



REPORT ONE

A Better Fire and Rescue Service for the ACT:

Context, pressures and organisational challenges

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UNION OF AUSTRALIA**



ACT BRANCH

1. Introduction

This is the first of a series of four expert reports commissioned by the United Fire Fighters Union in the Australian Capital Territory to inform its 2019 enterprise bargaining process.

This first Report introduces ACT Fire and Rescue (the Service) and its broader operating context. The Report then outlines specific pressures the Service will face in years ahead.

This first Report should be read in conjunction with:

- Report Two – considers evidence on the efficiency and effectiveness of the Fire and Rescue Service.
- Report Three – contains recommendations for change, from organisational arrangements to funding.
- Report Four – outlines specific resources the Service will require over the coming decade.

2. The ACT Fire and Rescue Service

2.1 The importance of Canberra

The ACT Fire and Rescue Service is the urban firefighting service of the Australian Capital Territory, servicing the Territory's capital, Canberra. Rural parts of the Territory are protected by the Rural Fire Service, which is composed mainly of volunteers. The importance of ACT Fire and Rescue is not to be understated: one of the distinguishing features of the ACT is that almost all its population lives in Canberra¹, giving it the highest population density in Australia (174 persons per square kilometre compared to second placed Victoria with 28). There is no other firefighting service with this sort of geographical profile.

Canberra is Australia's most carefully planned city, giving rise to a unique set of fire service challenges. Its population is relatively evenly distributed, unlike the other mainland capitals, which have much higher densities in and around their core (the population density in inner city Melbourne is 19,500 per square kilometre), as well as high rise commercial and retail precincts that are increasingly co-located with high density apartments. In effect, this means that while the ACT has a relatively high population density, Canberra has the second lowest population density of all Australian capitals.

¹ Note the ABS only provides population estimates for the ACT as a whole.

2.2 The Fire and Rescue Service: its roles

The Fire and Rescue Service has a number of roles, including but not limited to:

- Responding to structure fires, hazardous materials incidents; bushfires; chemical, biological and radiological incidents; vehicle fires; and car accidents
- Assessing fire engineered building solutions;
- Undertaking motor vehicle accident rescue;
- Ensuring fire safety compliance in buildings;
- Undertaking confined space rescue;
- Conducting fire hazard inspections;
- Providing community education;
- Respond to building collapse;
- Providing emergency medical assistance;
- Undertaking animal rescue;
- Providing assistance to community events and organisations.

While there is a wide range of activities listed here, the main concern of this report is with those connected with fire prevention, mitigation and response.

2.3 The Fire Service: an overview

Table 1 shows for each state and territory the size of their firefighting forces and their professional composition. The ACT's Fire and Rescue Service's paid workforce is the third smallest of all the states and territories, with only Tasmania and the Northern Territory having a smaller workforce.



Table 1: Firefighter workforce by state and territory, 2017/18

	<i>NSW</i>	<i>Vic</i>	<i>Qld</i>	<i>WA</i>	<i>SA</i>	<i>Tas</i>	<i>ACT</i>	<i>NT</i>	<i>Aust</i>
Paid									
Permanent	4 604	4 181	2 245	987	934	306	348	243	13 847
Part time	748	623	204	–	22	1	–	1	1 599
Other	12	–	41	138	–	–	–	–	191
Sub total	5 364	4 804	2 491	1 125	956	307	348	244	15 638
Volunteers									
Firefighters	70 278	34 925	14 213	20 592	10 286	4 228	1 160	637	156 319
Support	7 318	20 533	21 820	2 396	2 989	918	–	na	55 974
Subtotal	77 596	55 458	36 033	22 988	13 275	5 146	1 160	637	212 293
Firefighters total	75 642	39 729	16 704	21 717	11 242	4 535	1 508	881	171 957
Total service	82 960	60 262	38 524	24 113	14 231	5 453	1 508	881	227 931
Paid as % of total	6.5%	8.0%	6.5%	4.7%	6.7%	5.6%	23.1%	27.7%	6.9%

Source: Productivity Commission, **Report on Government Service Provision, 2019, Canberra.**

It is not generally understood that because of Australia's sheer size and the concentration of its population into its capital cities, the country has a large volunteer firefighting force servicing mainly, but not only, rural areas. In total, volunteers account for over 90 percent of firefighters (although the bulk of actual firefighting is done by full-time paid firefighters in urban areas).

