NSW FIRE BRIGADES

FIRE FATALITIES REPORT

STUDY OF FATAL FIRES IN NSW FROM 2004 TO 2008

PREVENT PREPARE PROTECT

VERSION 01

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ABOUT THE NSW FIRE BRIGADES

The NSW Fire Brigades (NSWFB) is responsible for preventing and responding to fire emergencies, protecting 90% of the State's population in the major cities, metropolitan areas and towns across rural and regional NSW. The NSWFB also protects all of the State's 6.88 million people and its inland waterways from hazardous material emergencies, and maintains 172 units accredited by the State Rescue Board to rescue people and animals from non-fire situations. The NSWFB has the organisational capability and capacity to support other government agencies such as the NSW Rural Fire Service, State Emergency Service, Forests NSW, NSW Police Force and the Department of Environment and Climate Change both during and after bushfires, storms, floods, landslides, building collapses, motor vehicle rescues and other emergency situations. In 2007/08, the NSWFB had 339 fire stations, a fleet of 892 vehicles, 6675 firefighters, over 6550 community fire unit members and 380 administrative and trades staff working together to provide high service delivery and professional standards to the community.

Our key stakeholders are:

- The people of NSW
- Our funding providers – the community through the State and local governments and insurers
- Other emergency services and government agencies with whom we work as partners

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INTRODUCTION

This Fire Fatalities Report is one of an annual series of publications which summarise fire fatality data collected by the NSW Fire Brigades (NSWFB). Fire fatalities occurring over the most recent calendar year (2008) are reported along with case study examples, and comparisons are made over a five year period. All findings in this report concern fire fatalities in NSW over that period.

This report summarises fire fatality data collected by the NSWFB to allow an evidenced based approach to the design and implementation of fire prevention strategies. The NSWFB does not attend every fire fatality in NSW, therefore this report is not a comprehensive record of fire related fatalities.

All information in this report has been gathered by the Community Safety Division (CSD). The following criteria are applied to determine whether a deceased person is regarded as a fire related fatality:

(1) the fatality must occur at an incident attended by the NSWFB (this includes those not in NSWFB districts as long as a NSWFB unit attended and an AIRS[1] report is generated);

(2) the primary cause of death must be from fire or explosion and death must occur within one week of the incident (judgement is made on the likelihood of death being from the fire e.g. burns, smoke inhalation);

(3) occupational deaths of emergency personnel are excluded (such personnel receive training and equipment to manage emergency incidents with safety).

The NSWFB only investigates fire fatalities for research purposes so that community safety can be enhanced by fire safety education and prevention strategies. This report provides external stakeholders with an overview of the information collected by the CSD regarding fire fatalities.

While the CSD make every effort to attend all known fire fatalities, for reasons of limited resources and distance, this is not always possible. Furthermore, CSD may not be made aware of every fire related fatality that occurs. Critically injured people may succumb to fire related injuries long after the fire. Their survival progress may be intermittently checked following the fire, but privacy restrictions may prevent the NSWFB from knowing such outcomes. National Fire Protection Association (NFPA) defines any person surviving one week or more is deemed to have not succumbed directly to the fire, and the NSWFB has adopted this same criteria.

Deliberate fires are clearly identified (i.e. arson, murder and suicide) so that preventable fire deaths can be distinguished for the purposes of fire prevention strategies.

Fire Investigation and Research Unit (FIRU) data figures represent fewer fatalities than those collected by the National Coronial Information System or the Australian Bureau of Statistics. However FIRU data is collected in a timely manner, and for the most part, by taking a case study approach to data collection. This allows more detailed information on the interrelationships between the victim, the fire and the built environment in which the fire occurred.

1. An Australian Incident Reporting System (AIRS) report is generated for every response of NSWFB resources to an incident.

SUMMARY OF ALL FIRE FATALITIES FOR THE YEAR 2008

The following is a summary of all fire fatalities known and attended by the NSWFB for the 2008 calendar year:

Sex	Age	Month	Cause	Likely Reason for Fire
Male	57	January	Undetermined	Smoking materials
Male	52	January	Undetermined	Other - welding
Male	57	January	Undetermined	Other - welding
Male	68	January	Deliberate	Police to determine
Male	47	March	Deliberate	Police to determine
Male	63	March	Accidental	Smoking materials
Male	61	March	Deliberate	Police to determine
Male	60	April	Undetermined	No cause identified
Male	76	June	Accidental	Fireplace or stove
Male	48	June	Undetermined	No cause identified
Female	58	June	Accidental	Smoking materials
Male	49	June	Undetermined	Smoking materials
Male	50	July	Undetermined	No cause identified
Male	68	July	Accidental	Smoking materials
Male	74	August	Accidental	Heater (gas or electric)
Male	54	August	Accidental	Smoking materials
Female	84	August	Accidental	Heater (gas or electric)
Female	2	August	Accidental	Fireplace or stove
Male	64	August	Accidental	Smoking materials
Male	80	September	Undetermined	No cause identified
Male	65	September	Accidental	No cause identified
Male	25	September	Undetermined	No cause identified
Male	3	September	Undetermined	Matches or lighter
Female	65	October	Accidental	Cooking app. (gas or electric)
Female	17	October	Accidental	Heater (gas or electric)

Table 1: Summary of all fire fatalities for 2008

The following details arose from NSWFB investigations into all fire related fatalities of 2008:

- Of the 25 fatalities:
  - 12 are considered accidental (preventable), 3 resulted from deliberate (non-preventable) fires and 10 from fires of undeterminable cause (preventable),
  - 20 were male and 5 were female,
  - 2 were children aged less than fourteen, and 4 were elderly people aged more than seventy,
  - 14 were believed to be smokers, 10 regular drinkers, 3 possible recreational drug users, 7 on prescription medicines, 4 with physical disability and 4 with suspected mental health issues.
- the average age of all fire fatality victims is 53.9 years.

- 3 victims died after leaving the scene (e.g. at hospital), 4 victims were rescued but died at the scene, and the remaining 18 victims were found deceased amongst fire debris.
- 16 fatalities occurred in houses, 3 occurred in units, 1 occurred in a villa/townhouse and 2 occurred in commercial premises.
- 5 fatalities occurred in Department of Housing (DOH) owned dwellings.
- 2 fatalities occurred in Low Cost Housing (LCH) such as a shed/garage, relocatable home, caravan etc.
- 1 fatality occurred in an Aged Care Facility (ACF).
- 21 fatalities occurred in areas of NSWFB jurisdiction, while 4 occurred in other areas (e.g. Rural Fire Service area).
- 5 failed to evacuate a burning premises due to egress being either obstructed or locked.
- 6 victims died during or following an attempt to extinguish the fire.
- 9 victims died during a fire in which other building occupants made egress (with or without injuries being sustained).

The following diagram geographically indicates the location of all fire fatalities in 2008.

