

INFORMATION BULLETIN

A PROFILE OF MOTOR VEHICLE
THEFT-RELATED ARSON IN NEW
SOUTH WALES AND SOUTH
AUSTRALIA

MAY 2007

SOPHIE RANSOM

CARS 

comprehensive auto-theft research system

TABLE OF CONTENTS

EXECUTIVE SUMMARY	2
INTRODUCTION	3
METHOD	4
FINDINGS	5
State profiles	5
Temporal factors	6
Arson trends over time	6
Month stolen.....	8
Day stolen.....	9
Time stolen	10
Time recovered.....	11
Time between theft and recovery	12
Vehicle profile	13
Vehicle type.....	13
Vehicle make	14
Top passenger/light commercial theft targets.....	15
Vehicle age	16
Immobiliser status.....	18
Vehicle value	19
Geographical factors	21
Theft and recovery location	21
<i>South Australia</i>	21
<i>New South Wales</i>	27
Distance between theft and recovery postcode.....	32
Recovery location type	34
New South Wales fire services data	35
Temporal factors.....	35
Vehicle factors.....	37
Geographical factors.....	38
DISCUSSION	40
Summary	40
Implications	40
REFERENCES	41

EXECUTIVE SUMMARY

The limited literature available suggests that arson of stolen vehicles is associated with three main motives: to destroy evidence; to make a fraudulent insurance claim; and for fun or thrill-seeking. A UK study found that vehicle arson generally increased between 1998 and 2002, and that at least 50% of the deliberate fires occurring over that period involved stolen vehicles. In 2000 a South Australian study showed that arson of stolen vehicles had increased substantially in that State between 1995 and 1999. The current study uses data from the National Comprehensive Auto-theft Research System (CARS) Project to investigate current trends in motor vehicle theft-related arson in New South Wales and South Australia, and provide a profile of incidents in those two States. Some data from the New South Wales Fire Brigades and Rural Fire Service is also included.

Key findings

- During the 2005/06 financial year, 8.6% of vehicles stolen in South Australia and 11.0% of vehicles stolen in New South Wales were later recovered burnt. This type of arson has steadily increased in South Australia in recent years, but has remained more stable in New South Wales.
- During the 2005/06 financial year the total estimated value of stolen vehicles recovered burnt was \$4.6 million in South Australia and \$158.4 million in New South Wales.
- In both States, burnt stolen vehicles were most likely to be recovered during the night (between 8.00pm and 8.00am) and were recovered more quickly than vehicles recovered not burnt. It is likely that fires often attract attention which results in police attendance and recovery of the vehicle.
- In both States vehicles recovered burnt were more likely than other stolen vehicles to be aged between 6 and 10 years. Many of these may be instances of fraud where vehicles are no longer covered by their new car warranty and are beginning to require repairs, but are still perceived valuable enough to provide incentive to commit insurance fraud.
- Incidents of stolen vehicle arson occurred largely in Adelaide's northern and far northern suburbs, and in Sydney's western and south-western suburbs. Vehicles recovered burnt in these areas were largely stolen from nearby areas, although there was also evidence that some vehicles were driven there from other areas before being set alight.
- Data from the New South Wales fire services confirmed findings from the CARS database, with most suspicious and incendiary vehicle fires occurring during the night and largely in Sydney's south-western area.

Implications of the study:

- Because vehicles are recovered burnt very soon after they are stolen, preventing the fire after the vehicle is stolen is likely to be very difficult. To prevent the theft in the first place (using proven strategies such as immobilisation of older vehicles) may be the most effective approach.
- Night-time patrolling or monitoring of known 'hotspots' may help prevent arson even after the vehicle is stolen.
- Arson of stolen vehicles occurs in largely low socio-economic areas, with high rates of crime generally. General crime prevention and community development activities in these areas could help reduce the prevalence of this crime.

INTRODUCTION

Arson of stolen vehicles adds substantially to the overall cost of motor vehicle theft to the community. The practice means that vehicles stolen for short-term use, many of which would otherwise be recovered with little or no damage, are recovered with substantial damage if not completely destroyed. Therefore, although preventing vehicles from being stolen in the first place is the most desirable outcome, preventing vehicles from being set alight once they are stolen could be a successful way to reduce the economic and social costs associated with vehicle theft.

In 2005 a report from the United Kingdom concluded that the link between vehicle theft and vehicle arson was stronger than had previously been thought (Merrall and Chenery, 2005). The report investigated reasons for a strong increase in the number of vehicle fires in the UK between 1998 and 2002, and found that over 50% of the deliberate vehicle fires during that period involved a vehicle that had previously been reported stolen. Interviews with offenders indicated that the primary motivation for arson of stolen vehicles was to destroy forensic evidence such as fingerprints and DNA. This motive was cited by offenders in relation to both vehicles stolen for short-term use such as transport and 'joy-riding', and for vehicles stolen for other criminal purposes.