Reflecting the demographic data spoken of earlier showing the dominance of Canberra and the significance of national parkland to the ACT, the ACT stands out because its volunteer service is relatively small and its paid largely urban work force located in Canberra is relatively large, accounting for over 20 percent of the total. The national parklands cannot be put to private economic use and are uninhabited.

It is important to note that the data reported in respect of ACT firefighting volunteers is an aggregate of Rural Fire Service Volunteers (RFS), and Community Fire Unit (CFU) Volunteers. CFU volunteers are described on the ESA Website as:

“ a team of local residents who live close to bush land areas across the ACT. These local volunteers are trained and equipped by ACT Fire & Rescue to safeguard their homes during a bushfire until the fire services arrive.

CFU members are a part of ACT Fire & Rescue and take direction from ACTF&R Officers but they are not fire-fighters.” (<https://esa.act.gov.au/join-us/volunteering/community-fire-units>).

The ESA reports that in 2019, there are 850 CFU and 450 RFS volunteers respectively.

Including the Community Fire Unit volunteers in the Report of Government Services data on ‘number of firefighters’ is misleading and dramatically overstates the number of firefighters in the ACT.

If the CFU volunteers (65 percent of volunteers) were removed from the 1160 total volunteers, the data would report a more accurate number - 424 RFS volunteers, a total firefighter number of 772. The proportion of paid firefighters is therefore more accurately reflected as 45 percent.

In turn, the number of volunteer firefighters per 100,000 people would also be reduced by 65 percent, from 278.9 to 96.54. This more accurate calculation shows the ACT is heavily reliant on paid firefighters, when compared to other jurisdictions.

Notwithstanding the above, the small size of the reported ACT volunteer service is reflected in the data provided in Table 2, which shows the firefighter workforce (paid and volunteer) per 100,000 of each jurisdiction’s population. The ACT’s paid firefighter workforce is relatively large, which may largely be attributable to the peculiar nature of Canberra as the nation’s capital spoken of earlier.

This relatively large urban firefighting force is not enough to compensate for the very small volunteer service.

The ACT has only 362 firefighters per 100,000 people. That number is 980 in NSW and Tasmania, almost 870 in Victoria, 890 in WA and 920 for Australia as a whole.

As measured by the the total firefighting force per 100,000 people, the firefighting capability in the ACT has shrunk by 16.6 percent since 2008/9.

Table 2: Firefighters, paid and volunteers, per 100,000 population, states and territories, 2017/18 and change from 2008/9

		<i>NSW</i>	<i>Vic</i>	<i>Qld</i>	<i>WA</i>	<i>SA</i>	<i>Tas</i>	<i>ACT</i>	<i>NT</i>	<i>Aust</i>
Volunteers per 100 000 people	no.	980.4	868.5	725.7	889.4	768.2	980.8	278.9	258.2	857.0
Firefighters per 100 000 people	no.	67.8	75.2	50.2	43.5	55.3	58.5	83.6	98.8	63.1
Total		1 048	944	776	933	824	1 039	362	357	920
Growth since 2008/9		- 86	- 254	- 75	- 346	- 202	18	- 72	27	- 158
Growth since 2008/9 (%)		-7.6%	-21.2%	-8.8%	-27.0%	-19.7%	1.7%	-16.6%	8.2%	-14.6%

Source: Productivity Commission, **Report on Government Service Provision**, 2019, Canberra.

Table 3 shows the relative importance of firefighters compared to support staff within the fire services across Australia, both in 2017/18 and over time. The Table shows that the ACT's firefighters account for 76.1 percent of the total workforce, a broadly similar percentage to Australia as a whole (77 percent).

The Table also shows that the firefighter and support workforces have both grown since 2008/9, the former by 17.4 percent and the latter by almost 30 percent. This much faster growth of support staff numbers has occurred at the same time as the Emergency Services Agency was subjected to a major review in 2014/15 with recommendations made to increase administrative efficiencies. It would appear that the opposite has in fact occurred.