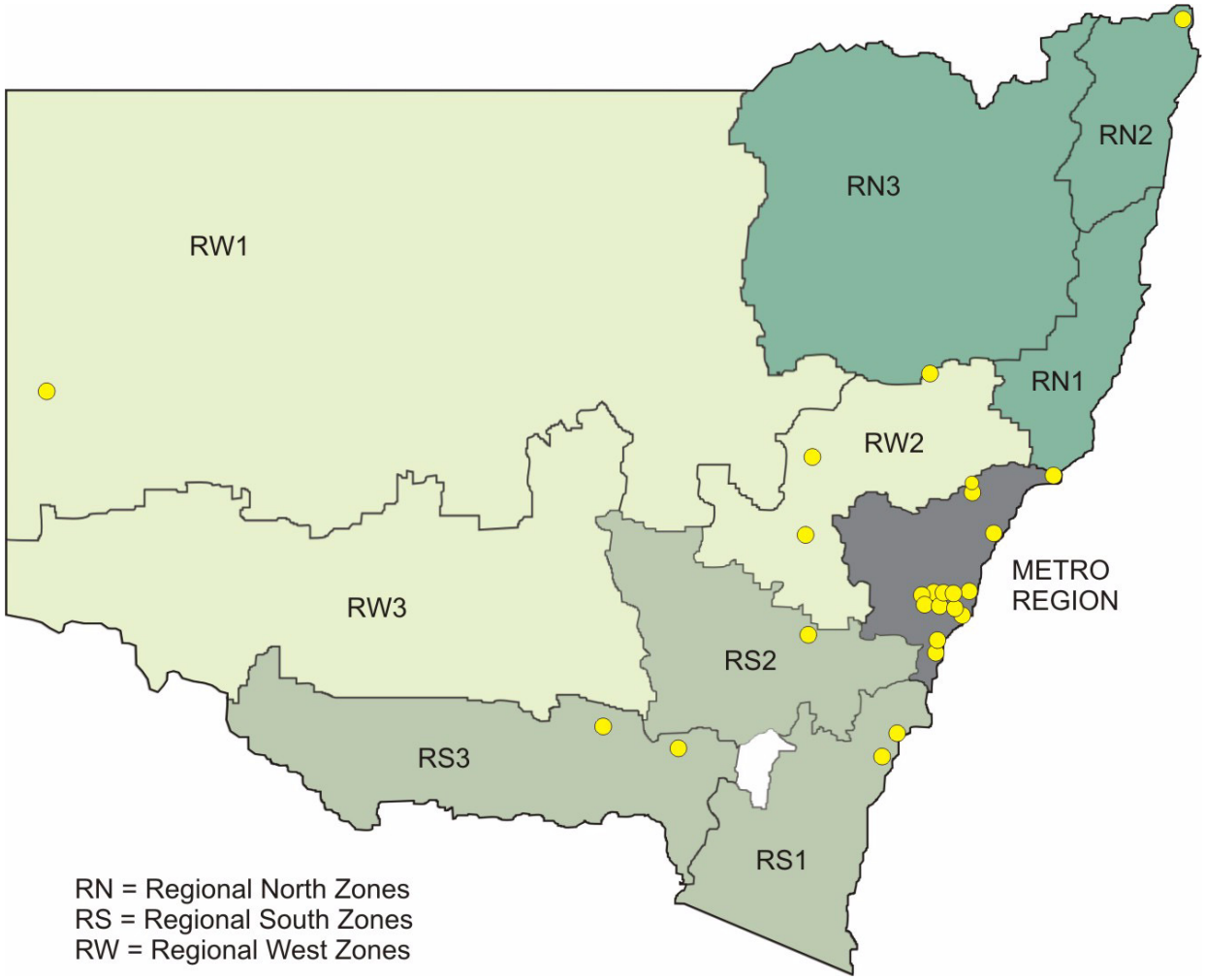


Figure 1 Location of Fire Fatalities in NSW for the Year 2008

FIRE FATALITY ANALYSIS COMMITTEE (FFAC)

Introduction

The Community Safety Division introduced in June 2008 a comprehensive and robust review and analysis process which is initiated when a preventable fire fatality or serious fire injury occurs within NSWFB Fire Districts. The Fire Fatality Analysis Committee (FFAC) was formed to compliment the operational debriefing process, with the outcomes and action items being fed into the Lessons Learnt Centre (LLC). FFAC is represented by:

- Community Safety Division (CSD),
- Structural Fire Safety Unit (SFSU),
- Fire Investigation and Research Unit (FIRU),
- Community Education and Development Unit (CEDU),
- Lessons Learnt Centre (LLC),
- Health and Safety Unit,
- Public Affairs and Corporate Strategy Unit (PACSU),
- Operational Communications,
- The respective Area and Zone Management team where the incident occurred.

This committee convenes within a 10 day period of a fatality/serious injury occurring to ensure speedy action on potential organisational issues and subsequent remedial requirements.

The fundamental principles for the formation of this committee is to evaluate and measure the effectiveness of the following:

- essential fire services installed/utilised,
- human occupant behavioural practices that may have contributed to the incident,
- performance of the structural built environment,
- firefighter response and scene preservation,
- fire investigation review,
- current community fire safety awareness and existing treatment programs available within the Zone where the incident occurred,
- current fire safety treatment options being applied in the relevant Zone / station area,
- effectiveness of NSWFB community fire safety awareness programs and communications methodologies.

The NSWFB utilises various internal information in the analysis including AIRS report data, Community Risk Profiles (CRP), Emergency Management Profiles (EMP), Community Activity Reporting System (CARS) data, operational debrief summaries and FireTraC.

Completed FFAC reports are then actioned by the LLC team and fed back across the organisation. This has proved an extremely valuable research initiative which supports NSWFB operations and business development.

FFAC Case Studies

The following are a snapshot synopsis of the fatalities reviewed by FFAC in 2008:

- A man died in a shed being utilised as a living abode which was not fitted with a smoke alarm. It is believed that the man is a regular drinker and smoker, and there were indicators that the man may be been smoking in bed.
- A man with disabilities died after falling asleep in a chair leaving an oil heater burning unattended. The man is believed to have been drinking at the time (by account of neighbour), but woke and attempted to evacuate before tripping. Firefighters evacuated the man from the house but he died on scene.
- An elderly woman was rescued from a burning house suffering severe smoke inhalation and later died in hospital. The fire started from a bar heater being positioned too close to a bed.
- A young girl died when a fire started from a chimney flue passing through a floor. The family were asleep and all managed to evacuate except the girl.
- A heavily intoxicated man died from burns from a minor accidental fire of undetermined origin. Just hours earlier, fire crews attended an accidental cooking fire when the man passed out whilst cooking.
- An elderly woman was badly burned whilst smoking in bed and using a self administered oxygen unit (for palliative care). A smoke alarm in the hallway woke family members who then rescued the woman. The woman was transported to hospital but later died.
- A man suffering severe smoke inhalation was rescued from a house fire by firefighters, but could not be revived by ambulance staff. All windows and doors were locked making escape difficult. The fire is believed to have started from smoking materials.
- An elderly man died when an intense fire occurred within house extensions not meeting the required standards. The fire started accidentally from a wall mounted bar heater being used on the floor.
- An elderly man was rescued from a unit fire in a retirement village with severe burns and later dies from his injuries. The fire is believed to have been accidentally started from smoking materials.
- An elderly man died within a garage being used as a dwelling from an accidental fire (likely starting from incorrect use of a heater).
- An intoxicated man died after his car caught alight within a garage. The car was being used recklessly.
- A young boy died when a family had to evacuate a rapid and intense house fire originating in a bedroom. The cause of the fire could not be determined but human action is a possible cause.
- An elderly woman died from smoke inhalation from a fire in a relocatable home. The fire was accidentally started from an electric stove hotplate that was left on.
- A girl died from very rapid spreading fire within a caravan. There was no smoke alarm fitted. The fire was likely to have started from clothes falling onto a bar radiant heater.

Measure of Smoke Alarm Performance

Smoke alarms are critical to providing early alarm of fire to occupants giving them valuable time to safely evacuate the building. Legislation requires all NSW residents must have at least one working smoke alarm installed on each level of their home. This includes owner occupied, rental properties, relocatable homes or any other residential building where people sleep.

Smoke alarms are life-saving devices that provide benefits for occupants. They detect smoke well before any sleeping occupant would and provide critical seconds to implement actions to save life and property. Smoke alarms are designed to detect fire smoke and emit a loud and distinctive sound to alert occupants of potential danger.

However, a smoke alarm can only saves lives if they are in good working condition and located appropriately. The NSWFB is interested in measuring the rate of smoke alarm installation and the proportion of installed smoke alarms that activate. It should be noted that fatalities often occur when smoke alarms do not activate, so measuring smoke alarm performance for fatalities does not necessarily reflect the performance for all fires attended by the NSWFB.

The following diagram indicates the number of smoke alarms fitted versus not fitted, not applicable (i.e. not required) and not reported (i.e. installation of smoke alarm could not be determined):