It is also likely that in some cases of stolen vehicle arson, the vehicle is set alight for fun more than to destroy evidence. This was reflected in a National Comprehensive Auto-theft Research System (CARS) Project study involving interviews with motor vehicle theft offenders, where an offender was quoted: "...drive it out on the way up to the hills .. pull everything out and then burn it ... you should see the fire ... great" (Casey, unpublished report). This suggests that part of the joyriding experience may include the thrill of seeing a vehicle go up in flames when the offender has finished with it.

Arson of stolen motor vehicles is also associated with insurance fraud. Reporting a motor vehicle stolen and then setting fire to it is a common way to commit fraud because burning the vehicle means that most evidence of the fraud is likely to be destroyed, the owner does not need to store or hide the vehicle, and setting fire to a vehicle more or less ensures a total loss claim with a substantial payout. It is difficult to estimate how widespread this practice is because fraud is notoriously difficult to detect. An Insurance Australia Group (IAG) report (IAG, 2004) estimated that insurance fraud in Australia costs approximately \$2.1 billion annually, with motor vehicle policies being particularly susceptible. An earlier study had estimated that 43% of the total cost of insurance fraud was attributable to domestic motor vehicle insurance (IAG, 2004). Although only a fraction of this amount is associated with incidents of motor vehicle arson, there is no doubt that these incidents contribute to a substantial problem in Australia.

Arson of stolen vehicles places a large burden on fire services, and can have serious consequences for the communities in which it occurs. In a predominantly dry country such as Australia, burning vehicles, especially in scrubland or forest, represent a serious bushfire threat. In South Australia alone three serious bushfires were started by burning stolen vehicles between December 2006 and February 2007, one destroying a significant historical building (*The Advertiser*, 21 Dec 2006; *The Advertiser*, 26 Feb 2007). There can be no doubt that whenever vehicle fires are started, there is a real risk of substantial damage, injury and even loss of life.

In 2000, a South Australian study (Potter, 2000) showed that motor vehicle theft-related arson in that State increased substantially between 1995 and 1999, with the total value of burnt stolen vehicles in 1999

estimated at \$3.3 million. This figure did not take into account other costs associated with the fires such as attendance by fire services or damage to surrounding areas or property, meaning the true cost to the community could be substantially higher.

There is little other research available, in Australia or elsewhere, investigating trends in vehicle theft-related arson or the motivations behind the crime. The aims of the current study are to: investigate Australian trends in motor vehicle theft-related arson; profile incidents of arson of stolen vehicles in terms of vehicle, temporal and geographical characteristics; and look for any changes in these profiles over time. It is hoped that this information will provide insight into the motivation behind vehicle theft-related arson in Australia, and indicate potential ways to target this costly problem.

METHOD

The National CARS Project receives motor vehicle theft data from police in all Australian States and Territories, in the form of regular updates. CARS also receives a range of other data, including vehicle registration data, insurance claims data from participating companies and vehicle specification data. A series of regular matching and cleaning processes are run to ensure data held in the CARS database is as accurate as possible. Police theft data extracts are retrospective and enable regular updating of the recovery status of vehicles recorded stolen in earlier periods.

Not all police theft data extracts are the same, and not all fields are available from all jurisdictions. Reliable data regarding the condition of recovered vehicles is only available from South Australia and New South Wales. In both of these States, police officers make electronic entries on their respective computer systems to record the recoveries of stolen vehicles. In both States officers use a binary 'burnt' indicator to show that the vehicle has been recovered burnt, which may be selected irrespective of what other vehicle recovery information has been entered (although in both cases a recovery date must be entered). The data CARS receives regarding recovery condition of the vehicle remains exactly as the police officer records it and is not cleaned or altered in any way.

Data from both South Australia and New South Wales was used in the current study, current as at 30th June 2006. Data regarding the condition of the vehicle is necessarily only available when the vehicle is actually recovered. Most analyses compare vehicles that are recovered burnt with those stolen and not recovered burnt, which includes both vehicles recovered not burnt and those not recovered at all. Some analyses focus on thefts occurring in the 2005/06 financial year while some show time trends.

Some data is also included from the New South Wales fire services (the NSW Fire Brigades and the NSW Rural Fire Service). This data shows trends in vehicle fires in New South Wales that were considered to be incendiary (intentionally lit) or suspicious. Unfortunately this data is not available for South Australia due to long periods of industrial action in recent years, during which data was not recorded.

