2019 Benchmarking Review: Economy and Efficiency

Civil Aviation Authority

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1. Introduction

1.1 Purpose

This report is a refresh of the 2017 Benchmarking Review completed as part of our previous funding review.

Its purpose is to provide the management and Board of the Civil Aviation Authority (the Authority) with an understanding of the costs of our functions and whether these are reasonable and demonstrate efficient use of resources when compared to benchmark organisations

The review includes comparisons between the Authority and other agencies to provide an indication of our relative performance and costs.

1.2 Scope

Time frame

This review covers our costs and functions from 2010-2019.

Most of the data in this report is drawn from published annual reports for the 2017/18 financial year (up to June 2018). Data is not yet available for 2019 for most measures. Where more recent data is available, for example where a measure relates solely to the CAA, we have endeavoured to use more recent data.

Authority functions

Our functions fall into two main areas:

- Regulatory Function (Output Classes 1-4):
    - Operational policy, regulation, and strategy – maintain safety and security standards; effective and efficient regulatory tools; intelligence and strategic planning
    - Outreach – communications, guidance, and support for participants
    - Certification and licensing – controlling entry to and exit from the aviation system
    - Surveillance and investigation – monitoring compliance; audit and inspection; health and safety; enforcement.
- Security Service Function (Output Class 5):
    - Security screening and patrolling at security designated airports
    - Passenger and baggage screening
    - Security support for aerodromes
    - Maritime security response on high profile/high risk events.

Throughout this report, references to the *Regulatory Function* refer to functions performed by the CAA, and references to the *Security Services Function* refer to services delivered by the Aviation Security Service (Avsec).

The review includes assessments of all our major regulatory, security, and support service functions, using either specific measures or more general analyses designed to cover the breadth of our work.

Exclusions

The review excludes consideration of whether we are doing the right things, and whether we are doing them well (i.e. effectiveness). The review assumes that we are:

- delivering the right level and mix of activities and outputs
- complying with our statutory responsibilities under the Civil Aviation Act and all other relevant legislation
- selecting and deploying regulatory interventions consistent with our Regulatory Operating Model, and
- effectively delivering aviation security services.

We have other mechanisms and review processes in place to provide assurance on matters outside the scope of this review.

1.3 Methodology

This report draws on data from our standard performance reporting systems for recording corporate, financial, regulatory, security, and safety information for the 2010-2018 period being reviewed.

The report compares the level and cost of regulatory and security services with domestic agencies with comparable functions, including:

- Maritime New Zealand (Maritime)
- New Zealand Transport Authority (NZTA)
- New Zealand Customs Service (Customs)
- Ministry of Primary Industries (MPI); and
- Worksafe New Zealand (Worksafe).

Other aviation regulators, security providers, and jurisdictions used for comparative purposes are:

- Civil Aviation Safety Authority (CASA, Australia)
- Civil Aviation Authority United Kingdom (CAA UK), and
- Transport Canada.

Costs and charges have been converted to New Zealand dollars using the Inland Revenue Department's conversion rates applicable at the time[1]. For example, 2015 Canadian costs have been adjusted at the rate that applied at that time.

Where relevant, costs have been normalised to make comparisons more accurate with agencies and/or periods of time, with explanations provided in the text.

Section 7 sets out the methodology used for cross-government assessment known as Benchmarking of Administrative and Support Services (BASS).

1.4 Report limitations

The introduction of shared corporate services in 2011/12 to support both the Regulatory Function and the Security Service Function, followed by the decision in 2013 to create one organisation to the maximum extent permitted by law, coincided with the replacement of the Authority's financial management and recording systems. For this reason, pre-2013 data cannot be analysed to the same level of detail as the data after this period and should be treated with a degree of caution.

Comparisons with other agencies is necessarily limited. Domestic agencies' functions differ significantly. For example, Maritime New Zealand has an emergency response function that increases its overall cost base and requires skills and personnel that the Regulatory Function does not need.

International comparisons are affected by the different agency functions and regulatory frameworks in which the organisations operate. For example, until recently, the CAA UK did not have a security regulatory function, but it does have responsibility for customer protection regulation that is not within the NZ Authority's statutory mandate. Cost-recovery methods also vary across States.

There are some important sector characteristics that limit our ability to compare across international agencies – such as the amount of activity undertaken and the types and size of operators. There are also different economic drivers outside of the aviation industry that have an impact on the types of activities the aviation sector is engaging in.

Comparative figures (including the benchmarking of Administration and Support Services (BASS) measures – see Section 7) should be considered high-level indicators only, due to the variable roles of the agencies and the way they allocate their costs. Nevertheless, provided these challenges are recognised, the comparisons remain valid. Treasury discontinued BASS reporting from June 2017, and so we have no BASS comparison measures beyond that point.

1.5 Normalising costs

Several significant changes have occurred between 2010 and 2018, which make it difficult to draw direct comparisons of the Authority's efficiency and economy through that period.

- The introduction of the Health and Safety at Work Act 2015 meant a significant increase in the amount and scope of work of the regulatory Health and Safety Unit. Additional government funding was provided for this purpose.

1 IRD conversion tables here: https://www.classic.ird.govt.nz/calculators/tool-name/tools-o/currency-rates-2019-end-of-month.html

- Expansion of our work on aviation safety and security in the Pacific region with funding from the Ministry of Foreign Affairs and Trade through expert advisors who work at the Authority.
- The Regulatory Function's Security Unit gained additional roles and the Security Service Function's operations expanded to implement the recommendations of the Domestic Aviation Security Review (DASR) in 2016/17.
- However, the Regulatory Function has absorbed the costs of the New Southern Sky (NSS) programme[2] with no additional funding to date.

With these baseline changes, the current cost of the Regulatory Function has been normalised to adjust for these activities in order to provide a more accurate comparison of current costs with the costs of 2010 and to include an adjustment for inflation.

Without normalising these costs, comparisons of high-level benchmarking ratios would be based on an implicit assumption that the only cost pressures relate to changes in numbers of people or aircraft. However, the measures are significantly influenced by the increased responsibilities the Authority has either assumed or had imposed on it.

This report does not present normalised costs for the Security Service Function, as the only significant change to the level of screening since 2010 is the introduction of domestic hold stow baggage screening in December 2016. More recent staff increases are due to initiatives such as the Behavioural Detection Unit trial and the introduction of advanced imaging technology. All other cost increases since 2010 can be attributed to increasing passenger volumes.

2 New Southern Sky is a ten year, three stage programme focused on modernising the New Zealand aviation system. The programme covers eight parts of the system, and is currently in Stage two (2016-2019). More information on NSS can be found at www.nss.govt.nz

2. Our work in context

2.1 Organisational context and roles

The Authority was established in 1992 under the Civil Aviation Act 1990.

Our primary objective, as set out in the Act, is to carry out "*safety, security, and other functions in a way that contributes to the aim of achieving an integrated, safe, responsive, and sustainable transport system.*"

Under Part 4 of the Crown Entities Act 2004, we must publish a statement of intent, a statement of performance expectations, and an annual report.

These documents are designed to make sure that agencies that are removed from the direct control of the Crown, but which receive government funding, are publicly accountable. The documents also enable the Minister of Transport to be involved in the prioritisation of activities and assessment of performance.

Our ability to discharge our statutory functions depends on our ability to be an efficient, effective regulator and provider of security services in an environment where resources are constrained.

2.2 Performance expectations as part of the New Zealand transport system

We are part of the New Zealand transport system. The Government's intention is for a transport system that improves wellbeing and liveability for all New Zealanders. This intention has been expressed in the five outcomes that the Government seeks for the New Zealand transport sector.

- Healthy and safe people
- Environmental sustainability
- Resilience and security
- Economic prosperity
- Inclusive access

These are aligned with the three objectives in our strategic framework.

- Improved sector safety performance
- Effective and efficient security services
- A vibrant aviation system.

2.3 Our future focus

Our Statement of Intent 2019-2024[3] sets out our strategic direction, and how we will work to make the civil aviation system safer and more secure.

Key changes and challenges ahead include:

- an increasingly complex security environment combined with sustained growth in passenger numbers,
- new technology – being responsive and managing risk, and
- ensuring our regulation better manages risk to people in the system.

As a regulator, aviation security service provider, influencer, and supporter of the civil aviation system, we seek to:

- focus on outcomes (keeping people safe and ensuring they feel safe) rather than just the conduct of scheduled activity,
- be intelligence driven and risk-based,
- enhance our safety risk and security threat response,
- support and promote economic development – high standards of safety and security within the aviation system provide tangible economic benefit, and
- provide our people with challenging, rewarding and satisfying careers.

[3] CAA Statement of Intent 2019-2024 (2019) https://www.caa.govt.nz/assets/legacy/publicinfo/SOI-2019-2024.pdf

Healthy and safe people

Protecting people from transport-related injuries and harmful pollution, and making active travel an attractive option.

Environmental sustainability

Transitioning to net zero carbon emissions, and maintaining or improving biodiversity, water quality, and air quality.

Resilience and security

Minimising and managing the risks from natural and human-made hazards, anticipating and adapting to emerging threats, and recovering effectively from disruptive events.

Economic prosperity

Supporting economic activity via local, regional, and international connections, with efficient movements of people and products.

Inclusive access

Enabling all people to participate in society through access to social and economic opportunities, such as work. education. and healthcare.

System aspects

Our interventions relate to the following aspects of the civil aviation system.

ENTRY

Exercise of control over entry into the New Zealand civil aviation system

- Quality and timeliness of rules and standards
- Robust entry renewal and amendment certification tasks
- Licensing procedures carried out effectively and efficiently.

ON-GOING OPERATION

Exercise of control over sustained operation in the New Zealand civil aviation system

- Application of a risk-based approach to safety and security system oversight
- Effective communications to the aviation community and stakeholders
- Ensure participants are operating within their legal obligations through effective inspection and monitoring
- Appropriate response to unsafe practice
- Effective occurrence investigation
- Effective monitoring / audit / inspection activities.

EXIT

Exercise of control over exit from the New Zealand civil aviation system

- Informed decision making through intelligence and analysis.

CIVIL AVIATION SECURITY

Ensure threats are identified and associated risks are managed and international standards for security are met

- Effective screening activities.

Benefits

SAFE AND SECURE PEOPLE

Through decreasing number of accidents, deaths and injuries in the sector, as well as increasing confidence in the safety and security of the system.

MINIMISED ENVIRONMENTAL IMPACT

Through reduced greenhouse gas emissions.