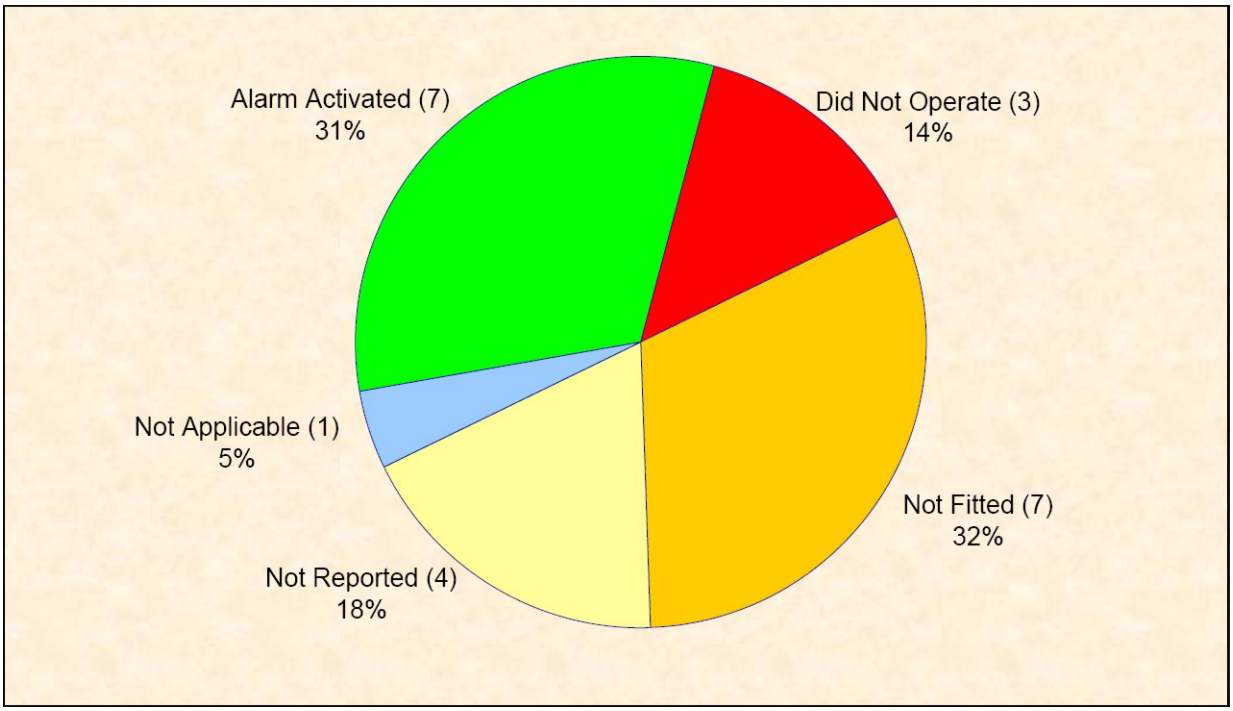


Figure 2 Operation of Installed Smoke Alarms at Fires Involving Fatalities

Contributing Factors Identified by FFAC Review

One of the primary functions of FFAC is to review the effectiveness of fire services, human behaviour and the structural built environment and identify factors which directly or indirectly contributed towards the fire fatality occurring. Through identifying such factors, the NSWFB can implement specific strategies to provide a safer community through various internal and external stakeholders.

It should be noted that often no single contributing factor is the direct cause of any fatality occurring, rather a combination of many factors having various degrees of influence on the eventual outcome.

Factors Contributing to Fire Fatality Occurring
Delay in response due to wrong address given (10 minutes)
No smoke alarm present
Smoker and drinker (high risk behaviour)
LPG cylinder in sleeping quarters (used for cooking)
Hoarding behaviour resulting in high fuel load
Smoke alarm located on stove top with low battery
Victim intoxicated
Victim has disabilities making egress more difficult
Polyurethane furniture contributed to extreme fire behaviour
Incorrect heater use in cold weather
Oil heater installation contributed to fire risk
Victim has hearing loss and may not have initially heard operating smoke alarm
Sole smoke alarm in kitchen was away from source of fire
One smoke alarm fitted in two level dwelling (legislation requires one on each level)
Battery removed from smoke alarm
Chimney flue passing through floor level had poor thermal insulation resulting in a fire
Lack of a practised Home Escape Plan may have resulted in delay in evacuating the dwelling
Likely high level of alcohol intoxication and possible taking of prescribed medicines including Valium
Smoking in bed whilst using a self administering oxygen unit
All windows and doors locked with keys removed made quick escape difficult
Polyurethane furniture burned producing copious volume of toxic smoke
Poor housekeeping and numerous ashtrays and cigarette butts indicates high fire risk behaviour
House extension converted into bedroom did not comply with BCA and contributed to intense fire
Gas cooking facilities including LPG cylinders were used in bedroom
No smoke alarms present in dwelling
A wall mounted strip radiator was being used unmounted (had no thermal cutout)
Smoke alarm placed too far below ceiling and in an ineffective location — it did not operate
Delay in response due to a witness not ringing Triple Zero immediately
Smoking in bed
Neighbour did not immediately call Triple Zero on hearing alarm due to repeated (nuisance) alarms
High fuel load in garage being used as a place of abode
Likely high level of alcohol intoxication
Smoke alarm positioned on wall well below ceiling
Poor housekeeping resulted in increased fuel load and hampered access for firefighters
Large number of polyurethane foam mattresses resulted in rapid fire spread and high fire intensity
Multiple packing boxes hampered access and egress
Poor mobile phone reception resulted in correct address not being heard on initial Triple Zero call
Smoke alarm was fitted but there was no evidence of it activating from slow smouldering fire
Radiant bar heater used in an unsafe manner and environment
Poor housekeeping resulted in very heavy fuel load in confined space
Poor and unsuitable egress from caravan

FFAC Recommendations

Upon identifying factors which directly or indirectly contribute towards a fire fatality occurring, FFAC make recommendations to both internal and external stakeholders which are likely to mitigate repeat occurrences and provide a safer community. Recommendations made depend on the identified contributing factor/s and may vary from implementing broad strategic programs to specific action items for specific or niche target stakeholders.

The following table outlines recommendations made by FFAC which have been actioned:

Recommendations From FFAC
Communicate with Office of Fair Trading and Real Estate Institute NSW regarding smoke alarms to be installed in low cost housing such as granny flats, sheds, caravans etc.
Communicate with Sydney Water regarding hydrant maintenance
Review Smoke Alarm Battery Replacement for Elderly (SABRE) program in Local Government Areas
Review local media plan to increase smoke alarm awareness
Include in winter fire safety campaign the effect of incorrectly installed heaters
Public awareness campaign on ringing Triple Zero in first instance
Investigate fire risk potential of paper roof insulation
Increase smoke alarm and Home Escape Plan awareness in Local Government Areas
Communicate with Department of Housing regarding possible installation of multiple smoke alarms on premises having high ‘at risk group’ occupants
Continue intervention/treatment initiatives with Department of Housing focusing on education, building design and possible domestic sprinkler installation
Develop a communication strategy targeting Vietnamese community regarding home fire safety including unsafe cooking practices using LPG cookers
Consult with Aged Care Facility management regarding smoke alarm installation, placement and servicing
Review Pre-Incident Plans for aged care facilities in Local Government Areas
Review communication strategy regarding Triple Zero
Develop ‘neighbour fire safety awareness’ campaign to be introduced state wide
Liaise with Department of Housing on strategic direction to a joint consultative agency committee to address fire safety concerns in DOH properties
Establish a strategic relationship with Illawarra media outlets to increase home fire safety awareness
Develop and implement a specific Seniors Fire Safety program with social inclusive initiatives
Discuss with State Coroner notification of ‘cause of death’ to the NSWFB
Implement a trial of the ‘Recovery Kit’ program to assist community awareness of home fire safety
Promote requirement for home escape plans in multi level dwellings having only one egress point
Review community awareness of smoke alarm requirement in homes
Continue research into effects on fire behaviour and fuel loading in relation to polyurethane furniture
Review local media strategies in increase penetration of home fire safety messages to the community
Review application and opportunities for increased FireEd presentations
Review fire safety campaign targeting caravans and relocatable homes
Continue liaison with NSW Department of Planning to amend smoke alarm legislation to be inclusive of all relocatable and mobile homes
Establish Mental Health Review Working Party to review all current critical incident support and associated welfiare opportunities
Establish local Cultural And Linguistically Diverse (CALD) contacts to utilise as volunteers

FIVE YEAR FATALITY TRENDS

Preventable fire fatality data is compared over a five year period starting January 2004 and ending December 2008, to identify emerging trends. This comparison is provided through simplistic tables and charts which emphasise any trends within each data set. This report is not intended to provide comprehensive statistical analysis of fire fatalities.

The number of fire fatalities is relatively low when compared with other causes of death. While efforts have been made to identify emergent trends that would allow for pro-active prevention strategies, the difference between an emergent trend and temporary fluctuations due to unforeseen factors is minor. Such temporary fluctuations and emergent trends may become more obvious with larger data range and long term trend analysis.

As the CSD primarily captures qualitative information, comparative data analysis is limited to the relevant quantitative data captured during the investigation/research process. In this report, five year fatality trends are provided on the following data:

- preventable vs non-preventable deaths
- gender
- age
- month of year
- day of week
- time of day
- cause of fire
- determination of fire origin
- built environment
- special occupancy and human risk groups

Over the five year period starting January 2004 and ending December 2008 there were 141 fire related fatalities comprising 105 preventable and 36 non-preventable deaths.

Note: Fatalities which result from a fire originating from an undetermined cause are considered preventable and are counted as such.

As of the end of September 2008, there were 7,017,100 people living in NSW[1]. As this report only covers fires attended by the NSWFB, the estimated population in areas of NSWFB fire coverage is 90% of the NSW population according to census figures, thus equating to 6,315,390 people.