FINDINGS

State profiles

Figure 1 shows motor vehicle thefts over time for both South Australia and New South Wales. The figure clearly shows the very different theft patterns for these two States. New South Wales shows a far greater volume of theft, which has declined rapidly since the peak in early 2001. Theft numbers in South Australia have remained more stable over time, peaking slightly earlier, in 2000, and showing a much less dramatic decline since that time.

Figure 1. Motor vehicle thefts by quarter, South Australia and New South Wales

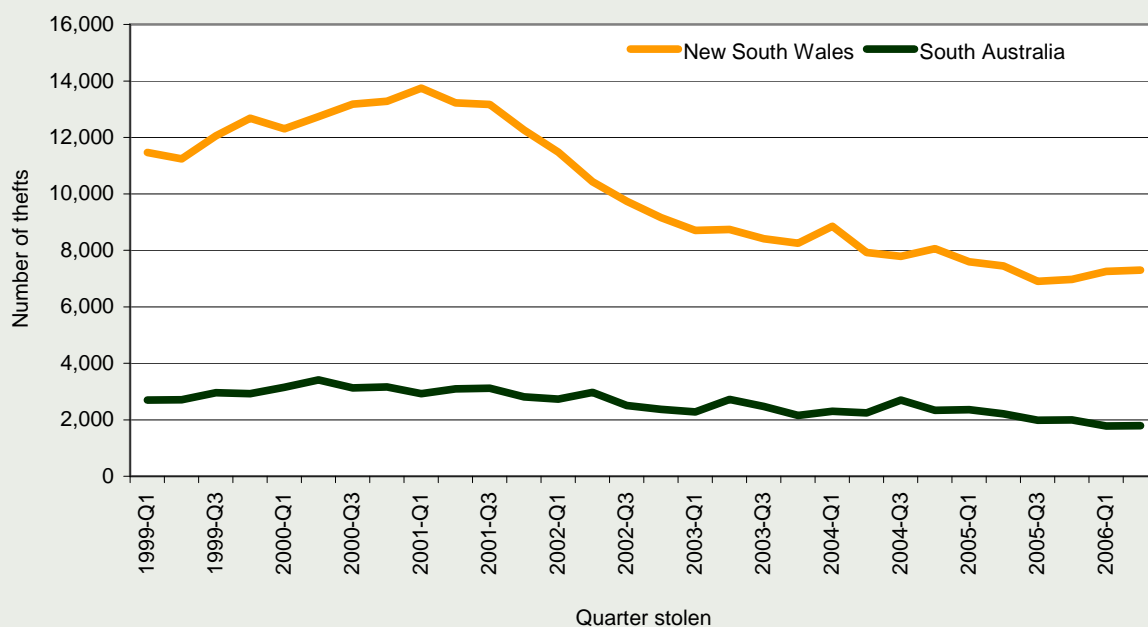


Table 1 shows that despite the different volume of motor vehicle theft, the rate of theft pre 1,000 registered vehicles for the 2005/06 financial year was very similar in South Australia and New South Wales. However, the two States showed other differences in terms of their registered motor vehicle fleet and motor vehicle theft profiles. New South Wales has a newer vehicle fleet and a larger problem with professional theft (as shown by a low recovery rate), while South Australia has an older fleet and a larger problem with opportunistic theft (shown by a high recovery rate).

Table 1. Summary of registered and stolen fleet, South Australia and New South Wales