POSITIVE ECONOMIC IMPACT

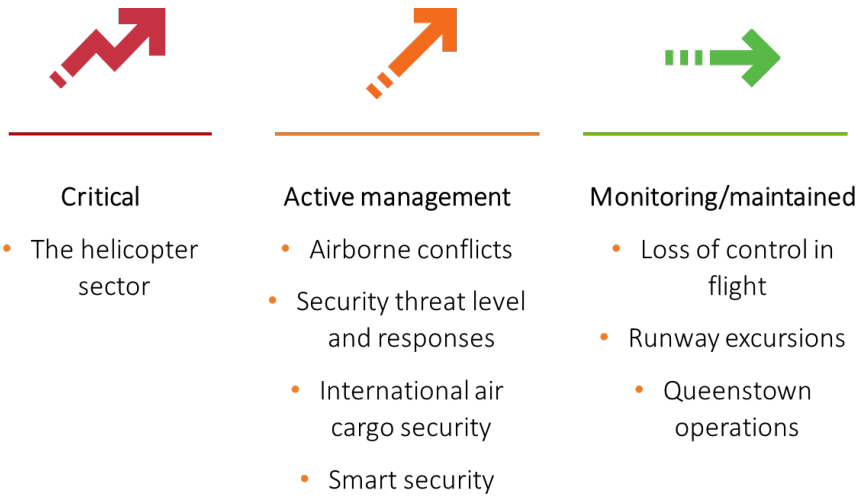
Through minimising the aviation related barriers for movement of people and goods, and lower social cost of air accidents and incidents.

IMPROVED RESILIENCE AND SECURITY

Through reduction of risk due to adoption of safety management systems (SMS) throughout the sector, and few or zero security incidents in the aviation sector.

2.4 Safety and security focus areas

To improve the overall safety performance of the New Zealand aviation system we identified eight safety and security focus areas, based on analysis of safety data, sector-based intelligence and international trends and research. The focus areas are a tactical lens to look through to ensure we achieve the right priorities.



2.5 System-change programmes

We have three system-change programmes underway to transform aspects of the aviation system.

- Safety Management Systems.
- New Southern Sky.
- Avsec Future 2022 and Beyond.

3. Regulatory efficiency and economy

3.1 Comparison with domestic transport regulators

Direct comparisons between regulatory agencies in New Zealand are limited by the inherent differences in the characteristics of the sectors involved. This report gives a high-level indication of relative efficiency.

The comparison between our Regulatory Function and Maritime is useful in that the scope and complexity of the types of vessels/aircraft are highly varied in both sectors, and the overall number of regulated vessels/aircraft is similar. The data indicates that the two organisations are operating at similar levels of efficiency and economy. When evaluating against the regulatory cost per citizen as a higher order metric, it is notable that the performance of the agencies is comparable. Along with the BASS data (see section 7) this indicates that our Regulatory Function is in line with other comparable New Zealand agencies.

NZTA's figures show an expected difference in the scale of its work and the cost per vehicle. NZTA's regulatory oversight is undertaken in partnership with two other agencies (Police and the Accident Compensation Corporation).

Table 1: Regulatory costs across New Zealand transport sector regulators (2017/18)

	CAA	Maritime	NZTA
Organisational running cost	$46,638,000	$48,521,000[4]	$179,009,000
Number of registered vehicles/vessels	5,215	4,122[5]	5,150,155
Regulatory cost per vessel/vehicle	$8,943	$11,771	$35
Regulatory cost per citizen per annum	$9.55	$9.93	$36.64

3.2 Comparison with international aviation regulators

We have one of the highest rates of registered aircraft and pilot licences, per capita, in the world. This reflects the importance that aviation plays in the way we do business, and the way our topography influences our domestic travel choices and use of aviation for recreation and commerce.

Comparative data was available for Australia's regulator, the Civil Aviation Safety Authority (CASA), and the CAA UK.

CAA UK has a different profile due to its responsibilities for consumer protection and regulatory oversight of a fleet that comprises a higher proportion of large aircraft that are more time-consuming and more costly to regulate.

[4] This figure includes Maritime's oil response capability, and Rescue Coordination Centre responsibilities.

[5] This is the total number of commercial vessels and does not include recreational vessels.

The total number of passenger departures per 100,000 population indicates that Australia, and more notably New Zealand, handle a proportionately larger number of passenger departures for the size of their respective systems, and the size of the regulators.

Table 2: Regulatory cost indicators: international comparison (2017/18)

	New Zealand	**Australia (CASA)**	**UK (CAA UK)**
Passenger movements			
Regulatory cost per passenger	$2.33	$3.11	$1.16
Regulatory cost per citizen per annum	$9.54	$7.57	$2.68
Total passenger departures per annum	20,042,000	60,764,755	153,255,211[6]
Passenger departures per 100,000 citizens	410,251	243,275	230,680
Regulated aircraft and pilots			
Licensed pilots per 100,000 population	186	125	54
Number of aircraft on register	5,215	15,618	19,810
Aircraft per 100,000 population	107	63	30
Aircraft per CAA staff member	18.7	18.8	19.3
Regulatory cost per aircraft	$8,943	$12,108	$8,986

We handle a comparable number of aircraft per staff member in comparison with CASA and CAA UK, and have a proportionately higher number of pilots and aircraft on the register. Bearing in mind the different operating models of the three regulators, these findings indicate that the Regulatory Function is a relatively efficient regulator.

6 Scheduled services on UK operators, not including other non-UK operators or transit passengers.

4. Aviation safety and sector performance

4.1 International comparisons

Aviation fatalities are rare in all our comparable jurisdictions. Fatalities are low, and any significant variation in the statistics are the result of single accidents rather than sector-wide trends.

We do have a slightly higher rate of fatalities than the jurisdictions we have compared ourselves against when we look at both fatalities per 100,000 passengers and population.

This could be explained by the fact that we have a higher number of licenced pilots and aircraft per 100,000 population compared to the other States. We also tend to use the aviation industry for a wider variety of commercial work (particularly smaller-scale commercial work) compared to the other States, reflecting our different economic drivers.

Table 3: Accidents per jurisdiction by class (fatalities): 2017/2018 – international comparisons

		Fatalities			
		New Zealand	**UK**	**Australia**	**Canada**
Airline	Large Aeroplane	0	0	0	1
	Medium Aeroplane	0	0	0	0
	Small Aeroplane	0	0	6	0
	Helicopter	0	0	5	
	Sport Adventure	1	0	0	0
Commercial	Agricultural Aeroplane	0	0	0	1
	Agricultural Helicopter	0	0	1	0
	Aeroplane	0	0	2	2
	Helicopter	1	0	1	5
	Sport	1	0	3	N/A
Private	Aeroplane	0		4	18
	Helicopter	1		0	3
	Sport	6	13	7	1*
Total		**9**	**13**	**29**	**31***
Fatalities per 100,000 passengers		0.04	0.01	0.05	0.02
Fatalities per 100,000 population		0.18	0.02	0.12	0.08

*Transport Canada counts gliders and advanced microlight fatalities (equivalent to NZ class 2 microlight) but the Transport Canada equivalent of 'Sport" excludes ultralights (NZ Class I microlights), hang gliders or parachute fatalities.

4.2 ICAO effective implementation scores

The International Civil Aviation Organization (ICAO) periodically audits a State's effective implementation (EI) of the eight critical elements of a safety oversight system.[7]

The ICAO EI score is intended to reflect how safe or reliable an individual State's civil aviation oversight system is. The higher the score, expressed as a percentage, the safer the aviation system in that State. Consequently, a downgrade of New Zealand's current EI score could have an impact on New Zealand's reputation as a safe place to fly to, from and within. It might also have an adverse effect on the recognition of New Zealand aviation products overseas.

Our last full audit was in 2006. We were due to have an audit in 2016, but due to the November 2016 earthquake and subsequent office closure during that period, only one aspect of that audit could be undertaken (accident and incident investigation at the Transport Accident Investigation Commission office). This has resulted in our ICAO score appearing to fall relative to the countries we align ourselves with, providing an inaccurate picture of the level of New Zealand's compliance. In comparison, Australia's most recent audit was in 2017.

Table 4: ICAO EI scores as at March 2019

New Zealand	85.63%	World Average	68.12%
Australia	95.02%	Asia-Pacific[8] Average	63.51%
OECD Average	86.32%		

[7] The eight Critical Elements are: Primary aviation legislation; Specific operating regulations; State civil aviation system and safety oversight functions; Technical personnel qualification and training; Technical guidance, tools and provision of safety-critical information; Licensing, certification, authorization and approval obligations; Surveillance obligations; Resolution of safety concerns.

8 Asia-Pacific States are: Australia, New Zealand, Fiji, Samoa, Tonga, Palau, Federated States of Micronesia, Cook Islands, Nauru, Solomon Islands, Vanuatu, Marshall Islands, Papua New Guinea, Thailand, Cambodia, Bhutan, Timor-Leste, Bangladesh, Indonesia, Nepal, Brunei-Darussalam, Myanmar, India, Pakistan, Vietnam, Philippines, Laos, Malaysia, North Korea, South Korea, Maldives, Australia, China, Japan, New Zealand, Sri Lanka, Singapore, Mongolia.

5. Our people

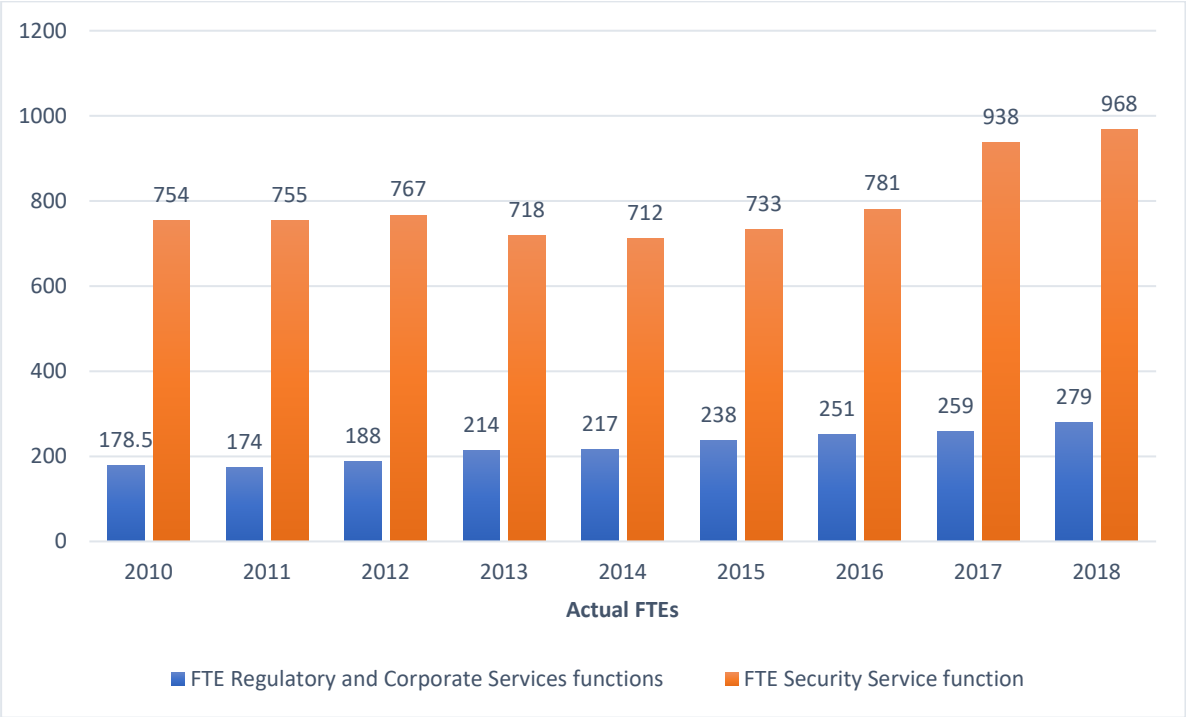
Authority staff numbers have grown as has the breadth of the skill and expertise required to meet increased demand, the changing face of regulation, and security delivery.