Table 3: Human Resources in firefighting service by state and territory, 2017/18 and change since 2008/9

		<i>NSW (c)</i>	<i>Vic (c)</i>	<i>Qld (c)</i>	<i>WA (c)</i>	<i>SA (c)</i>	<i>Tas (c)</i>	ACT	<i>NT (c)</i>	<i>Aust</i>
2017-18										
Firefighting workforce										
Number	FTE	5 364	4 804	2 491	1 125	956	307	348	244	15 638
Growth since 2008/9		1 382	117	138	129	- 20	40	52	50	1 887
Growth since 2008/9 (%)		34.7%	2.5%	5.8%	42.0%	-2.1%	14.9%	17.4%	25.7%	13.7%
As % of total	%	79.2	74.1	79.4	71.9	81.8	71.7	76.1	85.3	77.0
Support workforce										
	FTE	1 406	1 683	645	441	212	121	109	42	4 659
Growth since 2008/9		318	90	- 81	133	165	- 72	25	- 1	577
Growth since 2008/9 (%)		29.2%	5.7%	-11.2%	43.1%	353.4%	-26.9%	29.8%	-2.3%	14.1%
Total	FTE	6 770	6 487	3 136	1 566	1 168	428	457	286	20 297

Source: Productivity Commission, **Report on Government Service Provision**, 2019, Canberra.

2.4 Organisational arrangements and data

ACT Fire and Rescue is one of four entities that form the Emergency Services Agency which in turn is one agency within the Justice and Community Safety Directorate (see <http://www.justice.act.gov.au>).

Neither ACT Fire and Rescue, nor the Emergency Services Agency have an independent board. Neither produce an annual report. Very little is published about the services they provide for citizens, certainly by comparison with the metropolitan fire services in the states, each of which, with the exception of Tasmania, publish their own annual report as well as research papers of relevance.

Much then depends on the Justice and Community Safety Directorate for information about the ACT's fire service. Its annual report is also short on detail. It has a strong narrative, but far too little data on the agencies that compose it (with very limited information about finances or expenditure). Financial information is aggregated up for the Emergency Services Agency as a whole so it is not possible to tell how the Fire Service is funded, how these funds are used, what its balance sheet looks like, either

annually or over time. Similarly, there is very little information about the Fire Service's staff resources.

The McLeod Inquiry into the 2003 ACT Bushfires recommended that the Territory's emergency services all be grouped together outside of the public service, reporting directly to a Minister:

“Taking into account the ACT's size, the Inquiry considers it would be more efficient if all the ACT emergency services, their assets and their personnel (with their considerable skills), were maintained and managed within a single, larger operational body specifically set up outside the framework of the ACT Public Service... (The) fire and emergency services (should) be a separate organisation, reporting directly to a Minister”.

After initially supporting this recommendation, the ACT Government changed its mind in 2006 and allowed these services to be swept into a broader department operating within the ACT public service.

This administrative arrangement is difficult to justify. It is unlikely that, for example, the administration of justice is going to rely on the same set of skills and experiences as the management of a major emergency service. That gives rise to the obvious concern that in the event of an emergency, especially one that is over a relatively long timeframe, there will be senior bureaucrats who may not have the skills to undertake their duties.

The Coroner's Inquiry of December 2006, which examined the same catastrophic fires of 2003 as McLeod, reached the same conclusion. Coroner Maria Doogan's very first recommendation is that the Emergency Services Agency be removed from the Justice and Community Services Directorate (JACS) and become a statutory authority.

The Coroner comprehensively examined how that catastrophic fire between January 8 and January 18, 2003 was managed. She looked at the strategic meetings and decision making as well as the day to day work that took place during that time.

On page 51 of the first volume of her report the Coroner observes that the six most senior and relevant JACS officers, under examination concerning the events of that fire, gave answers that were to the effect “I don't recall” or “I don't remember” one thousand one hundred and eight times.

We believe these are the responses of people who are very unsure of the structure they are working within and the responsibilities they and their colleagues have. As the Coroner observed it may be indicative of the presence of senior officers who lack skill or experience in emergency services.

