controlled VFR' into airspace are often declined.
- When controlled airspace is not serviced by a controller it reverts back to 'class G airspace' rules. They would like Airways to investigate the practicalities of these gaps being NOTAM'ed or adjoining controllers informing them of the situation and allowing them to fly through using G airspace rules.
- VFR flight plan details are not displayed in front of the controller. They asked whether Airways could enable the standard ICAO flight plan form to include a 'V' to enable the filing of a full flight plan.

### AIRWAYS' RESPONSE

AOPA NZ's concerns relate to operational issues which are outside the scope of this pricing consultation. In subsequent discussions between Airways and AOPA NZ we have asked for specific examples of where VFR access to controlled airspace has been denied and we have followed these up on a case by case basis.

## Circuit charges

### AIRWAYS PROPOSED

Airways proposed an inflationary adjustment to circuit charges which are applied to each circuit flown.

### SUMMARY OF SUBMISSIONS

Flying New Zealand and AOPA NZ suggested that a single circuit charge per flight would encourage pilot training.

## AIRWAYS' RESPONSE

Airways will continue to apply circuit charges to each circuit flown. Airways' circuit charges were introduced in 2013 to reflect the contribution of this activity to controller workload. It is important to signal, in prices to customers, the approximate cost to Airways of providing each service. This allows customers to decide whether or not to use the service.

### ADS-B

## AIRWAYS PROPOSED

Airways' proposal did not discuss the impact of ADS-B installation on the GA community.

## SUMMARY OF SUBMISSIONS

Aviation NZ's submission referred to an Ernst Young report that identified Airways would avoid $20m of capital costs from the installation of ADS-B technology. Aviation NZ felt that Airways should partner with the CAA and Ministry of Transport to absorb ADS-B costs incurred by GA. Flying New Zealand also endorsed the view that Airways should subsidise the cost of GA ADS-B installation.

One GA submitter said ADS-B should be compulsory for all airspace with a rebate for non-commercial aircraft.

## AIRWAYS' RESPONSE

The decision to mandate ADS-B transponders within controlled airspace rests with the MoT and CAA. Airways' role is to provide the ADS-B surveillance infrastructure.

In September 2017, Ernst Young released an analysis of ADS-B implementation which was commissioned by the CAA. The analysis identified that Airways' would benefit from avoided capital expenditure because ADS-B surveillance technology is less expensive to implement than traditional radar surveillance.

Airways' capital expenditure programme, including the implementation of ADS-B surveillance, is being funded entirely by airline prices. It is appropriate that any offsetting capital expenditure savings are also reflected in airline prices. Airways will retain some radars for system security and resilience purposes, these will also be funded by airline prices.

# Appendix 1 – Pricing Tables and Examples

CONSULTATION PROCESS
EXECUTIVE SUMMARY
PART A AIRLINES
PART B GENERAL AVIATION
APPENDIX 1 PRICING TABLES AND EXAMPLES
APPENDIX 2 SUPPORTING INFORMATION

Airways' required revenue is allocated to specific services and locations based on the cost of providing the services. This is done using the methodologies and cost policies set out in the Pricing Framework. Revenue for specific services and locations will be influenced by the:

- Underlying cost of each service and location.
- General price adjustments to reflect factors such as inflation and volume changes.
- Location-specific capital expenditure.

The pricing formula set out in the Pricing Framework charges based on the weight of your aircraft; the heavier the aircraft the higher the price. Specific unit prices are set at a level that will collect the required revenue, using the expected volume forecast.

The unit prices are detailed in Appendix 1.1 and are supported by the following resources that you can use to calculate the impact of the proposed changes on your own prices:

- Example price tables (refer to Appendix 1.2).
- An online price calculator to calculate the price of a journey using several of Airways' services is available at: **www.airways.co.nz/products-and-services/air-navigation-services/new-zealand-service-framework/current-public-consultation**

The table below shows the required revenue for specific services and locations and commentary to explain the change in required revenue.