The number of CAA (regulatory and support services) full-time-equivalent staff (FTEs) has increased 56 percent since 2010, following a relatively steady trend. The FTE headcount has increased in operational teams as well as in the International and Regulatory Strategy and Intelligence and Safety Risk Assessment teams, and the People and Capability team in response to the additional demands of providing shared services across the Authority.

Over the same period, the number of Security Service Function's FTEs have increased 28 per cent, with a major increase in the 2015/16 year for additional recruitment to cover increased passenger numbers, implementation of the Domestic Aviation Security Review, and other operational changes, such as extended hours at Queenstown.

These figures exclude contract and fixed-term employees.

Figure 1: Overview of Authority employees 2010-2018



5.1 Domestic comparisons – regulatory

The CAA's (Regulatory Function and Support Services) personnel costs are relatively high compared with Maritime and NZTA, and to a lesser extent, Worksafe.

Several factors are likely to have contributed to an increase in personnel costs:

- Introduction of the Health and Safety at Work 2015 (HSW Act) and attendant requirements, in particular for the regulatory staff to administer the HSW Act and to strengthen the Authority's and operators' ability to comply with the new requirements;
- Personnel related project programme costs such as New Southern Sky and RCP;
- The support costs associated with the restructure of the Security Service management team (including a new frontline management model); and
- The Regulatory Function's operational workforce being dominated by technical experts who are expensive to recruit, are often recruited from overseas, and can demand high remuneration in a capacity-constrained sector.
- The global nature of the aviation system, and the resource required to stay engaged internationally and maintain international relationships.

Table 5: Personnel costs compared with New Zealand regulators (2018/19)

	CAA	Maritime	NZTA	Worksafe
Expenditure	$46,638,000	$48,521,000	$179,009,000	$96,127,000
FTEs	279	219	1372	545
Personnel costs – regulatory	$36,579,000	$27,015,000	$98,163,000	$62,765,000
Personnel cost as percent of expenditure*	78%	56%	55%	65%
% of staff > $100,000 p/a	58	48	41**	34**
Personnel cost per employee	$130,967	$123,255	$71,553	$115,165

*Adjusted to remove the Security Service Function's portion of shared services

**calculated using FTE rather than total headcount

5.2 International comparisons – regulatory

The Regulatory Function compares favourably with international aviation regulators with regard to personnel costs. This particularly applies to cost per employee, which indicates a higher degree of efficiency within this cohort.

We assume that these regulators face personnel recruitment and training costs that are comparable to the Regulatory Function's, due to the nature of the work and the skills of the regulatory staff, as noted above.

The comparison between the Regulatory Function and CASA shows that while we spend a greater proportion of our regulatory expenditure on personnel, the cost per employee is lower; without further research the reason is not clear. The comparison between the Regulatory Function and CAA UK is complicated by the additional functions that comprise core regulatory work in the UK, namely consumer protection and licensing services that increase the headcount and the proportion of staff in regulatory roles.

Although the data is high-level and subject to caution, they do indicate the Regulatory Function's personnel costs are in line with those of other aviation regulators.

Table 6: Personnel costs compared with international regulators (2017/18)

	CAA	CASA	CAA UK
Expenditure regulatory service	$46,638,000	$196,666,680	$178,016,740[9]
Personnel cost - regulatory	$36,579,000	$132,641,235	$108,167,144
Personnel cost as per cent of expenditure	78%	67%	61%
Personnel cost per employee	$130,967	$159,425	$103,271

[9] The UK CAA experienced a significant one-off expense due to repatriating citizens following the Monarch airline failure.

6. Aviation Security Service functions

6.1 Cost per passenger screened

The key performance metric of the Security Service Function's efficiency and economy is the cost per passenger screened, as this includes all functions that lead to the effective provision of the security screening process.

The total number of passengers screened has increased by 40 per cent over the 2010 to 2018 period. The number of domestic passengers screened increased by 32 per cent; and international by 50 per cent.

Between 2010 and 2018, the cost per passenger screened for all passengers (domestic and international), increased by 8 per cent. This figure masks a balance of relatively large changes within the two groups. The cost for domestic passengers has increased 43 per cent, while it has decreased by 19 per cent for international passengers. This is largely due to changes in the way costs have been allocated between international and domestic services over time, as well as the introduction of domestic passenger hold baggage screening in 2016.

Table 7: Number of passengers screened and cost per passenger 2009/10 to 2017/18

	2009/ 2010	2010/ 2011	2011/ 2012	2012/ 2013	2013/ 2014	2014/ 2015	2015/ 2016	2016/ 2017	2017/ 2018
Cost per passenger screened (all)	$6.56	$7.00	$7.20	$6.81	$6.56	$ 6.05	$6.38	$6.49	$7.09
Total passengers screened (000)	10,156	10,079	10,417	10,766	10,983	11,702	12,508	13,394	14,183
Cost per passenger domestic	*Not available*			$3.57	$3.56	$3.36	$3.71	$4.47	$5.10
Total domestic passengers (000)	5,704	5,497	5,641	6,006	5,965	6,374	6,735	7,059	7,525
Cost per passenger international	*Not available*			$10.89	$10.11	$9.28	$9.50	$8.75	$8.80
Total international passengers (000)	4,452	4,582	4,776	4,760	5,017	5,328	5,772	6,335	6,658

The growth in passenger numbers is expected to continue, although the rate of growth of international passengers is expected to slow in future. There is an ongoing challenge to maintain safety and an appropriate level of customer service. The Security Service Function's planning aligns staffing to growth, while ensuring that the infrastructure remains sufficient for the workforce and the passenger throughput.

Table 8: Forecast number of passengers screened 2019-2024

	2019	2020	2021	2022	2023	2024
International passengers '000s	6,918	7,091	7,268	7,450	7,636	7,827
Domestic passengers '000s	7,688	7,899	8,117	8,340	8,569	8,805
Total passengers	**14,606**	**14,990**	**15,385**	**15,790**	**16,206**	**16,634**

Smooth passenger facilitation and perceptions of safety and effective aviation security services are important contributions to establishing passenger confidence in the NZ Civil Aviation system. These also support the contribution that tourism makes to New Zealand's economy because it is considered a destination that's safe to fly to, within, and from.

Pre-flight security checks or screening make the biggest contribution to both New Zealand resident and international travellers' feelings of safety and security, particularly the 'walk through' metal detectors and scanning of carry-on luggage.

The 2019 *Project Feel Safe* results indicate that almost all international travellers and most NZ resident travellers feel satisfied that the security screening they go through in New Zealand will keep them safe during their flight.

- 89 per cent of overseas visitors feel very or extremely safe on domestic flights, or international flights departing from New Zealand.
- 77 percent of NZ resident travellers felt extremely or very safe and secure on their most recent domestic or international flight.

The project identified an increasing desire from NZ resident travellers for all New Zealand flights to be screened (71% in 2011 vs. 79% in 2019) - the perceived threat to New Zealand has increased during this time.

6.2 Comparison with similar New Zealand agencies

As for the Regulatory Function, the varying characteristics of sectors and roles means that there are limited comparators for the Security Service Function in the domestic setting, particularly when considering security screening of domestic passengers.

Customs is the most closely aligned comparator agency, with its frontline presence at airports, a requirement to deal with increasing passenger numbers, novel and rapidly changing threats and challenges, and a largely operational workforce.

MPI's border role has also been benchmarked as a relevant, if less closely matched comparator for the costs incurred by the Security Service Function. The comparative data from both these agencies indicate that the Security Service Function's personnel costs are similar to other border agencies with passenger-facing roles.

Table 9: Comparison of regulatory costs (2017/18)

	Security Service Function (Avsec)	Customs	MPI
Expenditure security/frontline service	$101,611,000	$195,962,000	$582,797,000
Personnel cost – security	$80,314,000	$106,399,000	$277,813,000
Personnel cost per employee	$83,003	$86,482	$98,550

6.3 International comparisons

International comparisons indicate that the Security Service Function's charges and cost per passenger are comparable with those in other jurisdictions.

Table 10: Passenger security charges/costs (NZD)

Passenger security charges and/or costs in NZD	2010	2011	2012	2013	2014	2015	2016	2017	2018
Avsec all	6.20	7.00	7.20	6.81	6.55	6.05	6.38	6.49	6.84
Screened by Avsec at metro airports	5.84	6.39	6.92	6.54	6.23	5.91	6.25	6.19	6.52
CATSA* charge at Class 1 airports (main metro/capital airports) *Airports - ex corporate charge*	*Not available*							8.72	7.48
Screened by Avsec at non metro Airports	12.23	11.84	10.96	10.24	10.64	7.84	7.88	9.47	9.72
CATSA Class 2 airports - ex corporate charge	*Not available*							13.04	12.71
Avsec international	9.48	10.05	10.54	10.89	10.11	9.28	9.50	8.75	8.80
Hong Kong international charge†	5.89	5.35	5.25	5.19	5.12	8.29	8.32	8.10	8.97
Changi international charge†	7.86	7.95	8.10	8.21	8.42	7.69	7.70	7.98	[10]

* Canadian Air Transport Security Authority

† Assumes that these airport charges represent the cost of providing the service, but may also include either a profit margin (higher than actual cost) or cross-subsidy (lower than actual cost).

[10] We have been unable to identify this charge for 2018.

7. Authority corporate functions

While organisations have common features, each has their own unique corporate functions and cost drivers. This needs to be considered when interpreting results. The means of assessing the overall efficiency and economy of the Authority's Support Services has been against Treasury's *Benchmarking Administrative and Support Services* (BASS) data.

7.1 Benchmarking of administrative and support services (BASS)

BASS overview

Up until 2017, Treasury measured the costs of the Administrative and Support Services (A&SS) across 26 Government agencies - refer Appendix 3. Treasury is no longer maintaining BASS benchmarking and therefore this report does not provide any comparisons with other agencies beyond 2017. 2019 CAA costs are projected costs, rather than actual costs.

This annual set of data provided an insight to the cost of the services that support the work of government agencies without directly being part of the service offered to the public end user.

The table below shows the functions by corporate category captured by BASS.

Table 11: Outline of BASS

Corporate Executive Services (CES)	General Manager Corporate Services Administration Executive Business Planning Risk Assurance Communications Legal - Corporate
ICT	IT- Information Services IT- Applications IT Infrastructure and Operations
People and Capability	Human Resources People & Capability- Health and Safety General Manager OD Business Improvement
Finance	Finance Payroll Strategic Finance
Property and Facilities	Facilities Property Procurement

The BASS methodology has been adapted from established international methodologies used by two leading international benchmarking organisations; the American Productivity and Quality Center (APQC), and The Hackett Group.

The agencies participating in the benchmarking are divided into small, medium, and large cohorts. The descriptors of the relevant cohorts are as follows:

Small cohort	Medium cohort
• <500 FTEs • ORC[1] <$100 million • Primarily policy, regulatory, or compliance focus • Centralised services • Small cohort values or percentage refer to the median of the cohort	• 500-2000 FTEs • ORC $100-$500 million • Operational or service delivery focus • Centralised or centre-hub services • Medium cohort values or percentage refer to the median of the cohort

[1] ORC - organisational running costs (i.e. both frontline and back office/support function)

Due to its relative size and complexity, the Authority has benchmarked itself against the medium cohort, and has also provided small cohort comparisons where the data is available. It has also benchmarked itself against the following medium cohort agencies as a subset of BASS, as they have both frontline services and regulatory functions, and have a similar headcount.