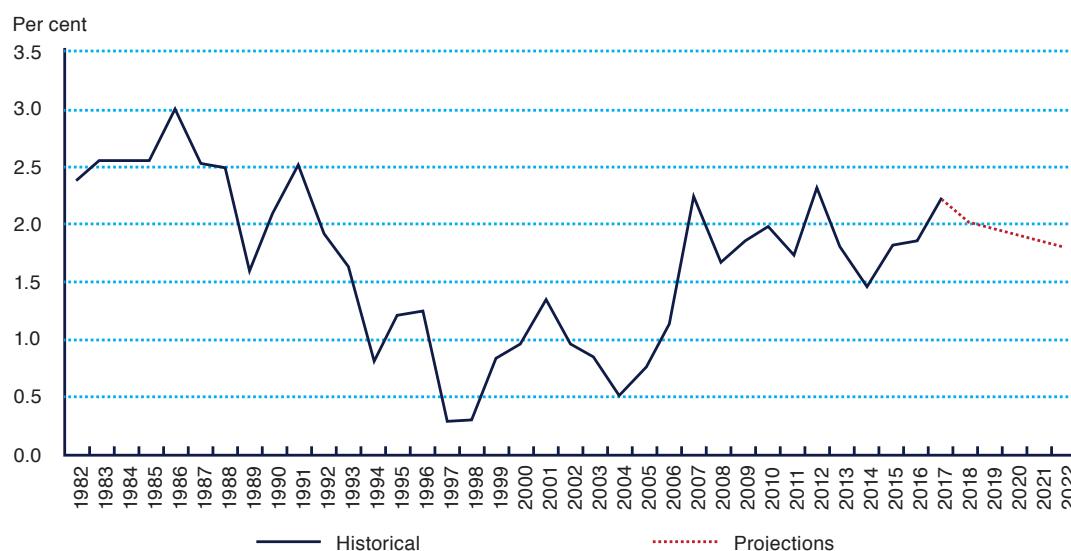
4. Pressures on ACT Fire and Rescue Services

4.1 Demographic change

Canberra is one of Australia’s fastest growing cities, experiencing annual growth of around 2 percent (compared to 1.7 percent average across Australia). This growth is projected to continue over the next decade.

Official projections show the ACT’s population will grow by approximately 41,000 in the five years to 2022, or roughly 10% (see Figure 1)

Figure 1



Source: ABS Cat No. 3101.0 and ACT Government, Chief Minister, Treasury and Economic Development Directorate

Population growth has not been geographically even across the Territory and this unevenness is set to continue for the next decade.

The fastest growing areas are Molonglo (8,912 additional people at a growth rate of 156 percent), Gungahlin (7,369 people growing at 9.7 percent), and Woden Valley (6,336 additional people at a growth rate of 18 percent).

Also significant is the projected growth in Belconnen (7,604 additional people) and North Canberra (5,347).

Whereas Molonglo and Gungahlin are examples of areas going through a process of urban development, the other districts reflect the success of the ACT's planning strategy to increase urban densities in existing areas.

Table 4: Population projections, Canberra, 2017-2022

Suburb	Actual 2017	Number	Change 2017-22	
			%	% of total
Belconnen	98,592	7,604	7.7%	18.6%
Canberra East	1,544	-24	-1.6%	-0.1%
Gungahlin	76,088	7,369	9.7%	18.0%
North Canberra	55,810	5,347	9.6%	13.1%
South Canberra	28,788	2,431	8.4%	5.9%
Tuggeranong	85,490	2,296	2.7%	5.6%
Weston Creek	23,226	660	2.8%	1.6%
Woden Valley	35,813	6,336	17.7%	15.5%
Molonglo	5,710	8,912	156.1%	21.8%
Urriarra - Namadgi	606	-7	-1.1%	0.0%
Total - ACT	411,667	40,923	9.9%	100.0%

Source: ACT Treasury, accessed at <https://apps.treasury.act.gov.au/snapshot/demography/act> on March 21, 2019.