### Required revenue by service and location

| $m | FY19[7] | FY20 | FY21 | FY22 | Comments |
|---|---|---|---|---|---|
| **Aerodrome services** | | | | | |
| Auckland | **12.5** | 16.3 | 20.8 | 24.0 | FCR and Digital Tower |
| Christchurch | **8.4** | 8.9 | 9.2 | 8.9 | Recent ILS replacement and inflation adjustment |
| Wellington | **9.0** | 11.0 | 12.2 | 11.0 | Recent new tower and inflation adjustment |
| Queenstown | **4.9** | 4.3 | 4.3 | 4.1 | No recent significant investment |
| Nelson | **2.2** | 2.5 | 2.9 | 2.6 | Recent new tower |
| Hamilton | **1.9** | 2.1 | 2.2 | 2.2 | Inflation adjustment |
| Napier | **1.4** | 1.2 | 1.2 | 1.2 | Current staffing issues and change in staffing mix |
| Dunedin | **1.6** | 1.4 | 1.6 | 1.6 | Inflation adjustment |
| Tauranga | **1.6** | 1.8 | 1.8 | 1.8 | Inflation adjustment |
| Palmerston North | **1.7** | 1.7 | 1.8 | 1.8 | Inflation adjustment |
| New Plymouth | **1.2** | 1.2 | 1.3 | 1.3 | Inflation adjustment |

7. This was the required revenue set during the 2016-2019 pricing consultation.

| $m | FY19[7] | FY20 | FY21 | FY22 | Comments |
|---|---|---|---|---|---|
| Woodbourne | **1.6** | 1.6 | 1.6 | 1.6 | Inflation adjustment |
| Invercargill | **1.1** | 1.0 | 1.4 | 2.1 | New digital tower |
| Gisborne | **0.8** | 0.7 | 0.8 | 0.8 | Inflation adjustment |
| Rotorua | **1.3** | 1.2 | 1.3 | 1.3 | Inflation adjustment |
| **Aerodrome services total** | **51.2** | **56.9** | **64.6** | **66.4** | |
| **Flight information services** | | | | | |
| Milford | **0.3** | 0.4 | 0.5 | 0.6 | New staff accommodation |
| Kapiti | **0.6** | 0.6 | 0.6 | 0.6 | No new investment |
| **Flight information services total** | **0.9** | **1.0** | **1.1** | **1.2** | |
| **Approach services** | | | | | |
| Auckland | **25.8** | 30.9 | 32.8 | 36.7 | |
| Christchurch | **12.4** | 13.5 | 14.1 | 15.1 | |
| Wellington | **10.2** | 10.9 | 11.4 | 12.3 | |
| Queenstown | **2.8** | 2.7 | 2.5 | 2.9 | |
| Nelson | **1.7** | 1.8 | 1.8 | 1.9 | |
| Hamilton | **1.1** | 1.2 | 1.2 | 1.3 | |
| Napier | **1.0** | 1.2 | 1.2 | 1.3 | |
| Dunedin | **1.5** | 1.9 | 1.9 | 1.9 | |
| Tauranga | **1.0** | 1.1 | 1.2 | 1.2 | Business Transformation and ATM platform |
| Palmerston North | **1.0** | 1.1 | 1.2 | 1.3 | |
| New Plymouth | **0.8** | 1.0 | 1.0 | 1.1 | |
| Woodbourne | **0.5** | 0.6 | 0.6 | 0.7 | |
| Invercargill | **0.8** | 0.7 | 0.8 | 0.8 | |
| Gisborne | **0.7** | 0.7 | 0.7 | 0.7 | |
| Rotorua | **0.9** | 1.1 | 1.1 | 1.2 | |
| **Approach services total** | **62.2** | **70.1** | **73.6** | **80.4** | |
| **Domestic En-route** | **44.4** | **57.6** | **56.8** | **57.4** | |
| **Oceanic En-route** | **24.2** | **28.0** | **28.9** | **29.0** | |

| $m | FY19[7] | FY20 | FY21 | FY22 | Comments |
|---|---|---|---|---|---|
| **Unattended approach services** | | | | | |
| Taupo | **0.2** | 0.2 | 0.2 | 0.2 | Increase in Instrument Flight Procedure costs and maintenance support |
| Timaru | **0.1** | 0.2 | 0.2 | 0.2 | |
| Whanganui | **0.1** | 0.1 | 0.1 | 0.1 | |
| Hokitika | **0.1** | 0.1 | 0.1 | 0.1 | |
| Whangarei | **0.1** | 0.1 | 0.1 | 0.1 | |
| Kerikeri | **0.0** | 0.1 | 0.1 | 0.1 | |
| Kapiti | **0.0** | 0.1 | 0.1 | 0.1 | |
| Whakatane | **0.0** | 0.0 | 0.1 | 0.1 | |
| Westport | **0.0** | 0.0 | 0.0 | 0.0 | |
| Kaitaia | **0.0** | 0.0 | 0.0 | 0.0 | |
| Great Barrier | **0.0** | 0.0 | 0.0 | 0.0 | |
| Oamaru | **0.0** | 0.0 | 0.0 | 0.0 | |
| Wanaka | **0.0** | 0.0 | 0.0 | 0.0 | |
| Wairoa | **0.0** | 0.0 | 0.0 | 0.0 | |
| **Unattended approach total** | **0.8** | **1.0** | **1.0** | **1.1** | |
| Other revenue[8] | **6.5** | 6.8 | 6.9 | 7.0 | |
| **Total Revenue** | **190.2** | **221.4** | **232.9** | **242.5** | |