Table 12: Comparison across matched agencies in BASS medium cohort

$000s	CAA	LINZ*	Customs	Dept of Conservation	NZTA
Total Admin and Support Services	15,003	32,077	60,962	37,763	95,745
Total Organisational Running Costs	136,907	175,657	187,846	364,653	1,091,926
Admin and Support Services as % of running costs	11%	18.3%	32%	10.4%	8.8%
Headcount	1197	601	1175	2080	1422

* Land Information New Zealand

Property services costs are benchmarked against the data from the Government Property Group (GPG) Report, collated by the Ministry of Business, Innovation and Employment.

Limitations

BASS is intended as a high-level exercise: there are significant variations in both method and results.

For example, the Ministry of Health (MoH) reports total administration and support services as 2 per cent of total running costs. These costs include some non-departmental costs. For that reason, this report excludes Health from comparisons with medium cohort BASS agencies.

At the other end of the scale, the cost of Customs' total administration and support services is 32 per cent of total running costs, due to high operational ICT costs associated with the Smartgate rollout.

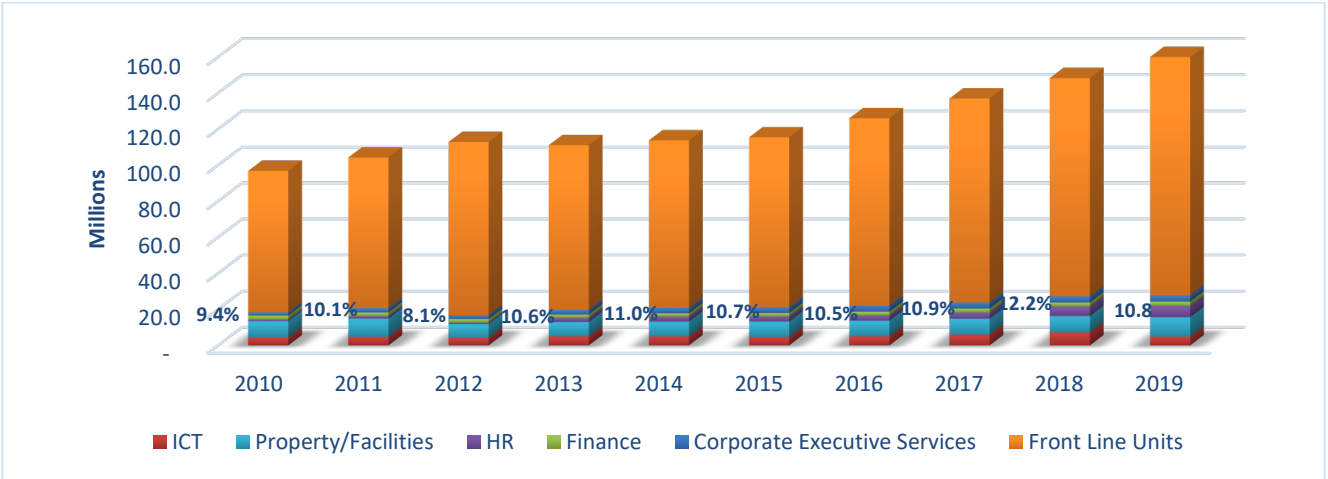
The differences between the agencies mean that the results are indicative only. A more robust assessment of the Authority's performance against other agencies would require further in-depth analysis that is beyond the scope of this report.

7.2 Organisational running costs

The total expenditure on administrative and support services for the Authority has increased from $9 million in 2010/11 to $11.3 million in 2017/18, an increase of 26 per cent.

As shown in Figure 2, the costs of the corporate functions have been maintained within a range of 9 per cent to 11 per cent from 2010 to 2019, while meeting increased demand from the frontline business units. Increased FTEs have resulted in increased costs for recruitment, training (particularly for operational staff), information technology for each user, and corporate and executive support services.

Figure 2: Total organisational running cost distribution 2010-2019

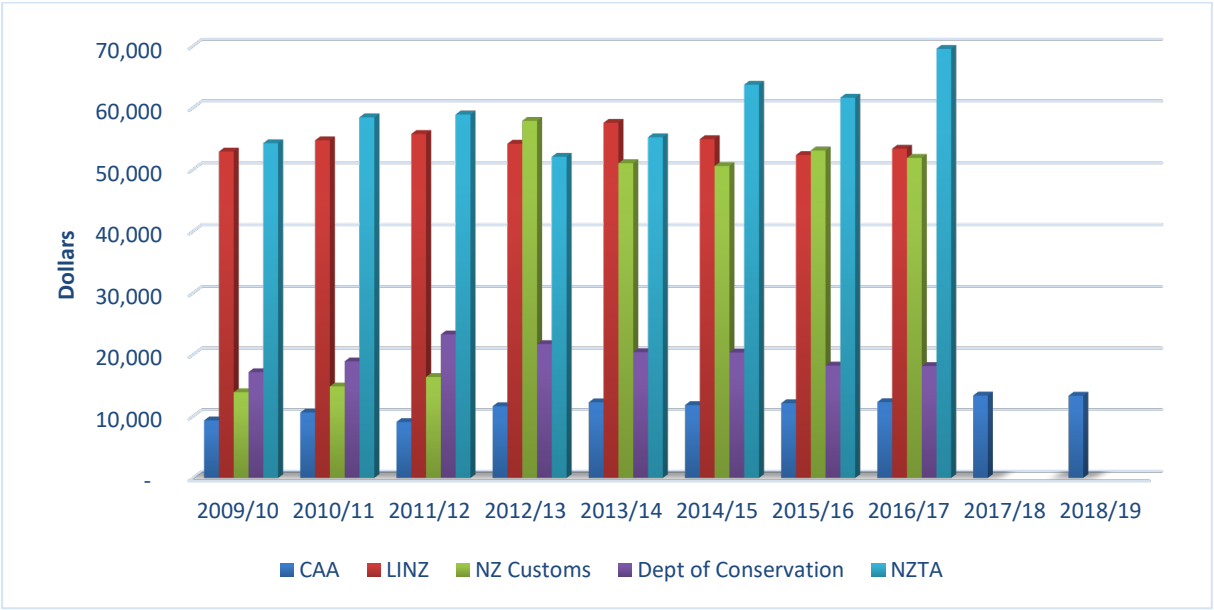


7.3 Administrative and Support Services overview

Administrative and Support Services (A&SS) are the cost of the services that support the work of government agencies without directly being part of the service offered to the public end user. A&SS costs comprise facilities, human resources, finance, corporate executive services, and procurement.

Compared with other agencies, the Authority spent less per employee on A&SS than medium cohort comparators.

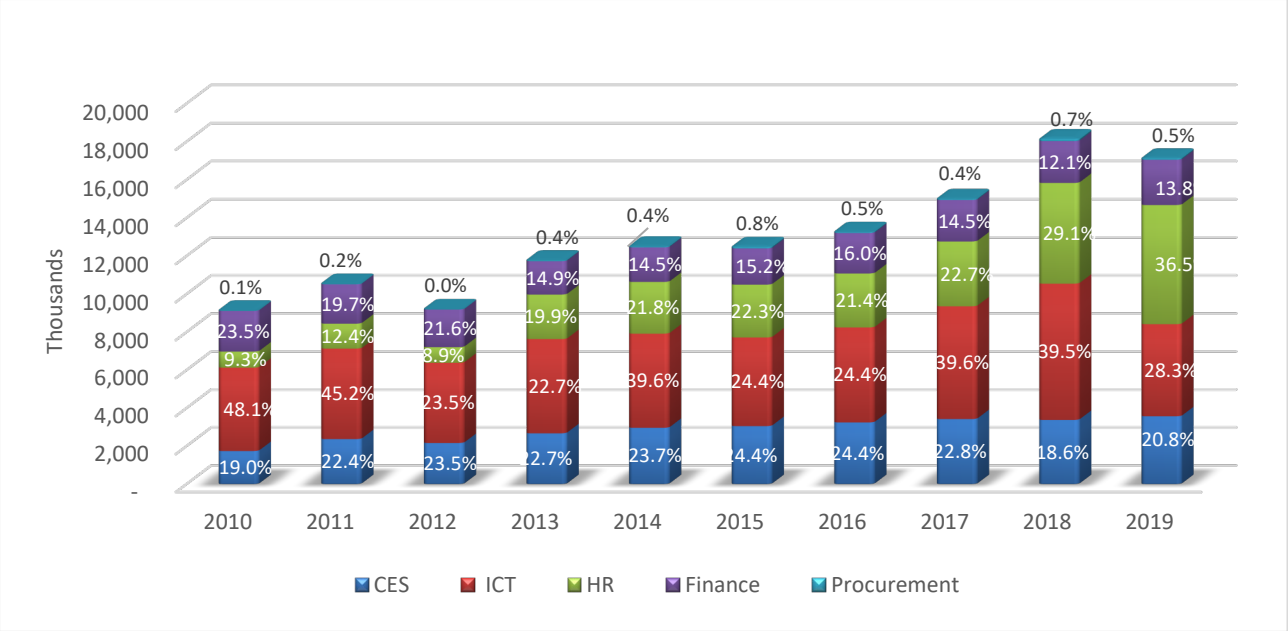
Figure 3: A&SS cost per employee



Functional analysis of A&SS costs

Figure 4 provides an overview of the respective A&SS costs and their distribution across the reporting period.

Figure 4: A&SS costs from 2010 to 2019



Information Communications Technology (ICT) remain a significant element of the overall AS&S costs, ranging from 48 percent down to a projected 28 percent of AS&S costs in 2018. Costs are due to changing technologies, a move to cloud-based platforms and a growth in staff numbers. This also reflects an ongoing project to replace our core regulatory application and costs associated with business resilience for the Authority.