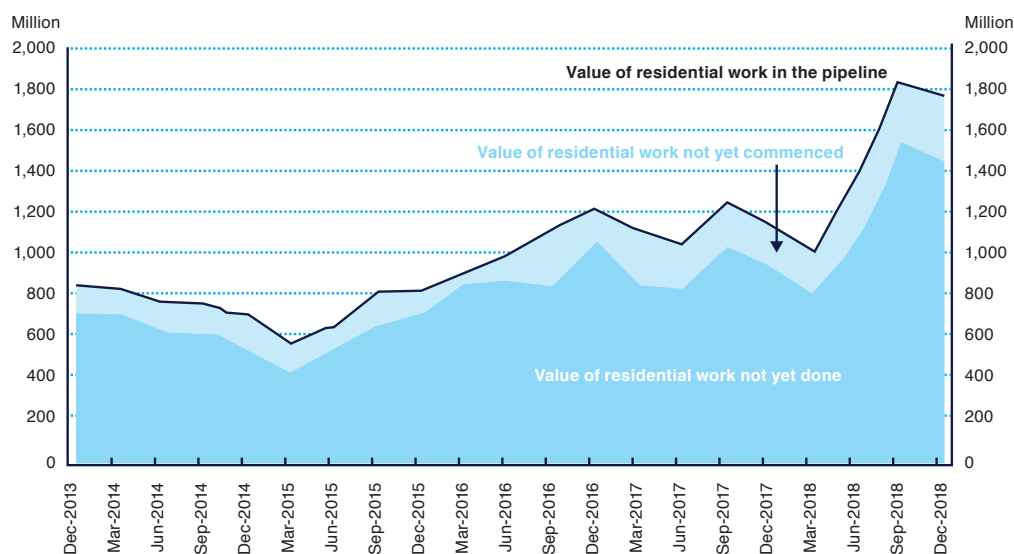
Table 5: Indicative land release program, ACT, 2019/20-2022/3

	2019-20	2020-21	2021-22	2022-23	Total
Region	Number of dwelling sites				
Gungahlin	754	1,621	1,130	740	4,245
Molonglo	926	847	1,201	1,100	4,074
Belconnen	885	800	800	300	2,785
Central Canberra	390	550	1,235	1,000	3,175
Woden	480	0	300	480	1,260
Tuggeranong	0	30	0	0	30
Other	5	26	0	0	31
Total	3,440	3,874	4,666	3,620	15,600

Source: ACT Government (2019), **Budget Strategy 2019/20**, Budget Paper Number 3: 213

This demographic growth is also reflected in construction statistics, with the number of dwellings and commercial and retail developments growing rapidly over the last decade (see Figure 2). At the same time, the ACT government has made a major investment in a light rail system that came on line earlier this year (see below) and will be extended over the next decade.

Figure 2: Value of residential construction work in the pipeline



Source: ABS Cat. No. 8752.0.

Note: The value of residential work in the pipeline consists of the value of residential work yet to be done and the value of residential work not yet commenced. The value of residential work yet to be done is the difference between the anticipated completion value and the estimated value of work done on jobs up to the end of the period for jobs under construction at the end of the period. The value of residential work not yet commenced is where necessary building approvals have been taken but no physical building activity has been performed on site.

Source: ACT Government (2019), **Budget Strategy 2019/20**, Budget Paper Number 3: 18

In anticipation of the growing population, the Government in its most recent budget has announced the release of another 15,600 residential allotments over the next four years (see Table 5), as well as 220,000 square metres of land for mixed use developments, 163,400 square metres of land for commercial developments, and 100,000 square metres of land for industrial developments (ACT Government, 2019: 213ff).

Both population growth and growth in the number and value of residential properties have important implications for the availability of fire and rescue services.

4.2 The importance of cultural assets of great value and risk

The other main distinguishing feature of the ACT Fire and Rescue Service is that it protects a most unusual set of public cultural facilities of enormous value.

Included here are both the old and new Parliament Houses, the National Gallery, the National Museum, Questacon, the War Museum, and the National Library. Also significant is the broader public service and Commonwealth agencies, which are disproportionately located within the ACT.

Table 6 provides various indicators of the significance of the Commonwealth presence in the ACT, showing (for 2014) the percentage of the Australian public service located in the ACT, the ratio of Commonwealth land to employment and the number of reports of suspicious packages per 100,000 population. KPMG summarises the issues rather well:

“...it is likely that the Commonwealth would drive a higher requirement for other capabilities, such as vertical rescue, aerial fire capability and response to hazardous (chemical, biological, radiological and nuclear) substances. Evidence of this higher risk due to the Commonwealth’s presence can be seen in the number of reported suspicious packages, where incidents in the ACT relative to the size of the population are more than 10 times higher than any other jurisdiction in Australia.”

What is not possible to estimate is the terrorist risk to the ACT Fire and Rescue Service from having such a significant Commonwealth presence and the pressure this places on the Fire and Rescue Service to have fully trained and capable firefighters as well as the necessary equipment in sufficient quantities to be able to suppress fires quickly.