8. Other revenue includes Airways' contract with the Royal New Zealand Air Force (RNZAF) and other minor revenue streams, which are not covered in Airways' Standard Terms and Conditions.

# Appendix 1.1: Pricing tables

This appendix provides the formula and pricing tables used to calculate Airways' unit prices. Prices are calculated by applying the prices from the pricing tables into the pricing formula. Appendix 1.2 provides some example prices for different aircraft types.

The pricing formulas are presented below, and the pricing tables are provided on the following pages.

**Pricing formulas for Aerodrome, Approach and Unattended Approach Services**

The Aerodrome Price is the greater of the Minimum Price or:

| | |
|---|---|
| = Base Rate x MCTOW / 5 | for aircraft < 5 tonnes |
| = Base Rate + Weight Rate x (MCTOW – 5) | for aircraft 5-30 tonnes |
| = Base Rate + Weight Rate x 5 x sqrt of (MCTOW -5) | for aircraft > 30 tonnes |

The Minimum Price, Base Rate and Weight Rate are provided by the applicable pricing tables below.

MCTOW is an aircraft's maximum certified take-off weight measured in tonnes.

**Pricing formula for En-route Services**

The En-route Price is the greater of the Minimum Price x Nautical Miles / 100, or:

| | |
|---|---|
| = Base Rate x Nautical Miles / 100 | for aircraft < 5 tonnes |
| = [Base Rate + Weight Rate x (MCTOW – 5)] x Nautical Miles / 100 | for aircraft 5-30 tonnes |
| = [Base Rate + Weight Rate x 5 x Sqrt of (MCTOW -5)] x Nautical Miles / 100 | for aircraft > 30 tonnes |

The Minimum Price, Base Rate and Weight Rate are provided by the applicable pricing tables.

MCTOW is an aircraft's maximum certified take-off weight measured in tonnes.

For Domestic flights, Nautical Miles is the distance between the origin and destination aerodromes, less the terminal navigation radius at both aerodromes. For International flights, see Airways' Standard Terms and Conditions for definition wording.

## Aerodrome charges

| | Minimum Price | | | Base Rate | | | Weight Rate >5 tonnes | | |
|---|---|---|---|---|---|---|---|---|---|
| | FY20 | FY21 | FY22 | FY20 | FY21 | FY22 | FY20 | FY21 | FY22 |
| Auckland | $11.55 | $11.84 | $12.14 | $15.00 | $15.35 | $15.75 | $4.39 | $5.65 | $6.47 |
| Christchurch | $11.55 | $11.84 | $12.14 | $15.00 | $15.35 | $15.75 | $7.19 | $7.39 | $7.04 |
| Wellington | $11.55 | $11.84 | $12.14 | $15.00 | $15.35 | $15.75 | $10.47 | $11.52 | $10.20 |
| Queenstown | $8.07 | $8.27 | $8.48 | $15.00 | $15.35 | $15.75 | $8.78 | $8.70 | $8.14 |
| Regional Airport (Group 1) | $8.07 | $8.27 | $8.48 | $15.00 | $15.35 | $15.75 | $15.58 | $16.96 | $16.10 |
| Regional Airport (Group 2) | $8.07 | $8.27 | $8.48 | $15.00 | $15.35 | $15.75 | $13.87 | $15.57 | $16.54 |
| Milford | $31.42 | $41.64 | $43.50 | $86.32 | $114.39 | $119.52 | Not Applicable | | |
| Kapiti | $8.07 | $8.27 | $8.48 | $15.00 | $15.35 | $15.75 | $63.39 | $63.77 | $62.66 |
| Group 1 includes Nelson, Palmerston North, Tauranga and Hamilton. | | | | | | | | | |
| Group 2 includes Dunedin, Gisborne, New Plymouth, Napier, Invercargill, Rotorua and Woodbourne. | | | | | | | | | |