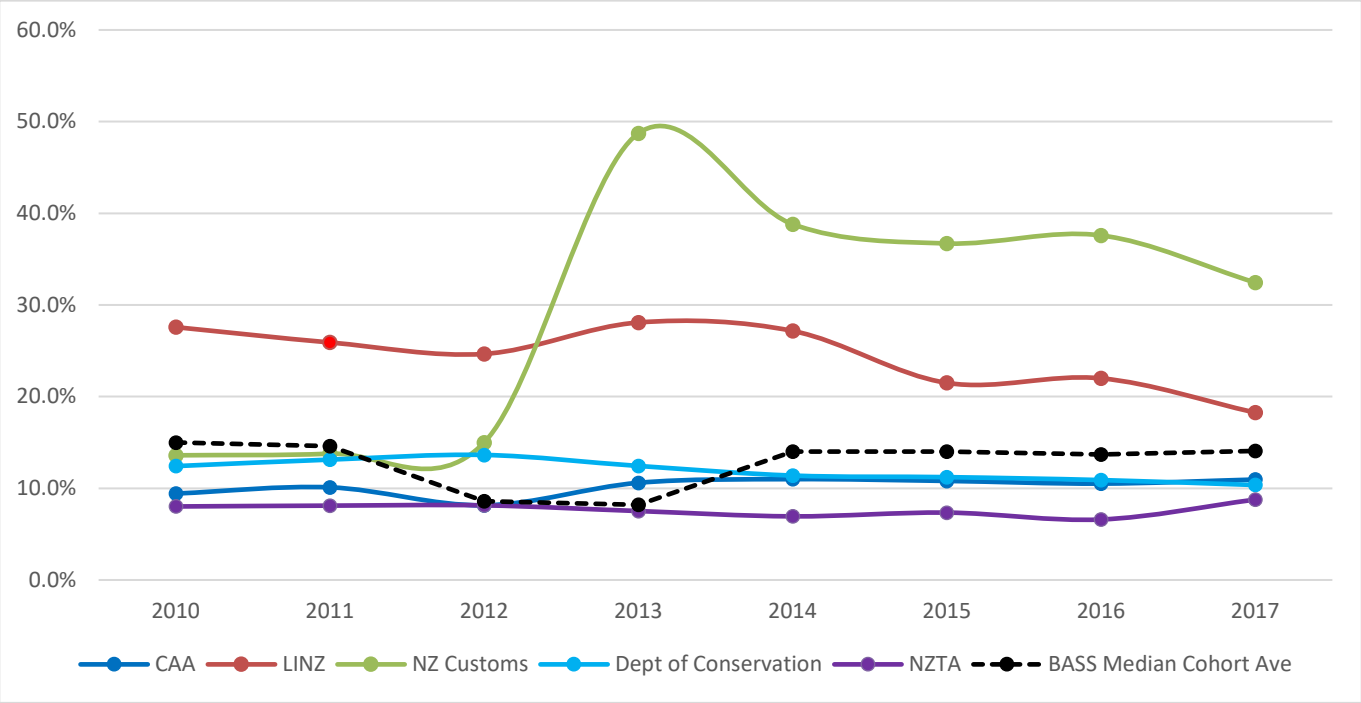
Human Resources (HR) costs have risen from nine percent to 36.5 percent as we have continued to develop the capability of the organisation and the health and safety at work programme. It also reflects the significant increase in staffing numbers of the Security Service Function.

Costs in the Corporate Executive Services have remained between 20 per cent and 24 per cent and those in Finance have decreased from 24 per cent down to a projected 14 per cent in 2019.

Benchmarked A&SS costs

When compared with other BASS agencies up until to 2017, the Authority is tracked under the BASS mean for the medium-sized agencies, and tracked lower than the most relevant comparison agencies. We understand that the 2013 rise in Customs costs occurred when it replaced some frontline roles with Smartgates at airport terminals. This is an example of how changes in response to sector demands can have a significant effect on passenger experience, and on agency costs.

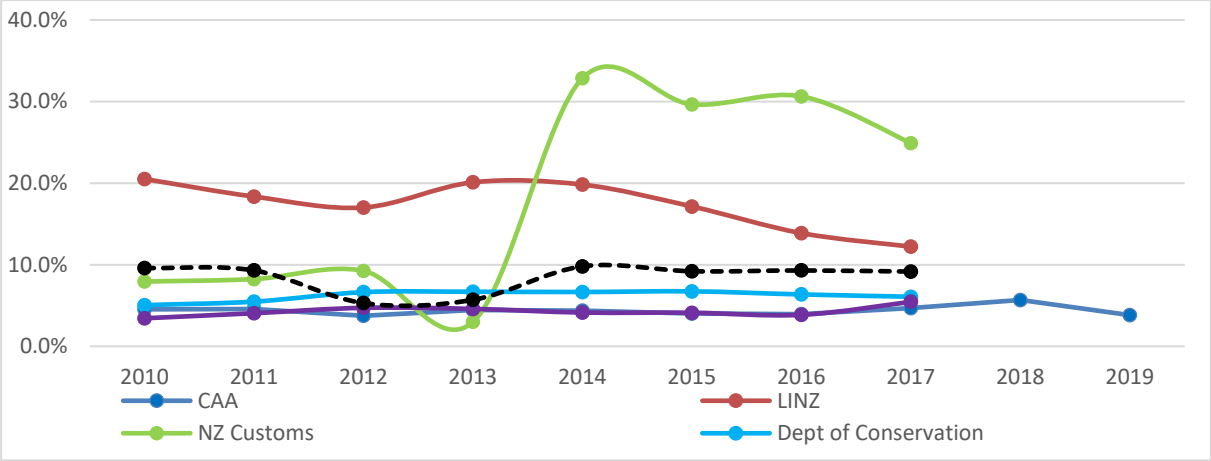
Figure 5: A&SS as percent of total running costs



7.4 Information and communications technology

While ICT is a significant contributor to A&SS costs, the ICT costs for the Authority, at around 4 per cent of ORC, are below the mean of other government agencies represented by the small and medium BASS cohorts.

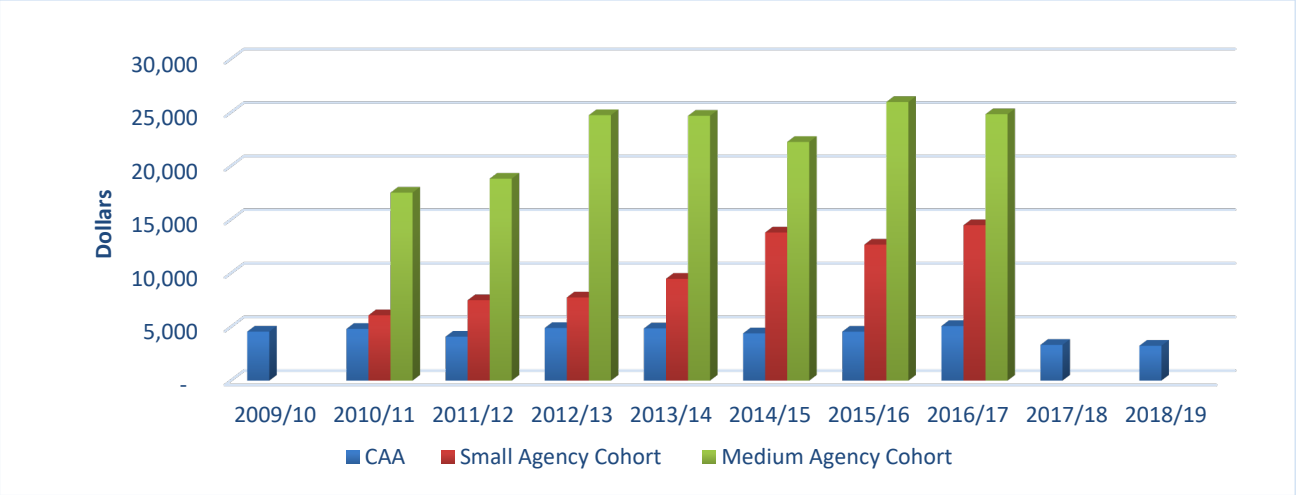
Figure 6: ICT cost as a percentage of ORC



This analysis excludes the MoH. As noted earlier, the way the MoH manages its non-departmental costs differs significantly from other agencies and its inclusion skews the mean.

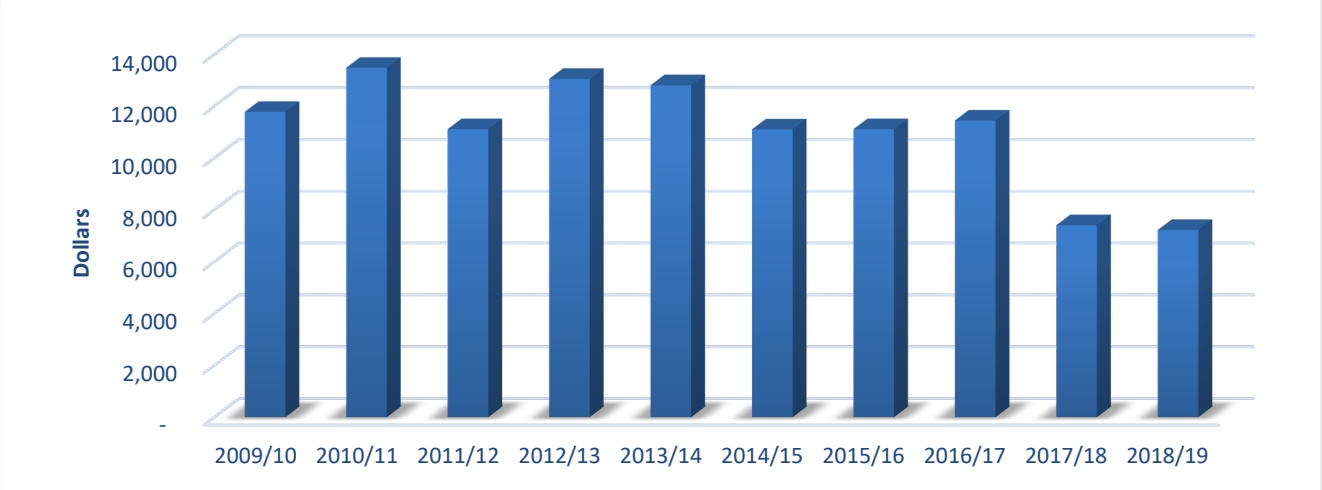
The ICT cost per end user at the Authority is under $5,000, below the mean for both small and medium BASS cohort agencies. However, many of our employees employed on the frontline do not require an individual device which creates a level of potential distortion when compared with some of the cohort agencies.

Figure 7: Benchmarked ICT costs per end user



While not in the BASS framework, ICT cost per device analysis provides an understanding of the movement in costs for the Authority.

Figure 8: Regulatory Function cost per device



Costs increased in 2016/17 due to the resilience programme introduced after the November 2016 earthquake, giving more staff portable devices, and moving a number of IT platforms to the Cloud.

7.5 Corporate and executive support (CES)

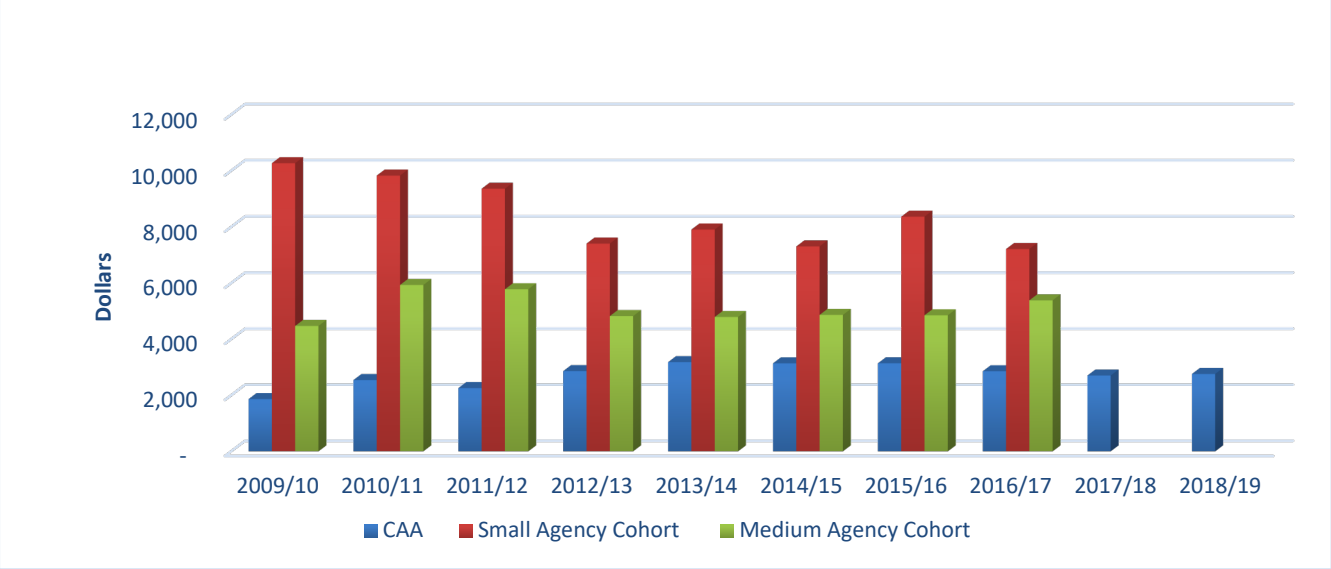
Corporate Executive Services costs comprise those of the Chief Executive, the General Manager of Corporate Services, administration, business planning, risk, assurance, communications, and corporate legal services.