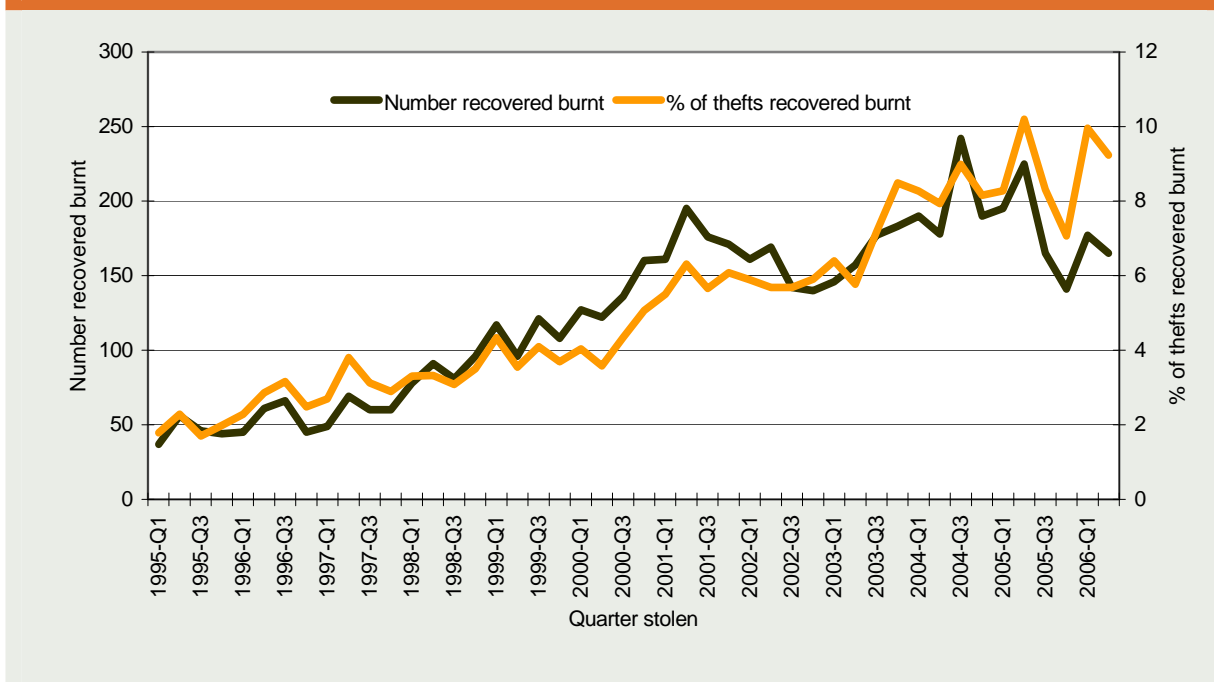
	South Australia	New South Wales
Number of registered vehicles as at 31st December 2005:	1,154,597	4,269,087
% of registered fleet aged less than 10 years:	50.2	61.7
Number of motor vehicle thefts in 2005/2006:	7,544	28,410
Theft rate per 1,000 registrations, 2005/06	6.53	6.65
Mean age of stolen vehicles:	16.7 years	12.6 years
% of stolen vehicles recovered by end of financial year:	83.4	69.1

Temporal factors

Arson trends over time

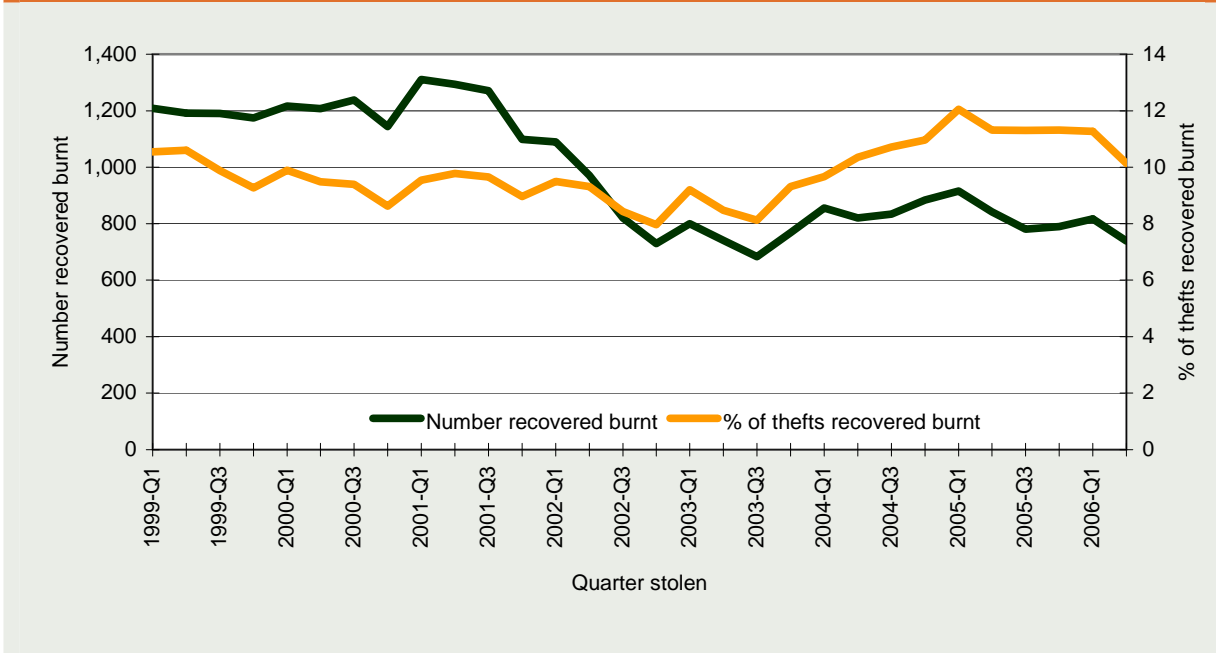
Figure 2 shows both the number and percentage of stolen vehicles recovered burnt by quarter in South Australia. The figure shows a strong increase in vehicles recovered burnt over time, both in terms of actual numbers and as a proportion of all motor vehicle thefts. The number of vehicles recovered burnt each quarter increased from 37 in the March 1995 quarter to peak at 242 in the September 2004 quarter. The proportion of stolen vehicles recovered burnt also increased steadily, from a low of 1.7% in the September 1995 quarter to a peak of 10.2% in the June 2005 quarter. Overall, a total of 648 stolen vehicles were recovered burnt in South Australia during the 2005/06 financial year, representing 8.6% of all stolen vehicles.