## Approach charges

| | Minimum Price | | | Base Rate | | | Weight Rate >5 tonnes | | |
|---|---|---|---|---|---|---|---|---|---|
| | FY20 | FY21 | FY22 | FY20 | FY21 | FY22 | FY20 | FY21 | FY22 |
| International towers | $5.78 | $5.92 | $6.07 | $23.15 | $23.75 | $24.35 | $9.01 | $9.46 | $10.36 |
| Regional towers | $5.78 | $5.92 | $6.07 | $23.15 | $23.75 | $24.35 | $7.66 | $7.74 | $8.36 |
| Additional Auckland CAT III weight rate (added to the international tower price for aircraft over 30 tonnes.) | Not Applicable | | | | | | $0.38 | $0.38 | $0.38 |
| Additional Queenstown Multilat weight rate (added to the regional tower price for aircraft over 5 tonnes.) | Not Applicable | | | | | | $1.56 | $1.56 | $1.56 |
| International towers includes Auckland, Wellington and Christchurch. | | | | | | | | | |
| Regional towers includes Queenstown, Nelson, Palmerston North, Tauranga, Hamilton, Dunedin, Gisborne, New Plymouth, Napier, Invercargill, Rotorua and Woodbourne. | | | | | | | | | |

## Unattended charges

| | Minimum Price | | | Base Rate | | | Weight Rate >5 tonnes | | |
|---|---|---|---|---|---|---|---|---|---|
| | FY20 | FY21 | FY22 | FY20 | FY21 | FY22 | FY20 | FY21 | FY22 |
| Taupo | $3.52 | $3.61 | $3.70 | $19.75 | $20.25 | $20.75 | $10.92 | $11.03 | $18.84 |
| Timaru | $3.52 | $3.61 | $3.70 | $19.75 | $20.25 | $20.75 | $16.78 | $16.42 | $16.73 |
| Whanganui | $3.52 | $3.61 | $3.70 | $19.75 | $20.25 | $20.75 | $10.16 | $11.01 | $11.22 |
| Hokitika | $3.52 | $3.61 | $3.70 | $19.75 | $20.25 | $20.75 | $10.82 | $11.17 | $13.18 |
| Whangarei | $3.52 | $3.61 | $3.70 | $19.75 | $20.25 | $20.75 | $4.98 | $4.66 | $4.80 |
| Kerikeri | $3.52 | $3.61 | $3.70 | $19.75 | $20.25 | $20.75 | $3.95 | $4.05 | $4.15 |
| Kapiti | $3.52 | $3.61 | $3.70 | $19.75 | $20.25 | $20.75 | $4.08 | $4.22 | $4.46 |
| Whakatane | $3.52 | $3.61 | $3.70 | $19.75 | $20.25 | $20.75 | $10.29 | $10.63 | $11.23 |
| Westport | $3.52 | $3.61 | $3.70 | $19.75 | $20.25 | $20.75 | $8.81 | $8.01 | $8.48 |
| Kaitaia | $3.52 | $3.61 | $3.70 | $19.75 | $20.25 | $20.75 | $13.42 | $14.00 | $15.55 |
| Great Barrier | $3.52 | $3.61 | $3.70 | $19.75 | $20.25 | $20.75 | $15.88 | $16.28 | $16.69 |
| Oamaru | $3.52 | $3.61 | $3.70 | $19.75 | $20.25 | $20.75 | $16.78 | $16.42 | $18.84 |
| Wanaka | $3.52 | $3.61 | $3.70 | $19.75 | $20.25 | $20.75 | $16.78 | $16.42 | $18.84 |
| Wairoa | $3.52 | $3.61 | $3.70 | $19.75 | $20.25 | $20.75 | $16.78 | $16.42 | $18.84 |
| Other unattended aerodromes | No charge | | | | | | | | |

## En-route charges

| | Minimum Price | | | Base Rate | | | Weight Rate >5 tonnes | | |
|---|---|---|---|---|---|---|---|---|---|
| | FY20 | FY21 | FY22 | FY20 | FY21 | FY22 | FY20 | FY21 | FY22 |
| Domestic | $6.74 | $6.91 | $7.08 | $6.70 | $6.85 | $7.00 | $3.01 | $2.93 | $2.92 |
| Oceanic | $20.22 | $20.73 | $21.25 | $6.70 | $6.85 | $7.00 | $0.73 | $0.74 | $0.73 |