This measure excludes costs that do not relate directly to supporting the organisation's operational activities.

Costs excluded include Board fees, a proportion of strategic planning/finance, the proportion of legal costs relating to prosecutions, and communications such as external publications delivering core Authority outputs, such as safety promotion and other outreach services.

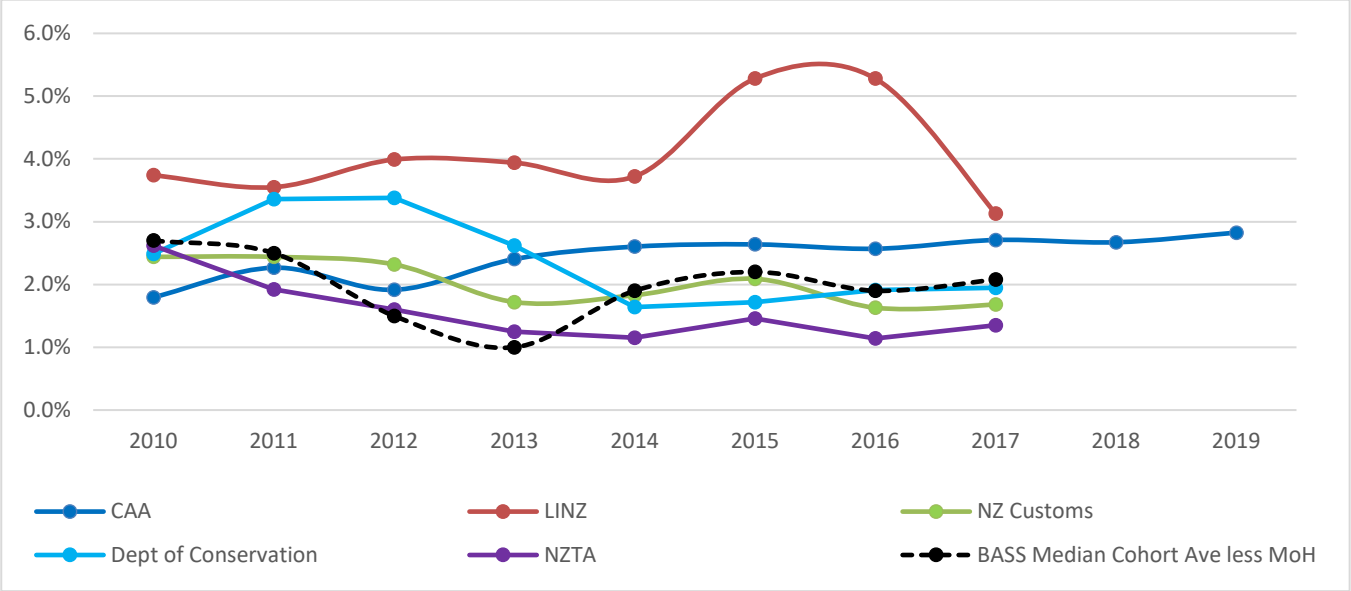
The Authority's expenditure increased from 2009/10 to 2013/14 and has decreased since. Our CES costs per FTE are significantly lower than the small and medium government cohort.

Figure 9: Cost of CES per FTE



A comparison of the CES costs as a proportion of total organisational running costs (ORC) in Figure 10 shows that we have been tracking above the BASS medium cohort mean since mid-2011. This may be a result of the Authority's ORC being lower than other those of other agencies, driven primarily by low ICT costs (see Table 14).

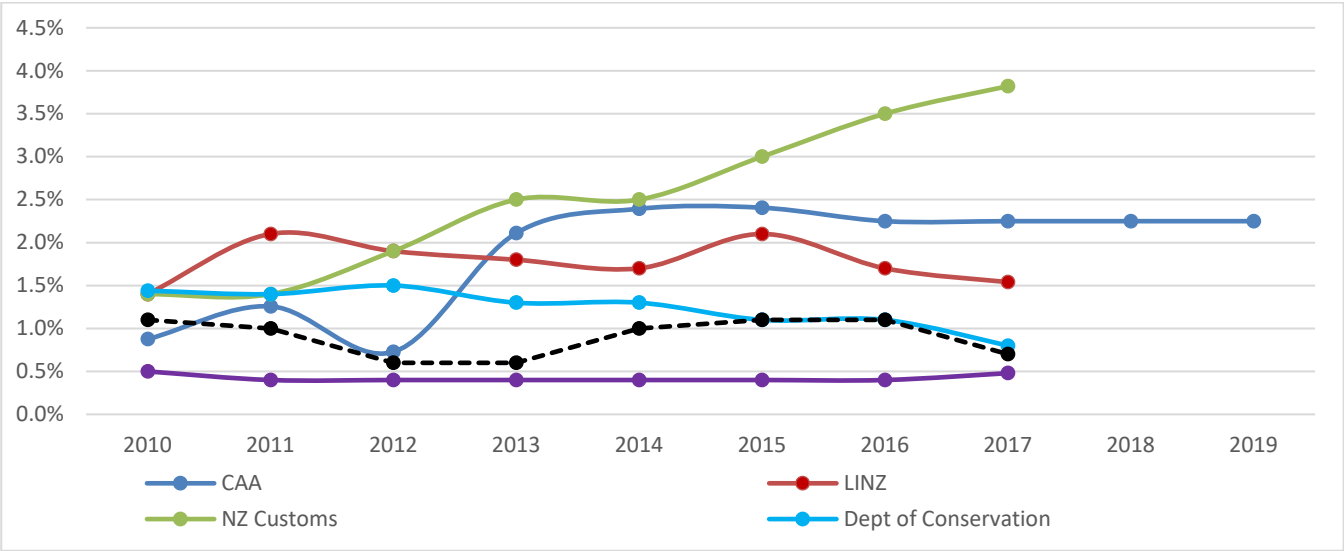
Figure 10: CES cost as percentage of ORC



7.6 Human resources

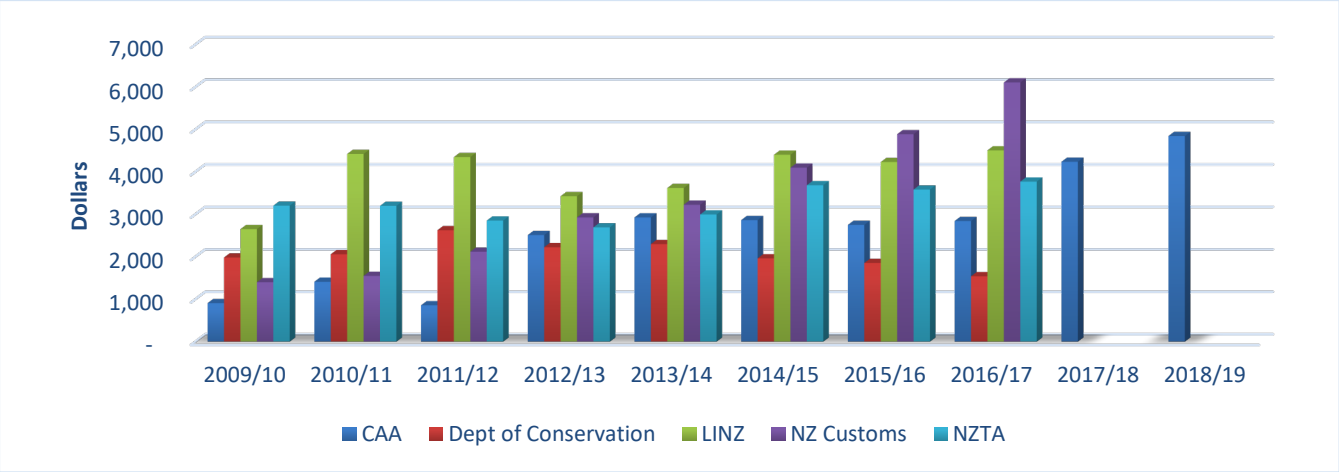
Human resource cost as a proportion of ORC has increased significantly throughout the reported period. The cost of the HR function is increasing mainly due to the development of a capability programme in the organisation (RCP) that comes under the HR umbrella, and the building of the Health and Safety team in 2016/17. The overall head count of the Authority has increased by 359 and HR have had to increase personnel to be able to service the increased headcount since 2010.

Figure 11: People and Capability function as a percentage of ORC



Our HR costs per employee had been tracking under the BASS average (excluding MoH) for the last eight years. Figure 16 shows an increase in HR costs per employee in 2017 and 2018. We don't have BASS comparisons for other agencies to compare this to.

Figure 12: Benchmarked human resources costs per employee



7.7 Finance and payroll

Finance costs have been relatively stable, and the cost of the finance function was lower than the medium cohort BASS average.