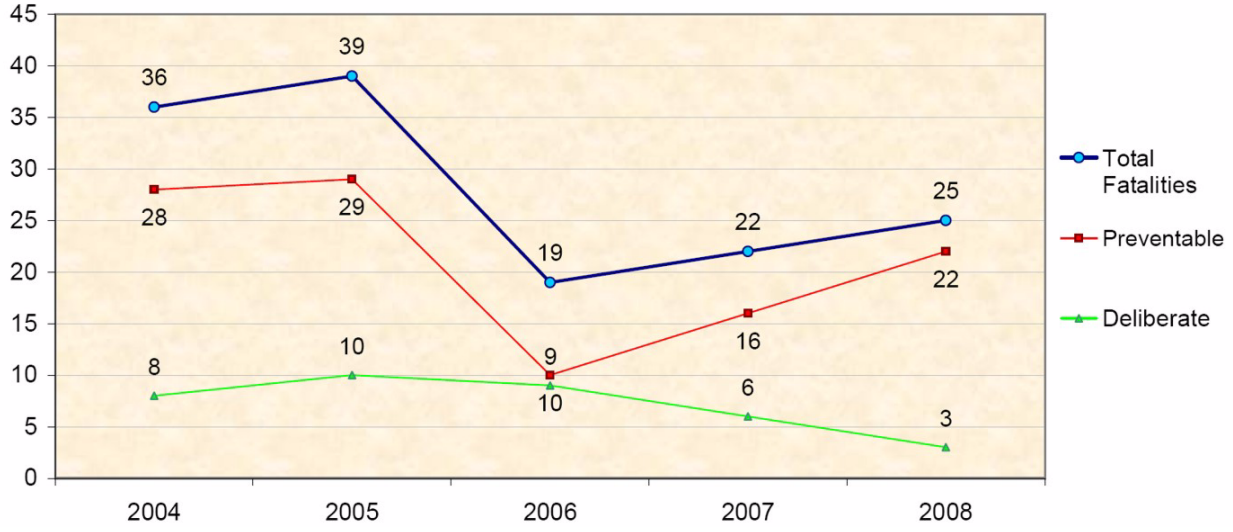
The NSWFB attended 31,393 fires in 2008[2]. The total number of fires attended by the NSWFB for the five year period is 209,329 which represents an average of 41,850 fires per year. The total number of fire fatalities per year, based on the five year average, represents 0.067% of all fires attended by the NSWFB.

The NSWFB attended 6040 building fires in 2008[3]. The total number of building fires attended by the NSWFB for the five year period is 31,393 which represents an average of 6,279 building fires per year. The total number of fire fatalities per year, based on the five year average, represents 0.449% of all building fires attended by the NSWFB.

It is important to note that the population of NSW has continuously and steadily increased over the five year period of this report. The five year trends represented on the following pages should be considered in conjunction with steadily increasing population for each successive year.

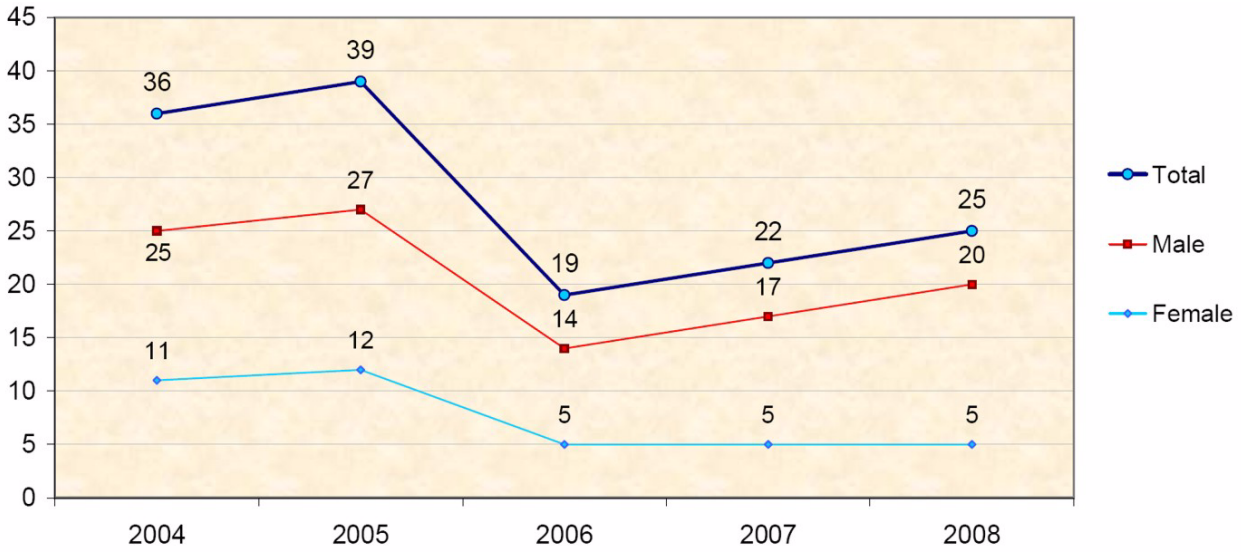
1. http://www.abs.gov.au/ausstats/abs@.nsf/web+pages/statistics?opendocument, Population for States and Territories, 25/05/2009.
2. Figures obtained from NSWFB AIRS database using SPRINT query application, 25/05/09.
3. Figures obtained from NSWFB AIRS database using SPRINT query application, 25/05/09.

Preventable vs Non-preventable Fatalities



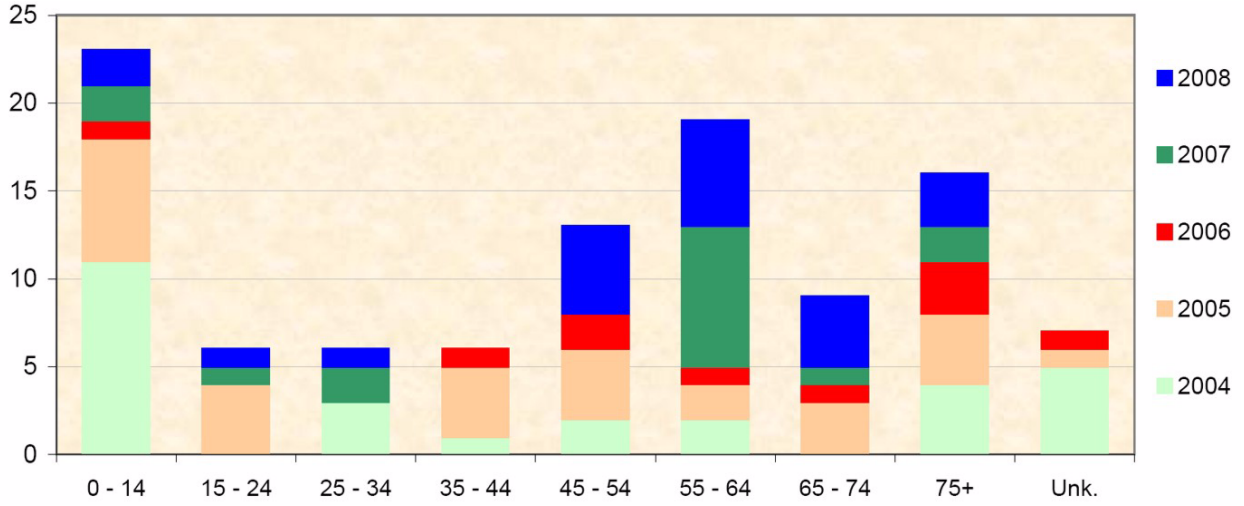
	2004	2005	2006	2007	2008	Total
No. of fatalities	36	39	19	22	25	141
No. of preventable fatalities (includes accidental and undetermined)	28	29	10	16	22	105
No. of fatalities from deliberate fires	8	10	9	6	3	36

Preventable Fatalities by Gender



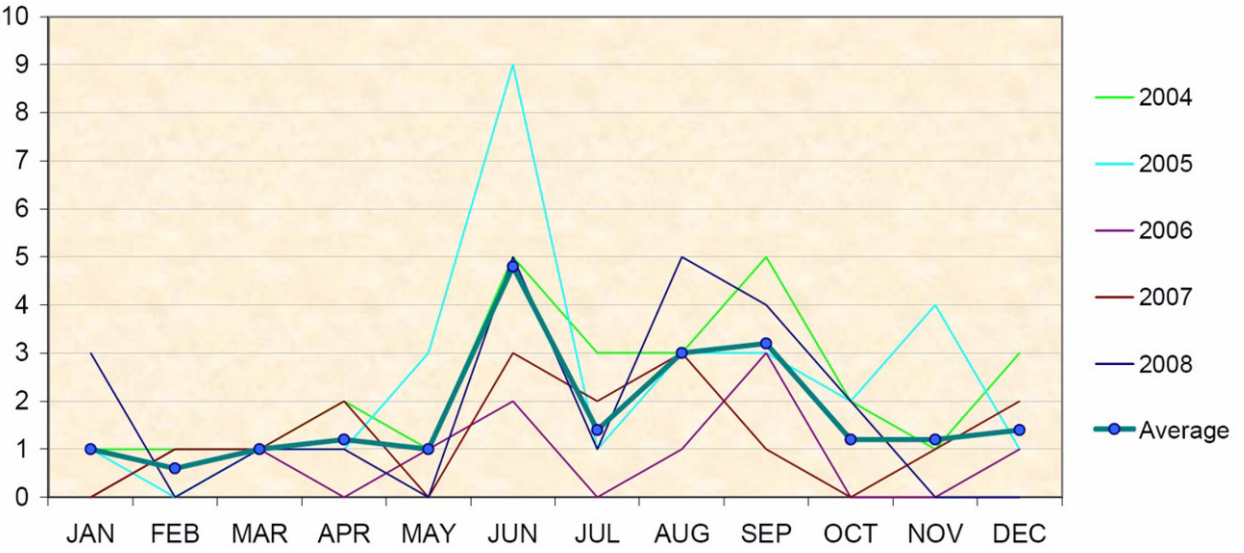
2004			2005			2006			2007			2008		
M	F	Tot.	M	F	Tot.	M	F	Tot.	M	F	Tot.	M	F	Tot.
25	11	36	27	12	39	14	5	19	17	5	22	20	5	25