## Other charges

| | FY20 | FY21 | FY22 |
|---|---|---|---|
| Circuits | $3.80 | $3.90 | $4.00 |
| Vicinity landings | $3.80 | $3.90 | $4.00 |
| Controlled VFR transits | $3.80 | $3.90 | $4.00 |
| VFR flight plans (online) | $5.14 | $5.27 | $5.40 |
| VFR flight plans (phone) | $7.38 | $7.56 | $7.75 |
| Overdue SAR times | $39.74 | $40.73 | $41.75 |
| Out-of-hours (where an ATC service is provided) | $396.87 | $406.79 | $416.96 |
| Out-of-hours (where an AFIS service is provided) | $238.12 | $244.07 | $250.17 |

## Parachute charges

| | Airspace Complexity | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Low | | | Medium | | | High | | |
| Aircraft weight | FY20 | FY21 | FY22 | FY20 | FY21 | FY22 | FY20 | FY21 | FY22 |
| Low (<1,700 kg) | $2.24 | $2.30 | $2.36 | $2.84 | $2.91 | $2.98 | $11.35 | $11.63 | $11.92 |
| Medium (1,700-2,500 kg) | $3.42 | $3.51 | $3.60 | $4.55 | $4.66 | $4.78 | $11.35 | $11.63 | $11.92 |
| Heavy (>2,500 kg) | $4.55 | $4.66 | $4.78 | $6.79 | $6.96 | $7.13 | $11.35 | $11.63 | $11.92 |

# Appendix 1.2: **Example prices for FY20**

This appendix provides indicative examples of Airways' price calculation for a range of different IFR flights. The prices in these examples exclude GST and are for FY20. These prices are examples only, and may differ from actual prices charged.

**Aircraft: Boeing 777-300**
**Weight: 344,500kg**
**Seats: 342**

| From\To ($) | Sydney | Los Angeles | Auckland | Christchurch |
|---|---|---|---|---|
| Sydney | | 767 | 2,024 | 2,247 |
| Los Angeles | 767 | | 2,305 | 2,528 |
| Auckland | 717 | 998 | | 2,525 |
| Christchurch | 717 | 998 | 2,302 | |

**Aircraft: Airbus 320-200**
**Weight: 77,000kg**
**Seats: 168**

| From\To ($) | Nadi | Sydney | Auckland | Christchurch | Dunedin | Queenstown | Wellington |
|---|---|---|---|---|---|---|---|
| Nadi | | N/A | 1,017 | 1,120 | 1,346 | 1,196 | 1,259 |
| Sydney | N/A | | 972 | 1,075 | 1,301 | 1,151 | 1,214 |
| Auckland | 394 | 350 | | 1,196 | 1,665 | 1,489 | 1,144 |
| Christchurch | 394 | 350 | 1,093 | | 1,134 | 998 | 1,017 |
| Dunedin | 394 | 350 | 1,337 | 908 | | 870 | 1,267 |
| Queenstown | 394 | 350 | 1,310 | 922 | 1,020 | | 1,273 |
| Wellington | 394 | 350 | 902 | 877 | 1,354 | 1,210 | |