Figure 2. South Australia - Vehicles recovered burnt by quarter, January 1995 - July 2006



Motor vehicle theft data is not available as far back for New South Wales as it is for South Australia. Nevertheless, Figure 3 shows quite a different pattern for New South Wales to that of South Australia. The number of vehicles recovered burnt began at a high point (peaking at 1,310 vehicles in the March 2001 quarter) and has steadily declined since that time, to a low of 683 in the September 2003 quarter, and finishing with 739 vehicles in the June 2006 quarter. However, the orange line shows that burnt vehicles, although declining in numbers, made up an increasing proportion of all vehicle thefts. Vehicles recovered burnt made up 8.0% of all thefts in the December 2002 quarter, but increased to 12.0% in the March 2005 quarter. The proportion may now be declining again, but more data points would be required to determine if this decline will be sustained. Overall, a total of 3,125 stolen vehicles were recovered burnt in New South Wales during the 2005/06 financial year, representing 11.0% of all stolen vehicles.

Figure 3. New South Wales - Vehicles recovered burnt by quarter, January 1999 - July 2006



Month stolen

Figures 4 and 5 compare vehicles recovered burnt with those stolen and not recovered burnt by month stolen, for the past 5 financial years combined. There were no observed differences between burnt and not burnt stolen vehicles in terms of calendar month in which they were stolen. Interestingly both States showed a slight increase in the proportion of motor vehicle thefts overall occurring in July and March.

Figure 4. South Australia - Month of theft for vehicles recovered burnt and not recovered burnt, 2001/02 - 2005/06.

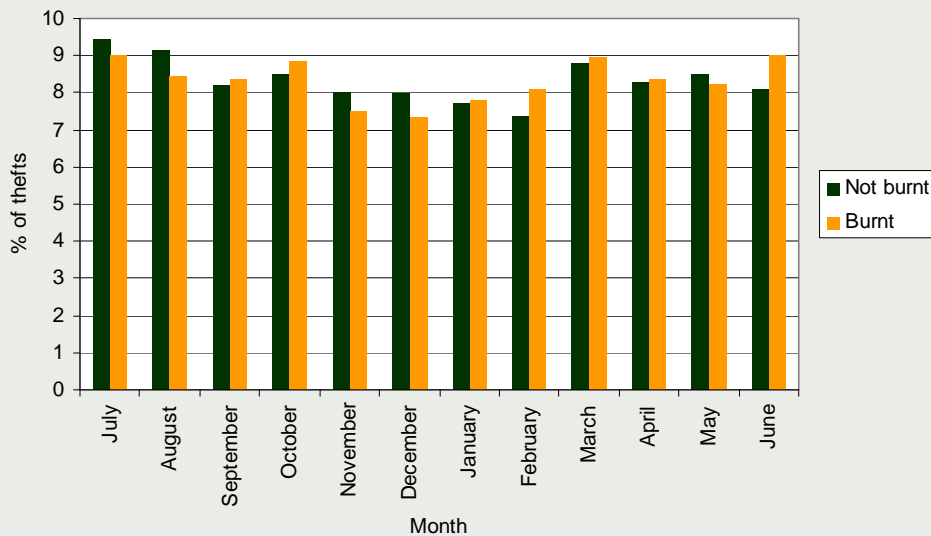
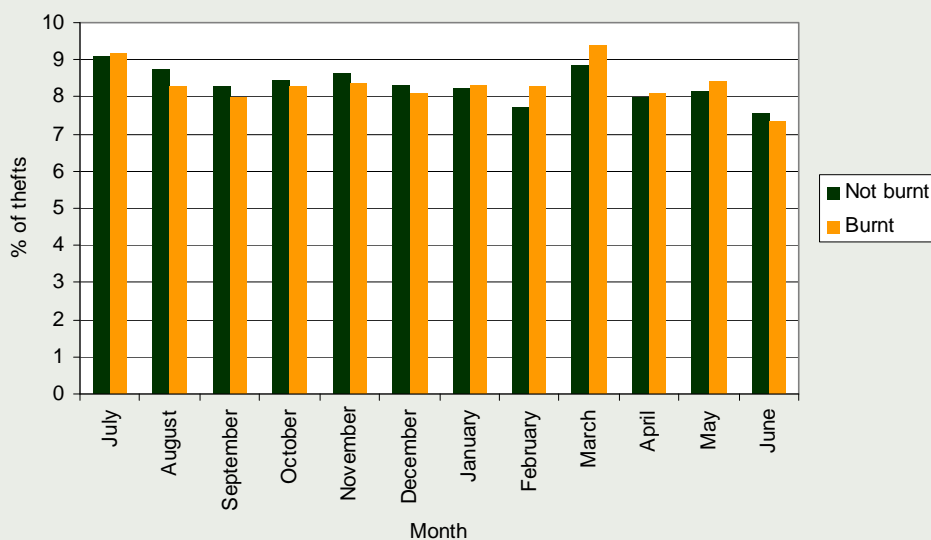