Preventable Fatalities by Age



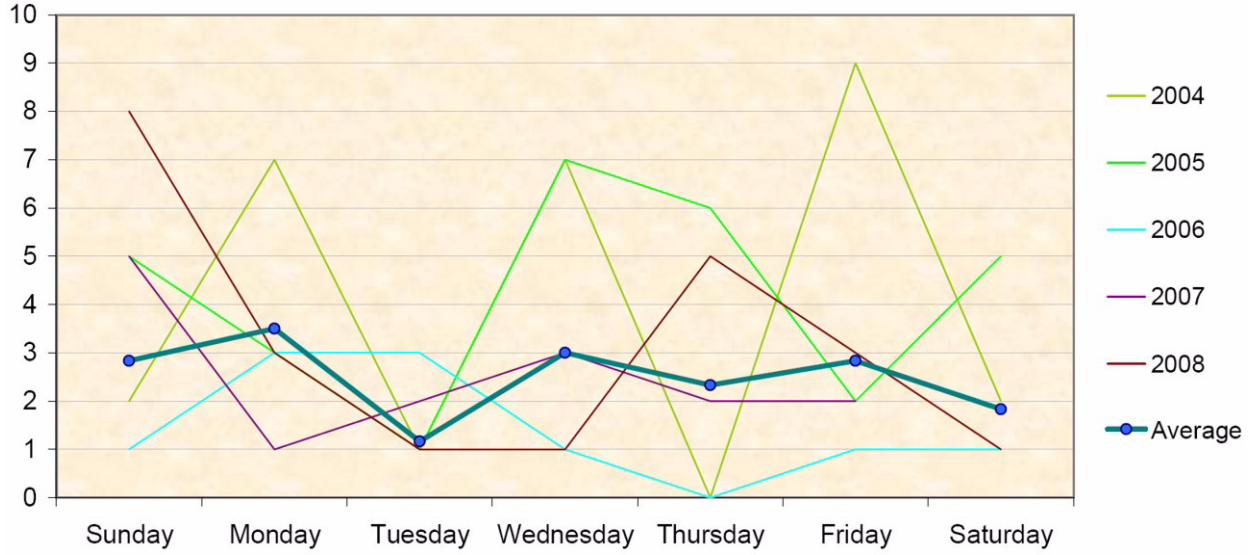
	0 - 14	15 - 24	25 - 34	35 - 44	45 - 54	55 - 64	65 - 74	75 +	Not	Total
2004	11	0	3	1	2	2	0	4	5	28
2005	7	4	0	4	4	2	3	4	1	29
2006	1	0	0	1	2	1	1	3	1	10
2007	2	1	2	0	0	8	1	2	0	16
2008	2	1	1	0	5	6	4	3	0	22
TOTAL	23	6	6	6	13	19	9	16	7	105

Preventable Fatalities by Month of Year



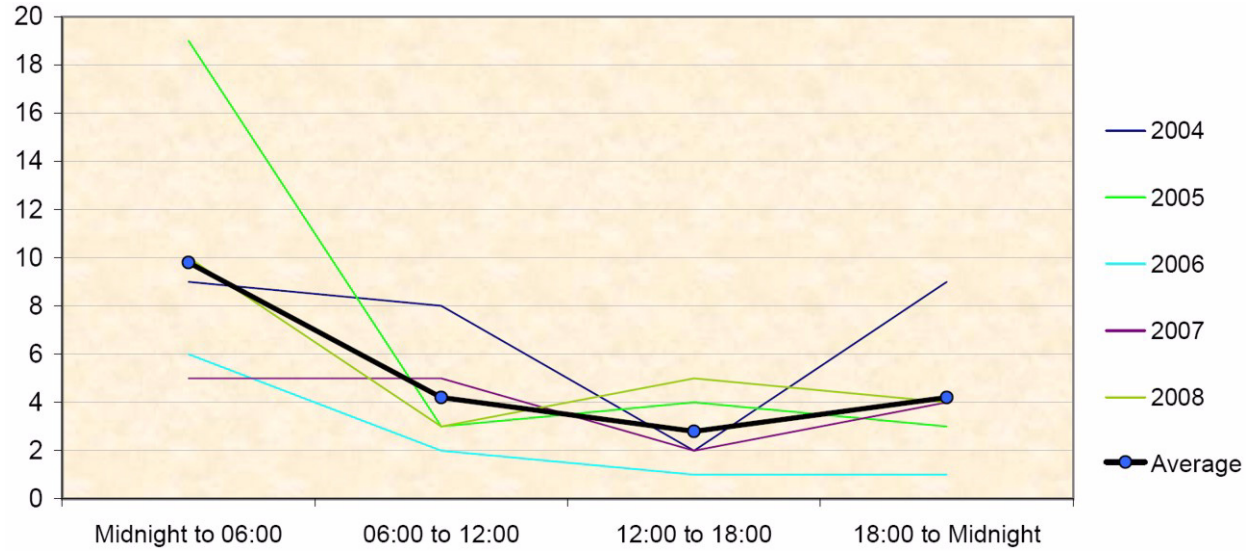
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Total
2004	1	1	1	2	1	5	3	3	5	2	1	3	28
2005	1	0	1	1	3	9	1	3	3	2	4	1	29
2006	0	1	1	0	1	2	0	1	3	0	0	1	10
2007	0	1	1	2	0	3	2	3	1	0	1	2	16
2008	3	0	1	1	0	5	1	5	4	2	0	0	22
TOTAL	5	3	5	6	5	24	7	15	16	6	6	10	105

Preventable Fatalities by Day of Week



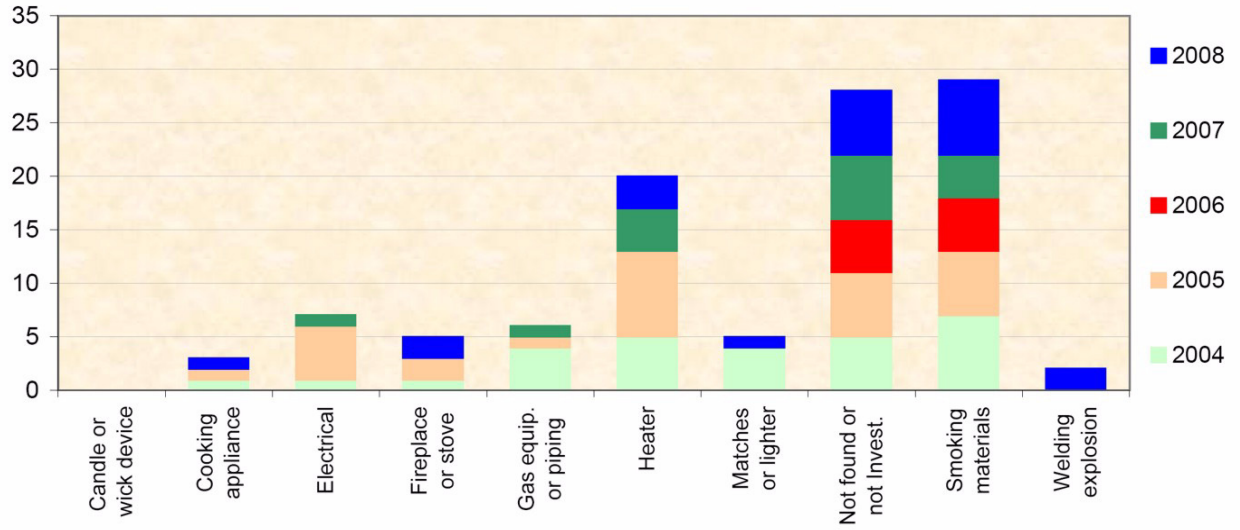
	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Total
2004	2	7	1	7	0	9	2	28
2005	5	3	1	7	6	2	5	29
2006	1	3	3	1	0	1	1	10
2007	1	5	1	2	3	2	2	16
2008	8	3	1	1	5	3	1	22
TOTAL	17	21	7	18	14	17	11	105