**Aircraft:**
**Bombardier Dash-8 Q300**
**Weight: 19,500kg**
**Seats: 50**

| From\To ($) | Auckland | Christchurch | Dunedin | Gisborne | Hamilton | Invercargill | Napier | Nelson | New Plymouth | Palmerston North | Queenstown | Rotorua | Tauranga | Wellington | Woodbourne |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Auckland | | 449 | 618 | 421 | 384 | 648 | 419 | 489 | 392 | 456 | 556 | 379 | 396 | 425 | 470 |
| Christchurch | 414 | | 419 | 521 | 536 | 456 | 486 | 423 | 470 | 472 | 373 | 514 | 551 | 378 | 399 |
| Dunedin | 505 | 342 | | 614 | 628 | 377 | 579 | 514 | 561 | 566 | 325 | 607 | 645 | 471 | 492 |
| Gisborne | 308 | 443 | 614 | | 427 | 651 | 371 | 495 | 425 | 434 | 566 | 378 | 414 | 409 | 465 |
| Hamilton | 247 | 434 | 604 | 402 | | 636 | 395 | 474 | 379 | 434 | 545 | 359 | 384 | 405 | 453 |
| Invercargill | 536 | 378 | 377 | 651 | 661 | | 616 | 547 | 593 | 603 | 327 | 642 | 679 | 508 | 528 |
| Napier | 306 | 409 | 579 | 371 | 420 | 616 | | 460 | 399 | 398 | 530 | 378 | 418 | 374 | 430 |
| Nelson | 352 | 320 | 489 | 470 | 474 | 522 | 435 | | 407 | 422 | 433 | 455 | 491 | 336 | 353 |
| New Plymouth | 280 | 392 | 561 | 425 | 404 | 593 | 399 | 432 | | 411 | 306 | 392 | 425 | 372 | 413 |
| Palmerston North | 319 | 370 | 542 | 409 | 434 | 578 | 374 | 422 | 387 | | 492 | 404 | 443 | 336 | 391 |
| Queenstown | 495 | 347 | 376 | 617 | 621 | 378 | 581 | 509 | 357 | 567 | | 604 | 640 | 474 | 492 |
| Rotorua | 267 | 436 | 607 | 378 | 384 | 642 | 378 | 480 | 392 | 429 | 553 | | 376 | 403 | 455 |
| Tauranga | 259 | 449 | 620 | 389 | 384 | 654 | 394 | 491 | 400 | 443 | 565 | 351 | | 417 | 468 |
| Wellington | 343 | 330 | 501 | 438 | 460 | 538 | 403 | 391 | 401 | 390 | 452 | 433 | 472 | | 354 |
| Woodbourne | 358 | 321 | 492 | 465 | 477 | 528 | 430 | 378 | 413 | 416 | 441 | 455 | 492 | 325 | |

**Aircraft: Cessna Grand Caravan 208B**
**Weight: 3,900kg**
**Seats: 12**

| From\To 9$) | Auckland | Christchurch | Dunedin | Gisborne | Hamilton | Invercargill | Kapiti | Napier | Nelson | New Plymouth | Palmerston North | Queenstown | Rotorua | Tauranga | Wellington | Woodbourne |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Auckland | | 53 | 65 | 39 | 31 | 69 | 40 | 39 | 45 | 35 | 41 | 64 | 34 | 33 | 44 | 46 |
| Christchurch | 53 | | 39 | 52 | 51 | 44 | 37 | 48 | 36 | 46 | 43 | 40 | 52 | 53 | 37 | 36 |
| Dunedin | 65 | 39 | | 65 | 64 | 33 | 50 | 60 | 48 | 58 | 55 | 33 | 64 | 66 | 50 | 49 |
| Gisborne | 39 | 52 | 65 | | 37 | 70 | 38 | 32 | 46 | 40 | 38 | 65 | 33 | 35 | 42 | 45 |
| Hamilton | 31 | 51 | 64 | 37 | | 68 | 38 | 36 | 43 | 34 | 38 | 63 | 31 | 31 | 41 | 43 |
| Invercargill | 69 | 44 | 33 | 70 | 68 | | 55 | 65 | 53 | 62 | 60 | 33 | 69 | 70 | 55 | 53 |
| Kapiti | 43 | 40 | 53 | 41 | 40 | 57 | | 36 | 34 | 36 | 31 | 53 | 40 | 42 | 30 | 33 |
| Napier | 39 | 48 | 60 | 32 | 36 | 65 | 34 | | 41 | 36 | 33 | 61 | 33 | 36 | 37 | 40 |
| Nelson | 45 | 36 | 48 | 46 | 43 | 53 | 31 | 41 | | 37 | 36 | 48 | 44 | 45 | 32 | 30 |
| New Plymouth | 35 | 46 | 58 | 40 | 34 | 62 | 33 | 36 | 37 | | 35 | 31 | 35 | 36 | 37 | 38 |
| Palmerston North | 41 | 43 | 55 | 38 | 38 | 60 | 28 | 33 | 36 | 35 | | 55 | 37 | 39 | 32 | 35 |
| Queenstown | 64 | 40 | 33 | 65 | 63 | 33 | 50 | 61 | 48 | 31 | 55 | | 64 | 65 | 50 | 49 |
| Rotorua | 34 | 52 | 64 | 33 | 31 | 69 | 37 | 33 | 44 | 35 | 37 | 64 | | 30 | 41 | 44 |
| Tauranga | 33 | 53 | 66 | 35 | 31 | 70 | 39 | 36 | 45 | 36 | 39 | 65 | 30 | | 43 | 45 |
| Wellington | 44 | 37 | 50 | 42 | 41 | 55 | 27 | 37 | 32 | 37 | 32 | 50 | 41 | 43 | | 30 |
| Woodbourne | 46 | 36 | 49 | 45 | 43 | 53 | 30 | 40 | 30 | 38 | 35 | 49 | 44 | 45 | 30 | |

# Appendix 2 – Supporting information

## Appendix 2.1: Building block components of overall revenue

Overall revenue is calculated using the EVA framework. Revenue is set at a level that recovers the cost to Airways of providing its services (the building blocks).