Figure 5. New South Wales - Month of theft for vehicles recovered burnt and not recovered burnt, 2001/02 - 2005/06.



Day stolen

Figures 6 and 7 show vehicles recovered burnt and not recovered burnt by day of the week on which they were stolen, for vehicles stolen in the 2005/06 financial year. In both States, the risk of theft generally increased toward the end of the week and at the weekend. There was no strong relationship between day stolen and risk of being recovered burnt in either State. Vehicles stolen on Fridays and Sundays showed a slightly increased risk of being recovered burnt in South Australia, while vehicles stolen on Saturdays showed a slightly increased risk in New South Wales.

Figure 6. South Australia - Weekday of theft for vehicles recovered burnt and not recovered burnt, 2005/06

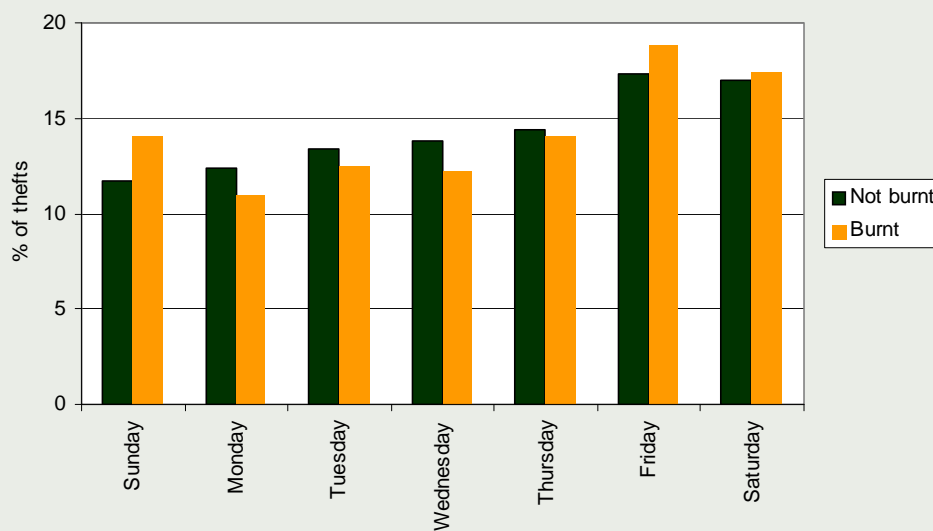
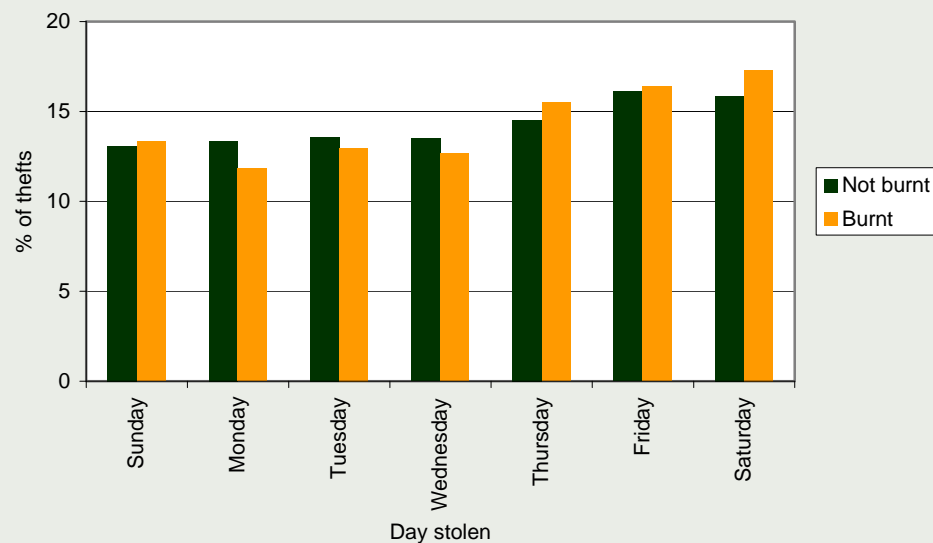