Preventable Fatalities by Time of Day



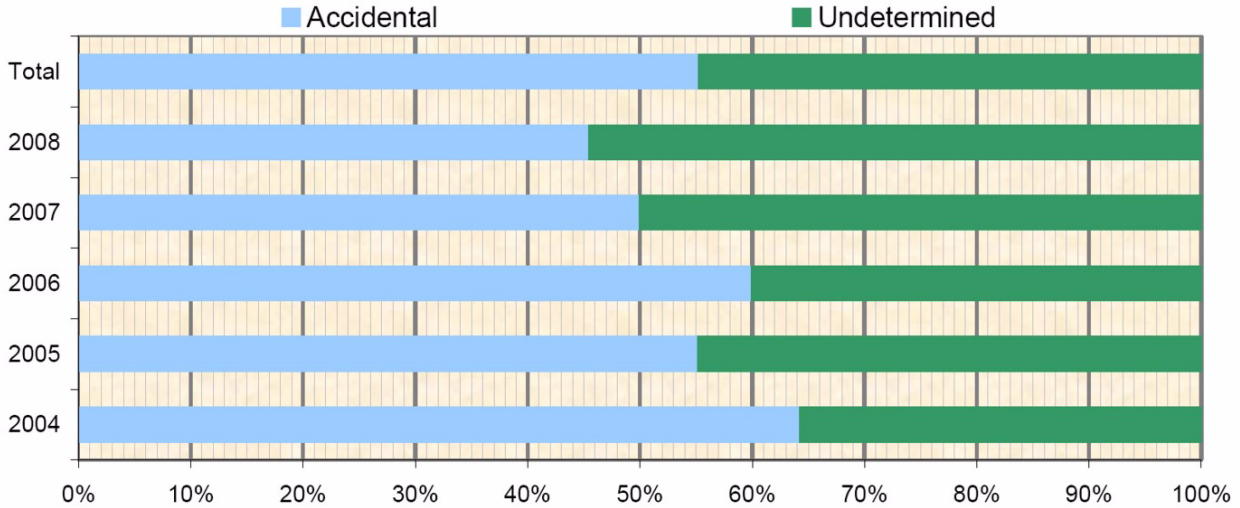
	Midnight to 06:00	06:00 to 12:00	12:00 to 18:00	18:00 to Midnight
2004	9	8	2	9
2005	19	3	4	3
2006	6	2	1	1
2007	5	5	2	4
2008	10	3	5	4
TOTAL	49	21	14	21

Causes of Preventable Fatal Fires



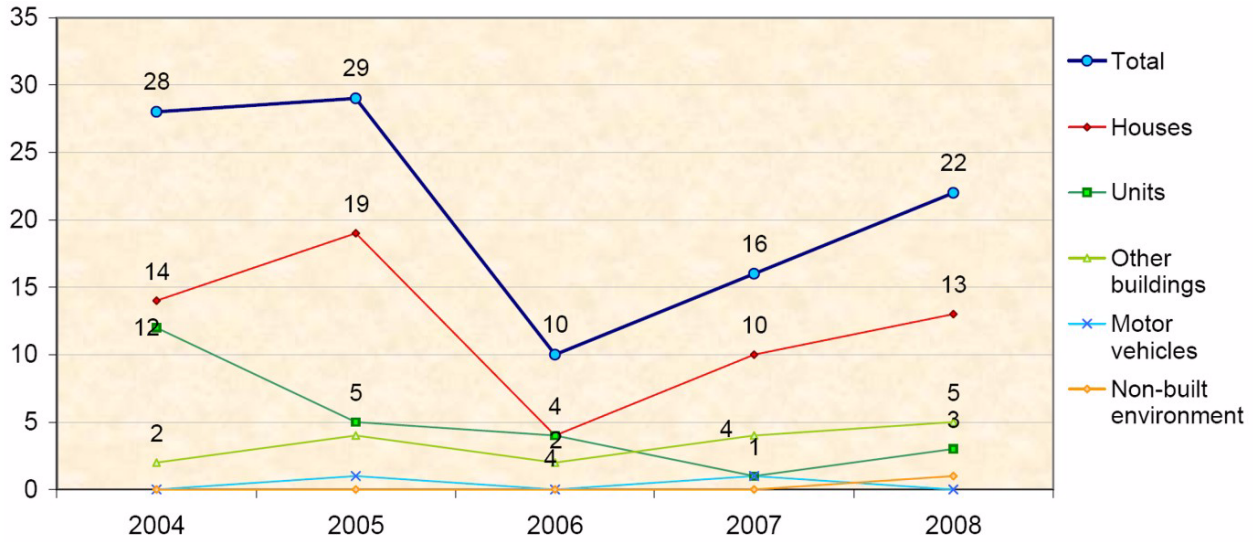
Reasons For Fire	2004	2005	2006	2007	2008	Total	%
Candle or wick device	0	0	0	0	0	0	0
Cooking appliance	1	1	0	0	1	3	2.9
Electrical equipment / wiring	1	5	0	1	0	7	6.7
Fireplace or stove	1	2	0	0	2	5	4.8
Gas equipment / piping	4	1	0	1	0	6	5.7
Heater (gas or electric)	5	8	0	4	3	20	19.0
Matches or Lighter	4	0	0	0	1	5	4.8
Not found / not investigated	5	6	5	6	6	28	26.7
Smoking materials	7	6	5	4	7	29	27.6
Welding explosion	0	0	0	0	2	2	1.9
Total Fires	28	29	10	16	22	105	100.0

Determination of Fire Origin of Preventable Fatal Fires



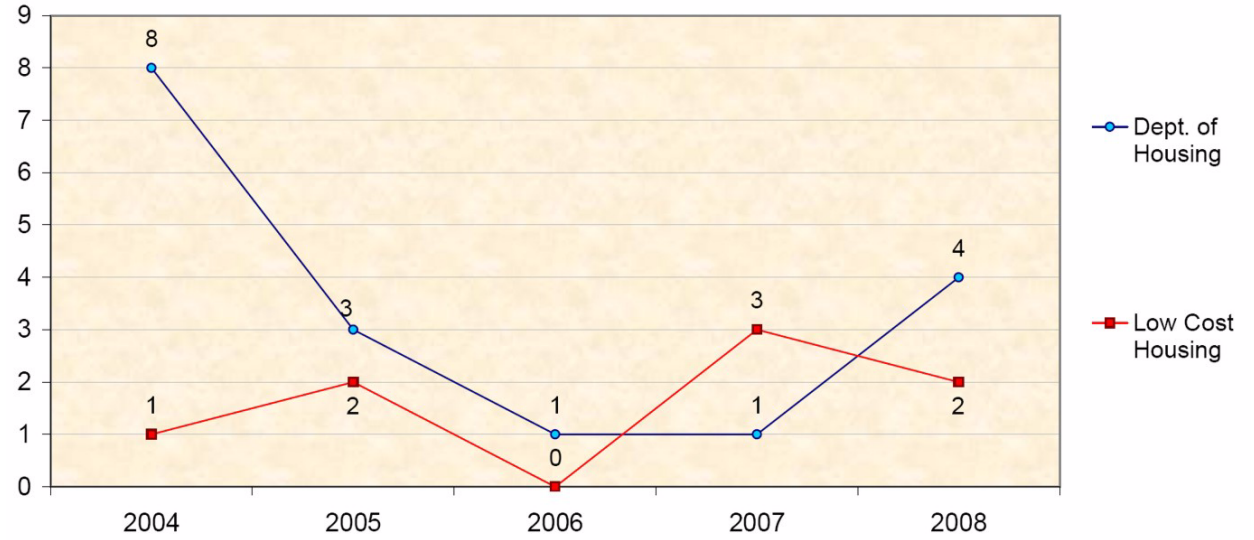
	2004	2005	2006	2007	2008	Total
Accidental	18 (64%)	16 (55%)	6 (60%)	8 (50%)	10 (45%)	58 (55%)
Undetermined	10 (36%)	13 (45%)	4 (40%)	8 (50%)	12 (55%)	47 (45%)
Total	28	29	10	16	22	105