The total underlying costs have not changed from those used to calculate the FY19 prices, except for the reasons outlined in Part A, Sections 1-4.

| $m | FY19 | FY20 | FY21 | FY22 |
|---|---|---|---|---|
| | Baseline | Plan | Plan | Plan |
| **Revenue** | | | | |
| Airways' charges | 190.2 | 221.4 | 232.9 | 242.5 |
| Other revenue | 0.3 | 0.7 | 0.7 | 0.7 |
| | **190.5** | **222.1** | **233.6** | **243.2** |
| **Building blocks** | | | | |
| Operating costs – labour | 107.4 | 112.9 | 117.5 | 121.7 |
| Operating costs – other | 30.8 | 39.5 | 36.2 | 37.2 |
| Depreciation | 25.1 | 29.8 | 34.3 | 42.7 |
| Service enhancements | 5.4 | 10.2 | 12.1 | 6.2 |
| Income tax | 6.1 | 8.3 | 9.4 | 9.9 |
| Cost of capital | 15.7 | 21.4 | 24.1 | 25.5 |
| **Economic value added** | **0** | **0** | **0** | **0** |

**Other revenue:** other revenue includes out-of-hours charges and recoveries where buildings have been subleased. Other revenue is offset against operating expenses.

**Operating costs – labour:** includes all employee remuneration and related employment costs.

**Operating costs – other:** includes all operating costs excluding labour and depreciation.

**Service enhancements:** includes the operating costs associated with the enhanced services and business transformation, as outlined in Part A, Section 1 and Section 2.

**Depreciation:** Airways calculates fixed asset depreciation on a straight-line basis. Depreciation will increase with any increase in the capital programme. Under EVA, amortisation is also recognised for significant leases. Significant leases include the Christchurch campus and Auckland centre.

**Income tax:** income tax is calculated at New Zealand's company tax rate of 28%.

**Cost of capital:** the cost of capital is calculated as the capital charge rate multiplied by the 'historical cost' asset base, adjusted for depreciation. Airways does not revalue its assets for pricing purposes.

# Appendix 2.2: Capital programme

The table below summarises all of Airways' capital expenditure outlined in this document.

| | FY20 | FY21 | FY22 | Total |
|---|---|---|---|---|
| **Capital programme ($m)** | | | | |
| Capital to maintain current services (table below) | 21.5 | 34.3 | 36.6 | **92.4** |
| Future Aerodrome Services (figure 7) | 5.4 | 3.7 | 5.2 | **14.3** |
| Flexible Contingent Runway (figure 8) | 17.4 | 15.2 | – | **32.6** |
| Other initiatives (figure 11) | 4.2 | 4.8 | 1.6 | **10.6** |
| Technology transformation (figure 14) | 19.4 | 8.7 | 3.4 | **31.5** |
| Buildings transformation (figure 15) | 2.7 | 0.1 | – | **2.8** |
| **Total capital programme** | **70.6** | **66.8** | **46.8** | **184.2** |

The table below provides detail of the capital programme to maintain current services as described in Part A, Section 3.