Figure 7. New South Wales - Weekday of theft for vehicles recovered burnt and not recovered burnt, 2005/06



Time stolen

Figures 8 and 9 show theft time for vehicles recovered burnt and not recovered burnt, among those stolen during the 2005/06 financial year. Figure 8 shows that in South Australia, vehicles which were subsequently recovered burnt were more likely to be stolen between 8.00pm and midnight and less likely to be stolen during the day, between 8.00am and 4.00pm. Figure 9 shows that similarly in New South Wales, vehicles recovered burnt were more likely than vehicles not recovered burnt to be stolen between 4.00pm and midnight and less likely to be stolen between 8.00am and 4.00pm.

Figure 8. South Australia - Time of theft for vehicles recovered burnt and not recovered burnt, 2005/06

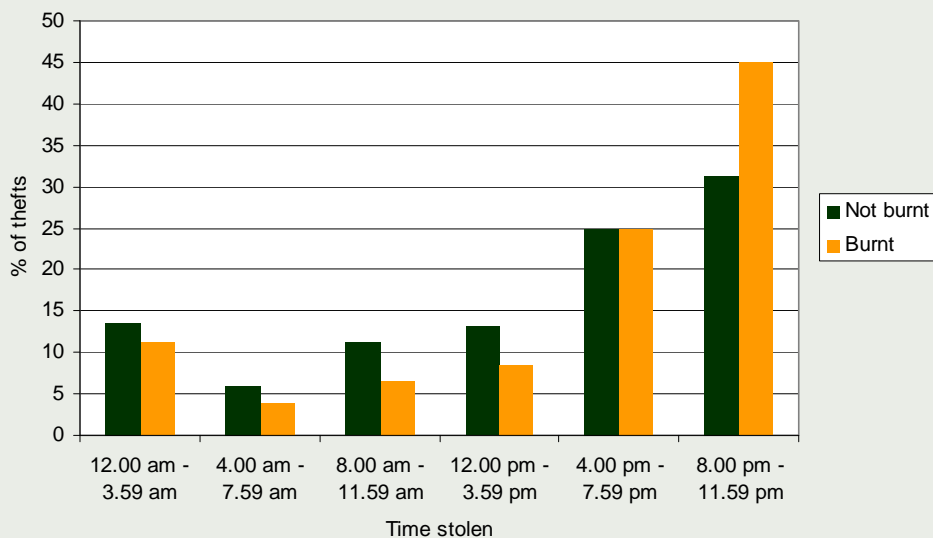
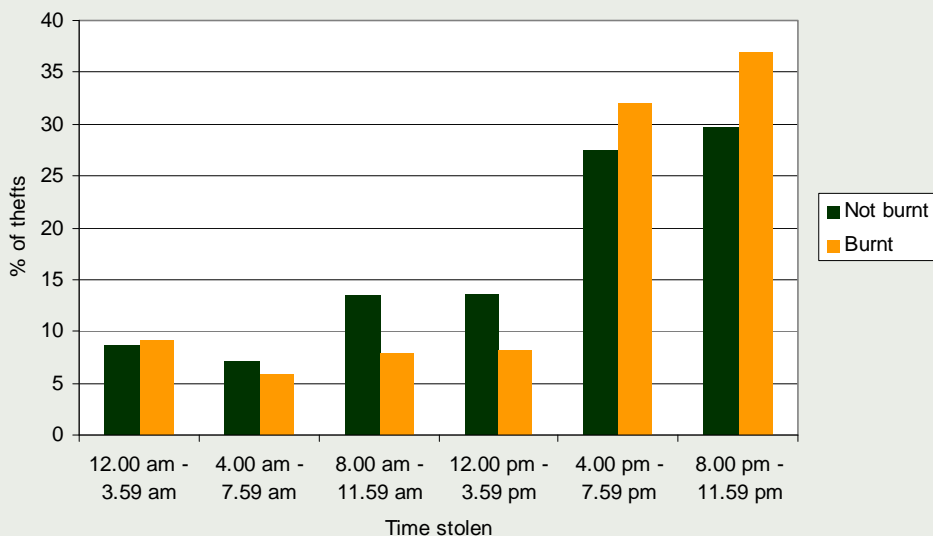