Built Environment Where Preventable Fatalities Occur



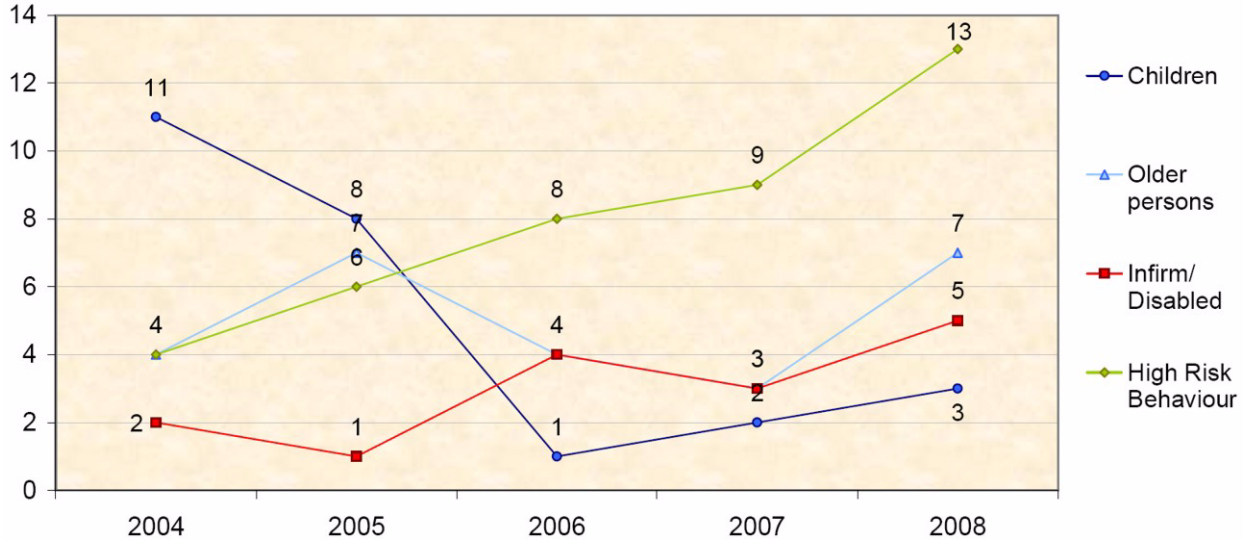
Occupancy Type	2004	2005	2006	2007	2008	Total
Houses (class 1)	14	19	4	10	13	60
Units (class 2)	12	5	4	1	3	25
Other buildings and structures	2	4	2	4	5	17
Motor vehicles	0	1	0	1	0	2
Other (unbuilt) environment	0	0	0	0	1	1
Total	28	29	10	16	22	105

Preventable Fatalities in Special Occupancy Risks



Special Occupancies	2004	2005	2006	2007	2008	Total
Department of Housing	8	3	1	1	4	17
Low Cost Housing (e.g. granny flat, relocatable home, garage, caravan)	1	2	0	3	2	8

Preventable Fatalities Involving Human Risk Groups



Human Risk Groups	2004	2005	2006	2007	2008	Total
Children (i.e. less than 18 years of age)	11	8	1	2	3	25
Older people (i.e. aged 65 years or more)	4	7	4	3	7	25
Infirm or disabled people (e.g. physical or mental)	2	1	4	3	5	15
High risk behaviour (e.g. smoking, alcohol, drugs)	4	6	8	9	13	40

Preventable Fatalities by Location Across NSW (Excludes Metro Zones)