| | FY20 | FY21 | FY22 | Total |
|---|---|---|---|---|
| **Capital programme to maintain current services ($m)** | **21.5** | **34.3** | **36.6** | **92.4** |
| **Auckland** | **5.4** | **5.8** | **2.9** | **14.1** |
| Stopbar control system replacement | 2.5 | 2.6 | – | **5.1** |
| Southern runway edge lighting | 0.3 | 0.6 | 1.0 | **1.9** |
| Taxiway recabling and insulation resistance programme | 0.6 | 0.6 | 0.6 | **1.8** |
| Engineering and maintenance workshop facilities | – | 1.3 | – | **1.3** |
| Runway End Identifier Lights (REILs) replacement | 0.4 | 0.4 | – | **0.8** |
| Auckland tower refurbishment | 0.6 | – | – | **0.6** |
| Multilat refresh | 0.5 | – | – | **0.5** |
| VSAT relocation | – | – | 0.5 | **0.5** |
| Minor capital works, less than $0.5m | 0.5 | 0.3 | 0.8 | **1.6** |
| **Christchurch, Wellington and Queenstown** | **0.9** | **1.4** | **2.6** | **4.9** |
| Wellington Instrument Landing System (ILS) replacement | – | – | 2.4 | **2.4** |
| Wellington lighting and recabling replacements | 0.9 | 0.5 | – | **1.4** |
| Queenstown multilat refresh | – | 0.5 | – | **0.5** |
| Minor capital works, less than $0.5m | – | 0.4 | 0.2 | **0.6** |
| **Regional aerodromes** | **2.9** | **4.4** | **4.1** | **11.4** |
| Airfield lighting and power system replacements (at all 11 regional aerodromes) | 2.3 | 1.1 | 2.8 | **6.2** |
| Dunedin Instrument Landing System (ILS) replacement | – | 2.4 | – | **2.4** |
| Runway End Identifier Lights (REILs) replacements (NS, PM, NR, NP, TG, NV, GS) | 0.3 | 0.7 | 1.0 | **2.0** |
| Tower refurbishments (all locations except NS) | 0.3 | 0.2 | 0.3 | **0.8** |
| **Kapiti and Milford** | **0.5** | **–** | **–** | **0.5** |
| Milford staff accommodation | 0.5 | – | – | **0.5** |

| | FY20 | FY21 | FY22 | Total |
|---|---|---|---|---|
| **Unattended aerodromes** | **0.1** | **1.2** | **–** | **1.3** |
| Taupo lighting | – | 0.7 | – | **0.7** |
| Hokitika Precision Approach Path Indicator (PAPI) | | 0.3 | – | **0.3** |
| Airfield lighting control panels (WR, WU, TU) | 0.1 | 0.2 | – | **0.3** |
| **En-route** | **2.8** | **10.8** | **15.0** | **28.6** |
| Non-cooperative surveillance | 0.2 | 3.1 | 6.3 | **9.6** |
| Main trunk contingency network | 0.3 | 3.1 | 5.2 | **8.6** |
| DVOR/DME replacements (KT, HK, TG) | – | 2.0 | 1.9 | **3.9** |
| Replace voice recorders at international towers | 1.0 | 2.1 | 0.8 | **3.9** |
| Replacement microwave radio links | 0.8 | – | – | **0.8** |
| Minor capital works, less than $0.5m | 0.5 | 0.5 | 0.8 | **1.8** |
| **National operations** | **8.9** | **10.7** | **12.0** | **31.6** |
| Network infrastructure refresh programme | – | 2.7 | 3.8 | **6.5** |
| IT infrastructure refresh programme | 1.8 | 1.5 | 1.9 | **5.2** |
| Christchurch campus refresh, incl network recabling | 0.1 | 3.9 | – | **4.0** |
| Remote Control Management System refresh | – | – | 2.1 | **2.1** |
| ATIS replacement | 1.3 | 0.6 | – | **1.9** |
| Shared services supporting assets | 0.6 | 0.6 | 0.6 | **1.8** |
| Vehicle replacement programme | 0.3 | 0.4 | 0.4 | **1.1** |
| Power equipment refresh | – | – | 1.1 | **1.1** |
| Test equipment | 0.2 | 0.3 | 0.3 | **0.8** |
| Auckland office fit out | – | – | 0.7 | **0.7** |
| Minor capital works, less than $0.5m | 4.6 | 0.7 | 1.1 | **6.4** |

# Appendix 2.3: **Weights used to allocate approach and aerodrome-related overhead**

| Aerodrome | Actual FY18 tonnes landed |
|---|---|
| Auckland | 8,150,461 |
| Christchurch | 2,186,112 |
| Wellington | 1,648,583 |
| Queenstown | 624,305 |
| Dunedin | 263,384 |
| Nelson | 256,805 |
| Palmerston North | 189,183 |
| Napier | 169,240 |
| Hamilton | 120,536 |
| Tauranga | 119,851 |
| New Plymouth | 115,328 |
| Woodbourne | 106,421 |
| Rotorua | 77,616 |
| Invercargill | 75,160 |
| Gisborne | 59,212 |
| Kapiti | 18,707 |