Table 6: Various indicators of the significance of Commonwealth property to the ACT's Fire and Rescue Service

State/Territory	% of APS in workforce	Ratio of Cwth land to employment	Number of reports - suspicious packages per 100,000 pop
ACT	30.44%	8,991.22	67.7
NSW	0.88%	444.08	1.6
VIC	0.93%	391.00	1.9
QLD	0.79%	495.86	2.1
WA	0.57%	382.21	6.5
SA	1.22%	467.82	0.0
TAS	1.83%	428.90	5.7
NT	2.04%	4,765.84	3.5

Source: KPMG, 2014



4.3. Building materials

In 2014 a fire started in a high-rise apartment block (LaCrosse Towers) in Melbourne, which spread incredibly rapidly on the outside of the building. The Melbourne Metropolitan Fire Brigade immediately expressed concern and testing subsequently showed the building to be covered in a form of cladding (polyethylene core panels) that accelerates fires rather than prevents them. Since then the issue of building materials in Australian capital cities has been the subject of numerous reviews and reports as well as court hearings.

It has turned out that, due to changes to building regulations including the shift to performance based codes, a dramatic increase in the range of imported building materials, the introduction of private building surveyors into the building approvals system, governments across the country have been unable to ensure that building materials are fire safe².

The ACT government has played an interesting role in this saga. It was one of the first jurisdictions to be aware of the problem, as far back as 2010. As reported recently in the Australian Financial Review:

“ACT fire authorities told a local building industry meeting in February 2010 that PE-core aluminium composite panels did not meet building code combustibility requirements and – without other risk-mitigating features – a building using them could not be approved, the documents show. ACT representatives raised the issue at a state and territory administrations meeting in July that year, but while ACT government representatives initially said they would draft a formal advisory note about the risks of cladding for states to distribute they didn’t. At another meeting in April 2011 they reported that the note was still under development... By July the effort to draft a separate note on cladding fire risks was dropped – the minutes do not say why – and a single note covering all issues related to external wall cladding would be drafted by Victorian members of the meeting...”
AFR, March 3, 2019³

² See for example Senate Standing Committee on Economics (2017), ‘Interim report: aluminium composite cladding. Non-conforming building products’, accessed at https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Economics/Non-conforming45th/Interim_report_cladding on March 11, 2019. See also Shergold, P. And Weir, B. (2018), Building Confidence, Improving the effectiveness of compliance and enforcement systems for the building and construction industry across Australia’, February. (Accessed at https://www.industry.gov.au/sites/default/files/July%202018/document/pdf/building_ministers_forum_expert_assessment_-_building_confidence.pdf on March 11, 2019.)

³ <https://www.afr.com/real-estate/governments-failed-to-act-on-warnings-of-combustible-cladding-dangers-20190226-h1br6n>

Having been the first Australian jurisdiction to be aware of the combustibility risks associated with the cladding, the ACT Government appears to then have chosen to largely ignore it. Not until 2017 did it establish a taskforce to undertake a formal review to assess how significant the problem is in Canberra. Further, as Kerin Benson Lawyers point out in their overview of state and territory government responses to the problem, “Unfortunately, the ACT Government has not been forthcoming with much information and there is little information publicly available on this topic”⁴.

We know that cladding has been found on a number of government buildings, including hospitals, health centres, 46 schools and numerous other buildings. No figures have been released on its prevalence in private buildings. Kerin Benson Lawyers say they have advised at least one private client with combustible cladding.

To this day, the ACT continues to be a laggard in publishing information about the level and extent of use of combustible cladding, despite the urging of experts that transparency and speed are the key to the policy solution. As the Senate Standing Committee on Economics pointed out as long ago as 2017:

“Of particular concern to the committee, and stakeholders, is the long time lag between government responses to the Lacrosse fire in 2014 and any meaningful resolution between governments, the BMF, and the SOG on possible steps forward. Furthermore, the committee notes that more disastrous fires have occurred internationally, but Australia has yet to implement any major reforms or communicate any course of action publicly. Considering the prevalence of PE core cladding across Australia, the committee considers it paramount that all governments focus attention on this issue before the next disaster occurs” (2017: 33).

It is regrettable that the ACT has chosen not to heed the advice of the Committee, despite continuing public concern about the safety of building standards in Canberra more generally (see for example <https://www.canberratimes.com.au/national/act/1-billion-the-high-price-of-dodgy-building-work-in-the-act-20181012-p509ae.html> accessed on March 11, 2019).