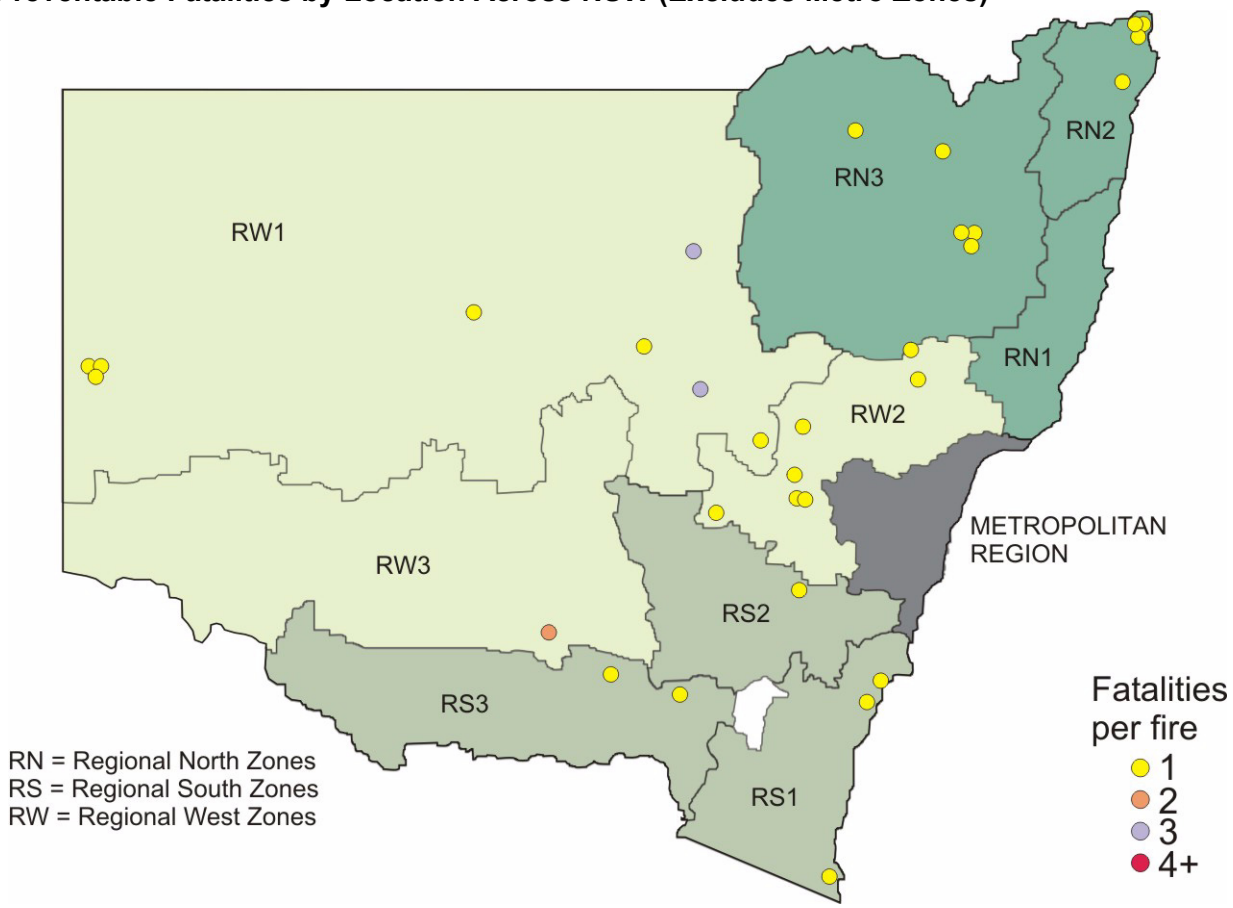


Figure 3 Location of Fire Fatalities in Regional Zones for the Year 2008

Preventable Fatalities by Location Across Metropolitan Zones

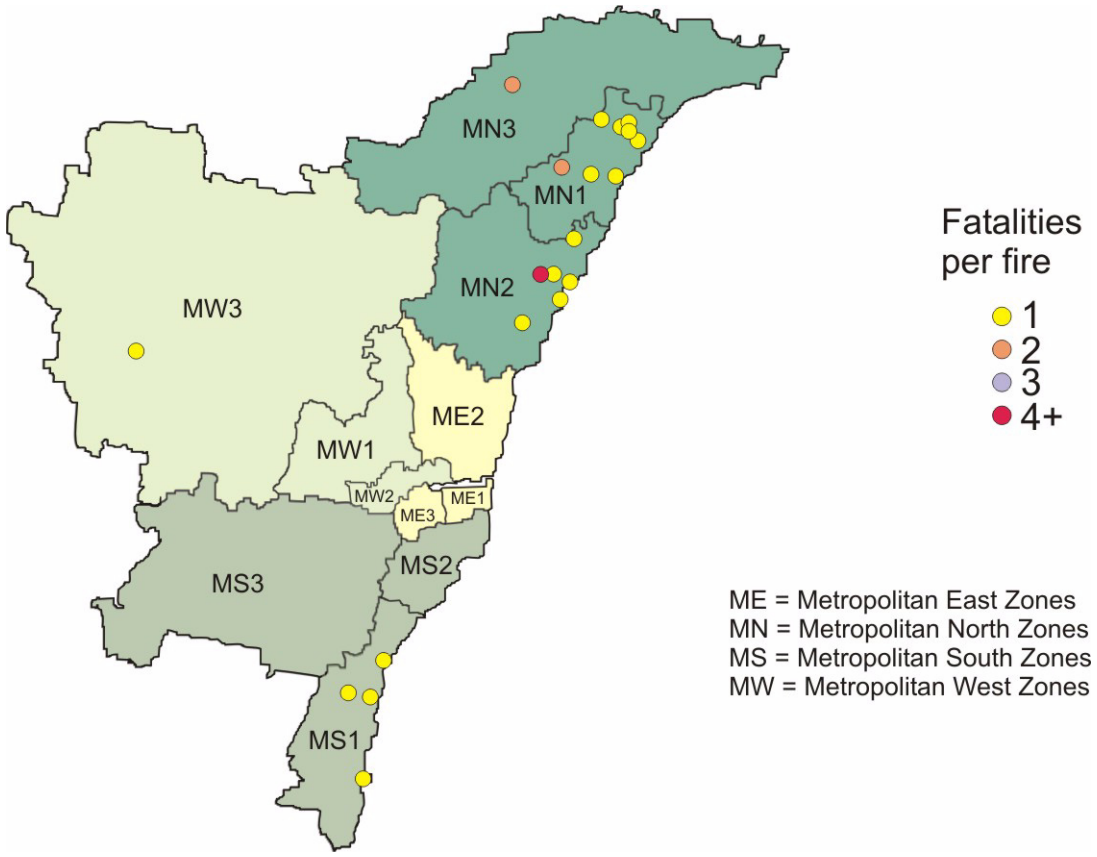


Figure 4 Location of Fire Fatalities in Metropolitan Zones for the Year 2008

Preventable Fatalities by Location Across Greater Sydney Metropolitan Area

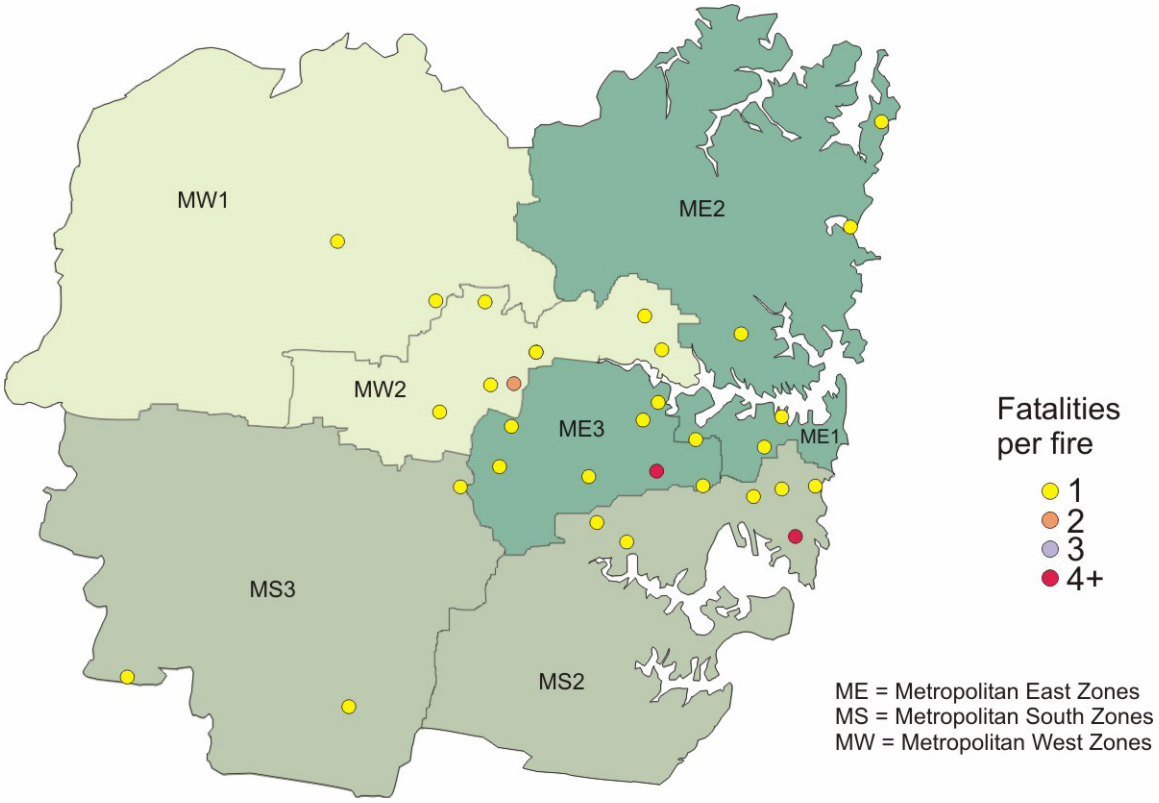


Figure 5 Location of Fire Fatalities in Greater Sydney Metropolitan Area for the Year 2008

Summary of Preventable Fatality Trends (Over Five Years)

The following is a summary of the fire fatalities known and attended by the NSWFB for the five year period starting January 2004 and ending December 2008:

- there were 141 fire fatalities with 105 being preventable and 36 being non-preventable; the yearly average is 28.2 fire fatalities with 21 being preventable and 7.2 being non-preventable.
- there were fewer fatalities in 2008 (25) than the five year average (28.2), however this was a steady increase over 2007 (22) and 2006 (19).
- male fire fatalities are 271% more likely than female fatalities (103 male and 38 female fatalities).
- fatalities are most likely to involve younger children (0 - 14), middle aged (55 - 64) and older people (75+), however when based on equal head of population, people aged 75+ are at significant higher risk than any other age group (29%).
- there is a clear and distinct peak in the number of fatalities for the month of June, with August and September also being high, highlighting the need for continual focus on the winter fire safety campaign in the month leading up to winter.
- fatalities are most likely to occur on Monday and least likely to occur on Tuesday.
- fatalities are most likely between midnight and 0600 hrs when occupants are sleeping, and fatalities during hours when people are awake being consistently lower.
- 74% of fatalities are considered preventable with the most common fire cause being smoking materials (27.6%) then heaters (19%).
- of the 105 preventable fires, 55% are determined as starting from an accidental origin, whilst 45% the origin cannot be determined.
- most fire fatalities occur in residential dwellings with 57% occurring in houses and 24% in units.
- the number of fire fatalities in other buildings, motor vehicles and non-built environments remains consistently lower than domestic dwellings.
- the number of fatalities in Department of Housing accommodation in 2008 is higher than the three previous years.
- the number of fatalities in Low Cost Housing remained low in 2008.
- the number of fatalities of older persons in 2008 was equal highest for the five year period.
- the number of fatalities of infirm and disabled people in 2008 was higher than any other year of the five year period.
- the number of fatalities of people who practice high risk behaviour (e.g. smoking, drinking, drug use, or hoarding) in 2008 was higher than any other year of the five year period.
- based on population, fatalities are more likely in regional areas than metropolitan areas.
- multiple fatality events and multiple fatal fires per town/city are also more likely in regional areas than metropolitan areas.

CONCLUSION

The number of fatalities in 2008, while higher than the previous 2 years, is still under the five year average. While this is considered a positive outcome, the emergence of a steadily increasing trend in the number of fatalities warrants attention. This increasing trend is also replicated by increased trends with 'males' and by those who undertake 'at risk behaviours' such as smoking and drug / alcohol use.

There is no room for complacency. Changing demographics such as an ageing population, increasing numbers of people with disabilities, alcohol and drug use are all negative influences impacting on the fatality trend. In addition, recent research is showing that changes to residential contents and furniture may be leading to more rapid fires with greater heat release rates. To counter these negative influences we must continually improve and increase our efforts to fully understand the risks facing the community and to proactively work to reduce or remove those risks.

APPENDIX A DEFINITIONS OF FATAL FIRE CAUSES

Reason for Fire	Description of Common Reason for Fire
Candle or wick device	an accidental fire starting from a candle or wick device (e.g. insect repellent coils).
Cooking appliance (gas or electric)	an accidental fire starting from an operating gas or electric cooking appliance (e.g. oven fires, cook tops, grillers, fryers, gas cookers, gas BBQ).
Deliberate (incendiary)	a fire which has been intentionally started and not considered as a preventable fire (i.e. accidental). Fires which are determined as starting deliberately are immediately handed over to the NSW Police Force for investigation and determination.
Electrical equipment/wiring	an accidental fire starting within an electrical appliance or from electrical wiring (including distribution, switching and protection devices) due to arcing, excessive current/voltage or high resistivity.
Fireplace, furnace or stove	an accidental fire starting from a fireplace or stove (open or closed) which involves internal combustion of solid fuels (e.g. wood, coal, heat beads).
Gas equipment/piping	an accidental fire started from leaking or misused gas equipment/piping. Includes non operating gas cookers and heaters (e.g. refilling gas BBQ).
Heater (gas or electric)	an accidental fire starting from an operating gas or electric heating appliance (e.g. bar heater, column heater, fan heater, kerosene heater).
Matches or Lighter	an accidental fire started from misused matches or lighters (usually associated with fire play, particularly by children).
Not found or not investigated	an undetermined fire where the cause of ignition was not conclusively identified or the cause was not investigated (e.g. non-attendance, unsafe to investigate, negligible debris).
Smoking materials	an accidental fire started from misused smoking materials (e.g. cigarettes, pipes, ashtrays). Human behavioural issues are usually a significant factor such as intoxication, drug use, physical disability, and decreased mental capacity.
Other	used to denote other uniquely identifiable causes (e.g. bush/grass fire, motor vehicle accident.

Table 2: Definitions of Fire Causes

NSW FIRE BRIGADES

FIRE INVESTIGATION AND RESEARCH UNIT

Postal Address:
Locked Bag 12
Greenacre, NSW, 2190

Location:
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Greenacre, NSW, 2190

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Fax: (02) 9742 7385
Email: FIRU.NSWFB@fire.nsw.gov.au

PREVENT PREPARE PROTECT

www.fire.nsw.gov.au