Figure 13: Total cost of finance

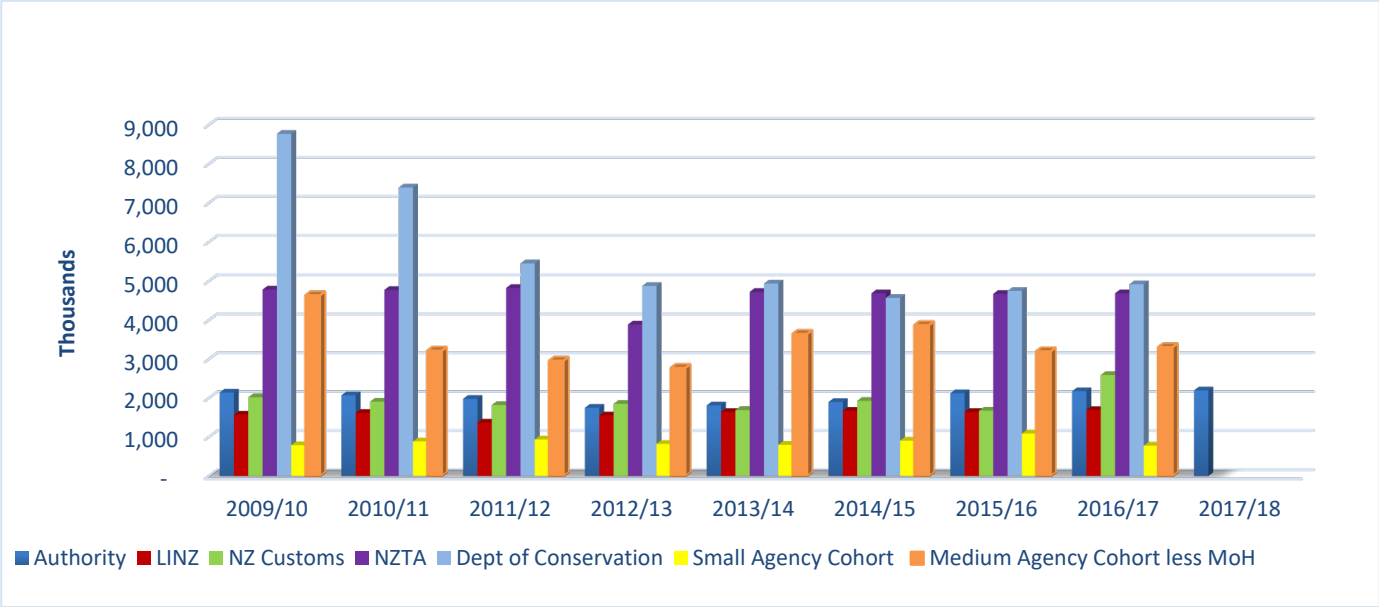
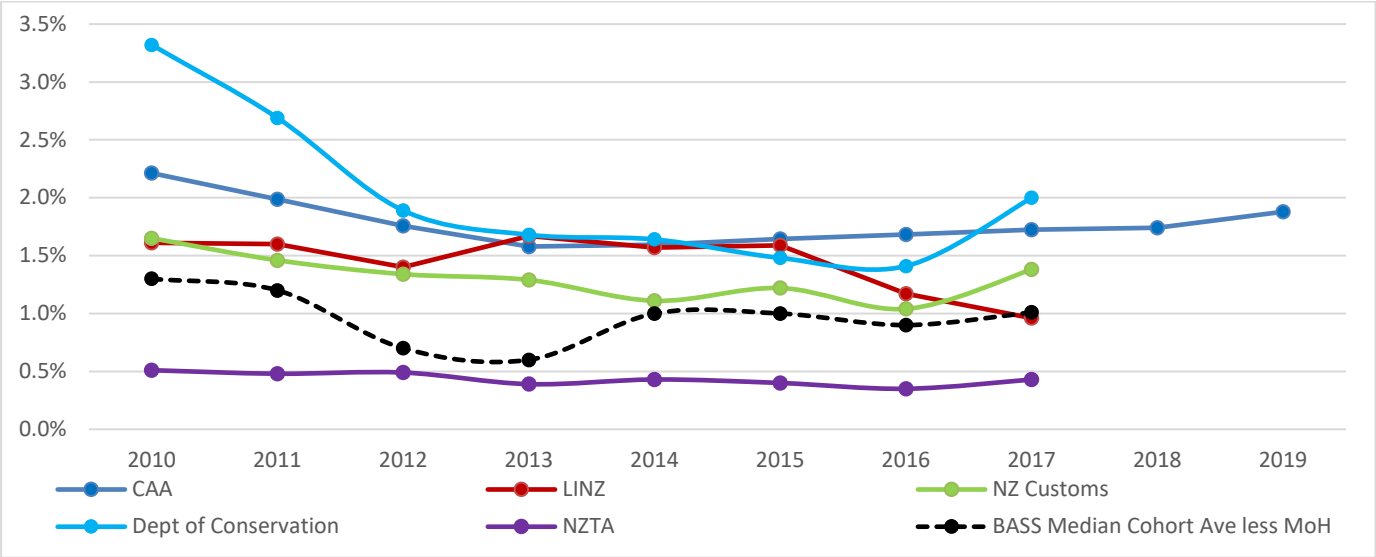


Figure 14: Finance costs as a percentage of ORC



That the Authority's finance costs as a percentage of Overall Running Costs are higher than the average for other government agencies may be a result of the Authority having lower costs than other those of other agencies, but may also be due to:

- The diverse revenue streams from fees and charges, and the impact that this has on billing and debt collection, as opposed to the other agencies that are primarily Crown-funded. Approximately 90 per cent of Authority revenue comes from non-government sources.
- The complexity of the revenue collected that requires a large amount of administrative support for charging on an hourly basis (i.e., not fixed cost for service) which drives up processing costs.
- Maintaining individual sets of accounts for both the Regulatory Function and the Security Service Function.
- Current manual processes, such as accounts payable.

Payroll costs

Payroll costs are in line with small and medium BASS cohorts. Costs have increased over recent years mainly due to the increase in payroll personnel. Compared to BASS cohorts, we have relatively complex payroll activity including shift work, multiple sites, and staff on varying types of contracts.

Figure 15: Payroll costs per $1,000 of ORC

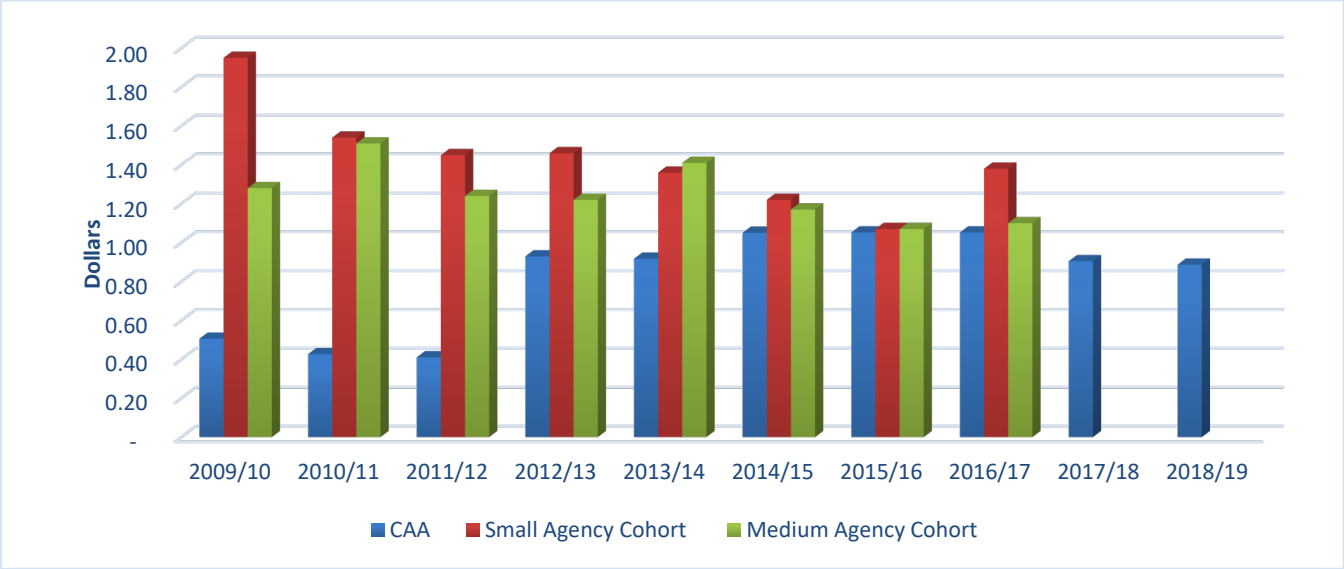
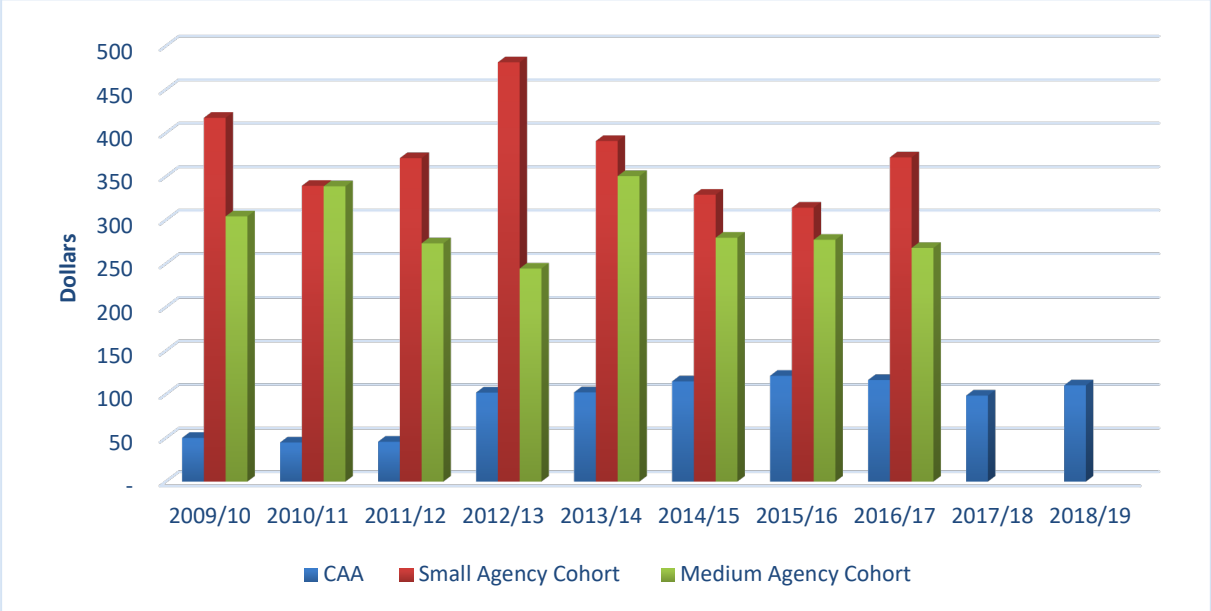


Figure 16: Payroll cost per employee



The Authority compares favourably with both small and medium cohort agencies when assessing the payroll cost per employee, and has maintained a relatively stable cost during a period of FTE growth since 2012/13.