Given this state of affairs we simply note that the fire risk to the people of Canberra and the Fire and Rescue Service from combustible cladding remains unknown, at least to the public.

⁴ <https://kerinbensonlawyers.com.au/building-cladding-crisis-the-government-response-2/>

4.4 Technological change, innovation and fire risk: the case of electric vehicles

Ours is an era of great change. No more so than in the area of vehicle technology, and the emergence and increased popularity of electric cars. These vehicles are no more likely to be involved in fires than conventional vehicles. But when they are involved with fires, the fire management risks are high⁵. As a recent newspaper report explains:

“After an out-of-control Tesla Model S ploughed into a stand of palm trees on a highway median outside Fort Lauderdale last month, police rushed to put out the ensuing blaze using a department-issued fire extinguisher. It was a wasted effort. The car kept on burning after the crash, which killed the driver. The police may not have known lithium-ion batteries inside electric vehicles, once ignited, can’t be put out with chemicals from a conventional extinguisher. The battery fires are susceptible to a self-destructive chain reaction known as thermal runaway, causing a feedback loop of rising temperatures. The Tesla fire stumped a series of first responders in Florida. Firefighters eventually doused the flames with water, which seemed to work, but the wrecked car reignited twice more after being towed away.” Bloomberg

It is not just that the fires are difficult to extinguish. First responders must first work out if the vehicle is still running — a challenging task because they are so quiet. Then they need to know how to turn them off — again, a challenge as car manufacturers are using different techniques. They also must understand how to avoid being effectively electrocuted while trying to manage the fire. All of these issues require first responders to be well-trained on this issue and kept up to date with latest developments.

While the number of electric cars is still low (there were around 3,000 sold in 2018, up from 2,300 in 2017), the rate of growth in sales is rapid. In 2011, only 49 electric vehicles were sold. Over the life of the next Enterprise Agreement, electric vehicles will grow both in number and as a percentage of the total car fleet.

In Canberra, this is likely to be especially so, given that government car fleets can be expected to be an important source of demand for electric vehicles over the next decade as governments try to champion new forms of sustainable energy use. Also, Canberra’s relatively high household income suggests a relatively high take-up of electric cars, as their high price makes them a luxury purchase.

⁵ Audi has recently recalled its latest electric car from sale because of concerns about fire risks (see <https://www.bloomberg.com/news/articles/2019-06-10/audi-recalls-first-electric-vehicle-in-u-s-on-battery-fire-risk> accessed on June 15, 2019).

4.5 Light rail

The ACT government has begun a 20-year investment in a new light rail network, the first stage of which has become operational delivering services that run every six minutes in peak times with 13 stops from the City to Gungahlin along Northbourne Avenue, the Federal Highway, and Flemington Road. This will be extended over the next five years, connecting Gungahlin to Belconnen by 2025.

By 2033 it is intended that the service will extend all the way to the airport.

Light rail brings with it significant fire management challenges, not the least of which involves the vehicle(s) and staffing needed to ensure that they are fully operational.

The ACT government has yet to commit to staffing levels required to ensure that Platform on Demand firefighting vehicles are able to get to incidents as quickly as possible and use the equipment as needed. This will require an additional three firefighters per shift.

4.6. Climate change

All of these pressures on the ACT Fire and Rescue Service will occur against the backdrop of the impact of climate change, which will have a substantial impact on the ACT. The Government's own projections indicate:

- the ACT will continue to warm by about 0.7 degrees Celsius in the near future (2020–39), increasing to about 2 degrees in the far future (2060–79)
- the number of hot days per year is expected to increase to an average of five extra days above 35 degrees Celsius by 2030 and up to an average of 20 extra heatwave days by 2070
- number of cold nights will reduce, with temperatures dipping below 20 degrees Celsius 13 fewer times each year by 2030 and 43 fewer times each year by 2070
- the amount of rainfall is expected to decrease in spring and increase in autumn
- the storm season will be longer
- the number of severe fire weather days will increase in summer and spring”

These projections bring with them the need for more fire and rescue resources over the short, medium and long term.

5. Summary and conclusion

This Report has shown that:

- The ACT Fire and Rescue Service is Canberra's urban firefighting service
- While the ACT has relatively high population density because almost all of its population lives in Canberra, the latter in turn has relatively low population density compared to other Australian capitals
- While the ACT has a relatively large paid firefighting workforce, the number of volunteers is very low. Taken together this means the ACT has the smallest firefighting force available of any jurisdiction in Australia
- The number of firefighters has decreased by almost 17 percent over the last decade
- The administrative arrangements under which the ACT Fire and Rescue Service operates is inconsistent with the recommendations of the McLeod Report into the 2003 bushfires
- Levels of transparency are low by the standards of other fire services in Australia, a situation that reflects the Government's decision to co-locate the Fire and Rescue Service within a very broad government department against the advice of both the official inquiry into the 2003 bushfires as well as the coronial inquest into the deaths that occurred as a result of those fires
- Canberra is going through a period of strong population growth, concentrated in a few "outer urban" districts on greenfield sites, as well as two established districts in which higher dwelling densities are being encouraged
- The Fire and Rescue Service has the added challenge of servicing a large number of Commonwealth Government owned buildings, some of great value and cultural significance
- Combustible cladding is an issue of unknown significance due to the ACT government's tardiness
- Technological change in the form of electric vehicles poses a growing fire management challenge, especially in the ACT
- The ACT's new light rail network brings with it a need to increase the capacity of the firefighting service to ensure that firefighting vehicles are fully crewed and able to respond to incidents as quickly as possible
- Climate change on its own provides a strong reason for on-going and substantial investment in fire and rescue services

Pressure on the ACT Fire and Rescue Service is therefore significant and growing, yet its administrative structure and governance arrangements are faulty.

The ACT's overall staffing of its fire services has been in decline, adding additional pressure to its Fire and Rescue Service, which is facing a tsunami-like wave of challenges arising from rapid population growth, the use in recent decades of shoddy building materials, the uptake of electric vehicles and, most importantly, climate change, which the Government itself admits is generating enormous fire risks for the people and property of the ACT and Canberra in particular.

All this begs the question of how efficient and effective the Fire and Rescue Service is, particularly when compared to similar services in other states and territories?

This question forms the subject matter of the next Report.



Image: Ainslie fire station pumper during the 2019 bargaining dispute

About the researchers

Emeritus Professor David Hayward

*BA, GradDipUrbSoc (Swinburne), PhD (Monash), MAICD, MAIPA
Chair, Academic Board (ex-officio)*

Dr David Hayward is Emeritus Professor of Public Policy and the Social Economy at RMIT University.

He is a former Dean of Business at Swinburne University (2004-2009), Dean of Social Science at RMIT University (2004-2016), and member of the Board of Directors of the Royal Melbourne Hospital (he Chaired the Finance Committee) (2008-2013). He is a life member of the Victorian Council of Social Service and in 2015 was invited to become a seconded member of its governing board (resigned in June 2018). In 2013, he was elected (twice re-elected unopposed) as Chair of RMIT's Academic Board (the University's principal academic committee), retiring in December 2018, during which time he also served on University Council and its Infrastructure and Information Technology sub-committee.

David's research interests are the funding of social policy, with a focus on the State Governments.

He has published widely, most recently on the NDIS ([Journal of Critical Social Policy](#)), the Social Economy (published by VCOS), and state and federal government elections ([the Conversation](#)). He is a regular commentator on social and economic affairs for ABC radio and The Age newspaper.

Vin Virtue

Vin is a private consultant in Human Resources and Service Delivery Structures in the public and private sector.

Vin had an extensive career with the Department of Education in Victoria. He was the Principal of three state secondary schools as well as having policy and operational roles as Assistant General Manager of Communications, Regional Director in Ballarat, Bendigo and Southern Metropolitan Melbourne, and as General Manager of School Operations.

In the early part of his career Vin also had experience as an elected Union official.

Liss Ralston

Urban Statistician, Centre for Urban Transitions, [Swinburne University of Technology](#)

Liss is a statistician at Swinburne Institute for Social Research. Her work involves questionnaire design, data cleaning and statistical analysis for surveys as well as data cleaning and analysis for large secondary data sets. Liss has extensive experience in working with a broad range of ABS data (including very large data sets; HES, SIH, HILDA , Census), Valuer-General's property data, Centrelink data, local council rates data and other data sets, as well as human demography data, including Census Data and GIS.