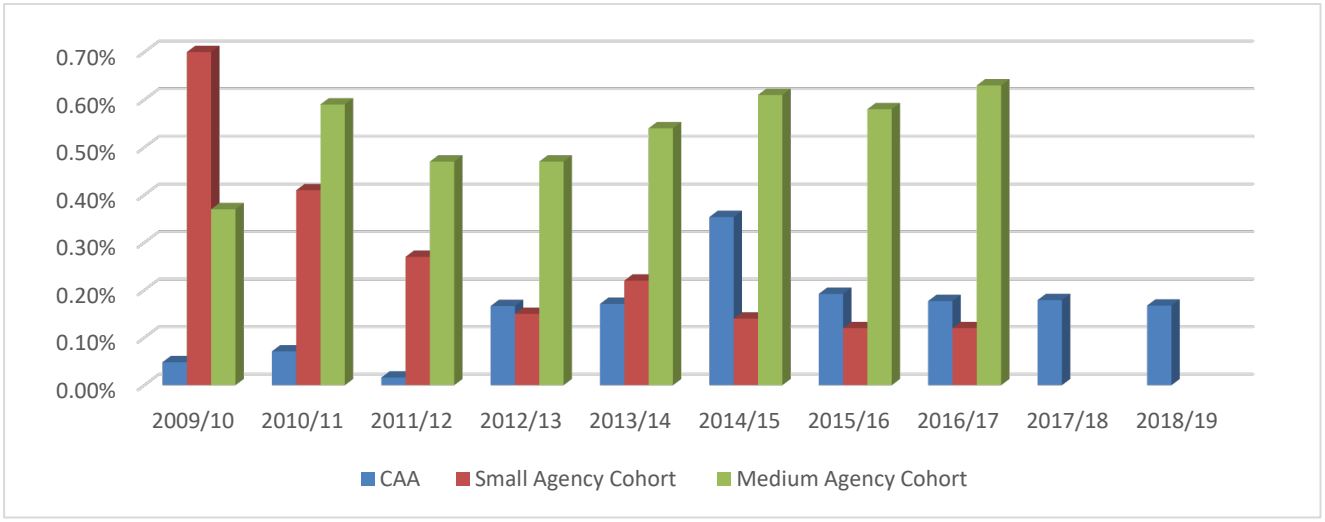
The small increases over recent years reflect additional payroll personnel to manage the additional FTEs on the payroll.

7.8 Procurement

We have one employee to cover our procurement function.

The sharp increase in 2014/15 costs primarily reflects professional fees for contracting procurement specialists to help with the purchase of large capital items in the AVSEC space. Since then, procurement costs have remained significantly lower than those recorded against comparable medium-sized agencies.

Figure 17: Total cost of procurement function as a percentage of total purchase value



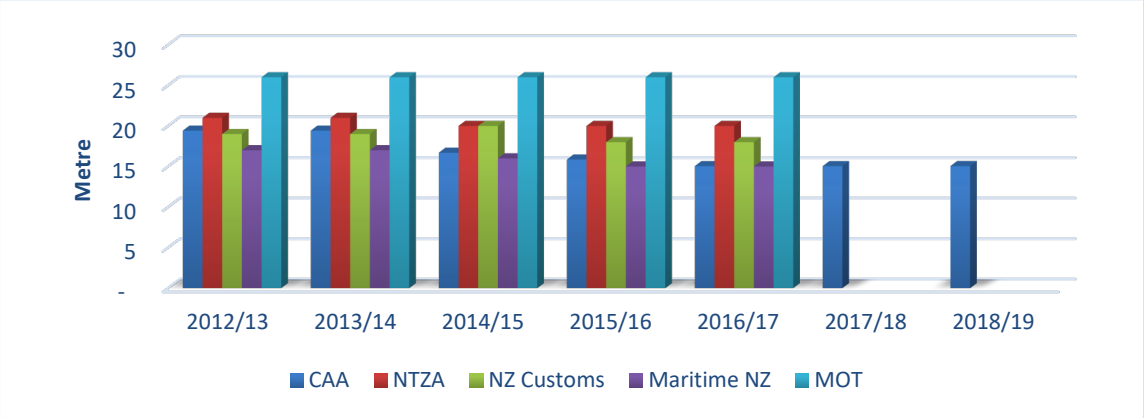
7.9 Property and facilities

Property is not included in the BASS framework, and limited information is available from the Government Property Group for comparison purposes.

The Authority has relatively high property costs compared with similar agencies. This is due to the number of offices the Authority requires across the country and the location of those offices.

The space available per office-based staff member is decreasing as the headcount increases.[11]

Figure 18: Amount of office space per office-based person



[11] Data was not collected prior to 2012/13.

Appendix 1: BASS grouping costs as proportion of ORC

Appendix 2

Metric - Title and Name	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Administrative and Support (A&S) Services.										
Total (A&S) Services cost as a proportion of total cost of running the organisation.	9.4%	10.1%	8.1%	10.6%	11.0%	10.8%	10.5%	11.0%	12.2%	10.7%
Total cost of A&S Services per employee	9,337	10,607	9,072	11,641	12,269	11,817	12,117	12,302	13,361	13,340
Information and Communication Technology (ICT)										
Total ICT cost as a proportion of the organisational running costs.	4.5%	4.6%	3.7%	4.5%	4.4%	4.0%	4.0%	4.3%	4.8%	3.0%
Total ICT cost per internal end user.	4,565	4,819	4,097	4,905	4,863	4,403	4,562	5,085	3,330	3,247
Total ICT operational Spend per device	11,776	13,479	11,111	13,051	12,805	11,103	11,110	11,444	7,406	7,221
Percentage of IT cost out sourced	0%	0%	0%	6%	13%	10%	10%	15%	25%	26%
Corporate & Executive Services (CES)										
Total cost of the CES function as a percentage of ORC.	1.8%	2.3%	1.9%	2.4%	2.6%	2.6%	2.6%	2.5%	2.3%	2.2%
Total Cost of CES function per organisational FTE.	1,864	2,544	2,258	2,862	3,184	3,141	3,143	2,857	2,706	2,761
Human Resources										
Total cost of the People & Capability function as a percentage of ORC	0.9%	1.3%	0.7%	2.1%	2.4%	2.4%	2.2%	2.5%	3.6%	3.9%
Total cost of HR function per employee	908	1,411	857	2,512	2,927	2,864	2,751	2,842	4,238	4,845
Finance (including Payroll)										
Total cost of the Finance function as a percentage of ORC	2.0%	1.8%	1.6%	1.2%	1.2%	1.2%	1.3%	1.2%	1.1%	1.1%
Total cost of the Finance function as a percentage of AS&S	21%	18%	19%	11%	11%	12%	12%	11%	9%	11%
The cost of the payroll function per $1000 of ORC	0.51	0.43	0.41	0.93	0.92	1.05	1.05	1.04	0.90	0.89
Total cost of Payroll function per employee	50.09	44.81	45.69	102.05	102.34	114.93	121.31	116.48	98.64	110.39
Strategic finance management as a percentage of total finance cost	10.6%	8.9%	9.7%	23.2%	22.7%	24.0%	22.8%	24.4%	23.8%	23.1%
Procurement										
Total cost of procurement Function as a % of Total Purchase value	0.05%	0.07%	0.02%	0.17%	0.17%	0.35%	0.19%	0.18%	0.18%	0.17%
Property										
Total Cost of Property Services per square metre	179.96	253.22	356.34	371.76	388.18	438.94	435.58	445.76	461.27	524.50
Total Cost of Facilities Management per square metre	401.89	390.74	125.60	140.11	143.74	142.49	143.87	147.62	146.02	196.35
Rent per square metre- Total rent	163.58	235.62	334.11	341.58	354.93	400.29	394.27	400.63	410.44	448.15
Sqm2 per employee	15.87	15.62	15.31	15.34	15.14	13.90	13.71	12.31	11.05	11.69
Sqm2 per Office based person	19.26	19.59	19.42	19.42	19.42	16.70	15.86	15.04	15.04	15.05

Appendix 2: Regulatory Function Costs per BASS groupings

Unit	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
GM	184,025	434,338	9,943	292,554	347,239	347,963	308,087	437,505	356,336	329,398
Administration	231,616	393,863	331,435	295,862	326,046	391,822	388,360	450,974	474,588	599,474
Executive	277,250	274,075	301,100	485,755	597,434	553,614	626,849	576,386	548,096	473,890
Board	-	-	-	-	-	-	-	-	-	-
Business Planning	330,000	331,000	348,335	369,145	428,405	443,062	540,735	516,181	430,892	498,202
Risk Assurance	297,530	402,149	97,455	306,010	302,926	245,554	221,783	308,894	269,239	313,741
Communications	54,795	107,086	467,118	287,502	310,814	343,220	405,773	322,444	295,164	329,366
Legal - Corporate	362,800	421,560	604,877	632,937	646,850	725,150	751,482	806,920	999,457	1,023,514
Grand total Corp Exec Services	1,738,016	2,364,071	2,160,263	2,669,765	2,959,714	3,050,385	3,243,069	3,419,303	3,373,771	3,567,585
IT- Information Services	347,000	390,494	350,392	441,708	510,504	497,494	551,270	699,039	975,624	880,326
IT- Applications	655,000	661,489	474,977	923,787	877,739	982,299	1,111,290	1,368,662	1,318,039	1,398,578
IT Infrastructure & Operations	3,384,725	3,713,538	3,398,123	3,593,825	3,567,459	3,183,339	3,337,004	3,870,251	4,878,942	2,567,407
Grand total ICT	4,386,725	4,765,521	4,223,492	4,959,320	4,955,701	4,663,132	4,999,565	5,937,952	7,172,605	4,846,311
Finance	1,864,580	1,842,377	1,742,273	1,243,413	1,297,403	1,323,318	1,507,852	1,503,399	1,540,749	1,682,128
Payroll	48,960	44,493	46,284	103,174	104,281	121,481	132,836	142,053	134,056	141,791
Strategic Finance	227,800	184,843	192,567	406,077	410,714	455,079	483,544	531,483	521,909	549,297
Grand total Finance	2,141,340	2,071,713	1,981,124	1,752,663	1,812,398	1,899,878	2,124,231	2,176,934	2,196,713	2,373,216
People & Capability- HR Serv & HR Tran	819,406	1,272,085	787,780	1,867,591	2,068,230	2,151,002	2,146,471	2,302,209	2,895,508	3,464,721
People & Capability- Health & Safety	27,611	38,952	44,171	144,429	228,357	526,827	592,110	678,213	402,192	268,774
GMOD	-	-	- 11,679	330,879	424,533	103,369	100,299	342,328	263,978	1,047,977
Business Improvement	-	-	-	-	-	-	-	79,202	1,722,702	1,477,902
Grand Total People & Capability	847,017	1,311,037	820,272	2,342,899	2,721,120	2,781,198	2,838,880	3,401,952	5,284,380	6,259,373
Total A&S Services	9,126,430	10,533,100	9,189,618	11,769,156	12,502,293	12,490,525	13,268,186	15,002,602	18,157,146	17,135,356
Facilities	6,295,225	6,130,665	2,041,999	2,176,417	2,207,813	2,040,544	2,111,926	2,099,611	2,042,780	2,791,450
Property	2,790,863	3,926,939	5,526,290	5,765,308	5,989,156	6,450,821	6,539,356	6,692,156	6,925,095	7,874,841
Procurement	13,332	20,757	4,467	44,509	53,360	95,932	62,441	66,460	129,675	88,871
Grand Total Property & Facilites	9,099,420	10,078,362	7,572,756	7,986,234	8,250,329	8,587,297	8,713,723	8,858,226	9,097,551	10,755,162
Total	18,212,518	20,590,705	16,757,907	19,710,881	20,699,262	20,981,890	21,919,468	23,794,368	27,125,021	27,801,648

Appendix 3: Agencies taking part in BASS

Small cohort

Department of Prime Minister and Cabinet

Ministry for the Environment

New Zealand Tourism Board

State Services Commission

Te Puni Kōkiri

The Treasury

Medium cohort

Department of Internal Affairs

Department of Conservation

Land Information New Zealand

Ministry for Primary Industries

Ministry of Foreign Affairs and Trade

Ministry of Health

New Zealand Customs Service

New Zealand Transport Agency

New Zealand Trade and Enterprise

Statistics New Zealand