Figure 9. New South Wales - Time of theft for vehicles recovered burnt and not recovered burnt, 2005/06



Time recovered

Figures 10 and 11 show the time of recovery for stolen vehicles recovered burnt and those recovered not burnt. In both States, burnt vehicles were far more likely to be recovered between 8.00pm and 8.00am, while other vehicles were far more likely to be recovered during the day (between 8.00am and 8.00pm). It is likely that this is because vehicles are more likely to be set alight at night, and a burning vehicle is likely to attract immediate attention from police and fire services, which results in the recovery of the stolen vehicle.

Figure 10. South Australia - Time of recovery for vehicles recovered burnt and recovered not burnt, 2005/06

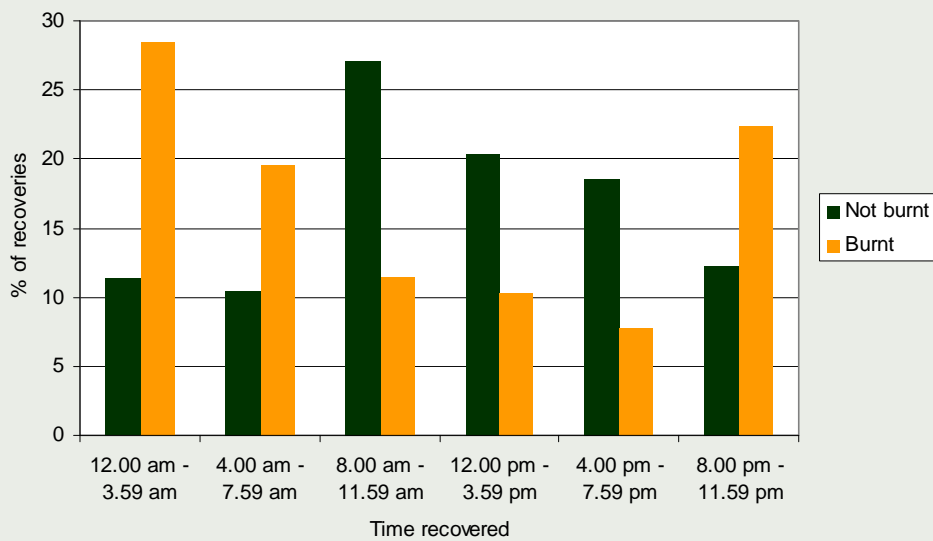
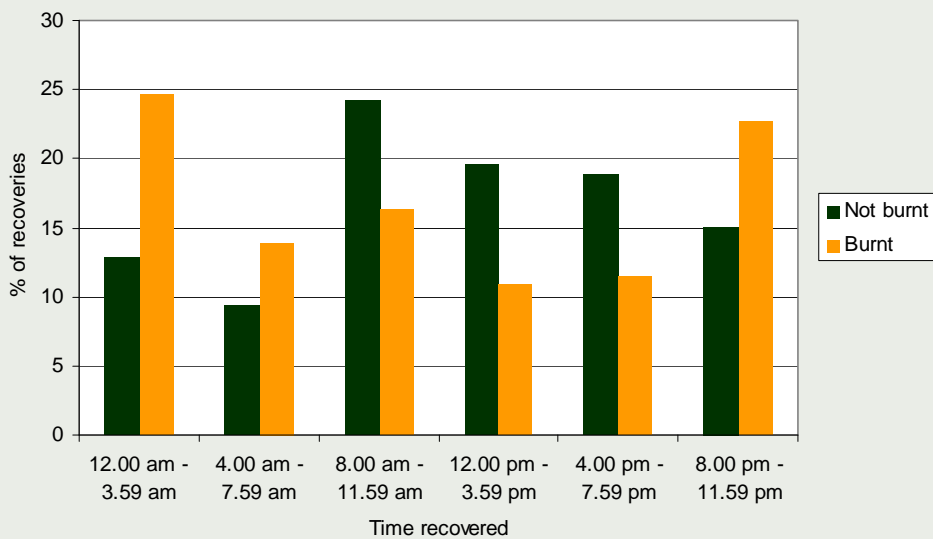
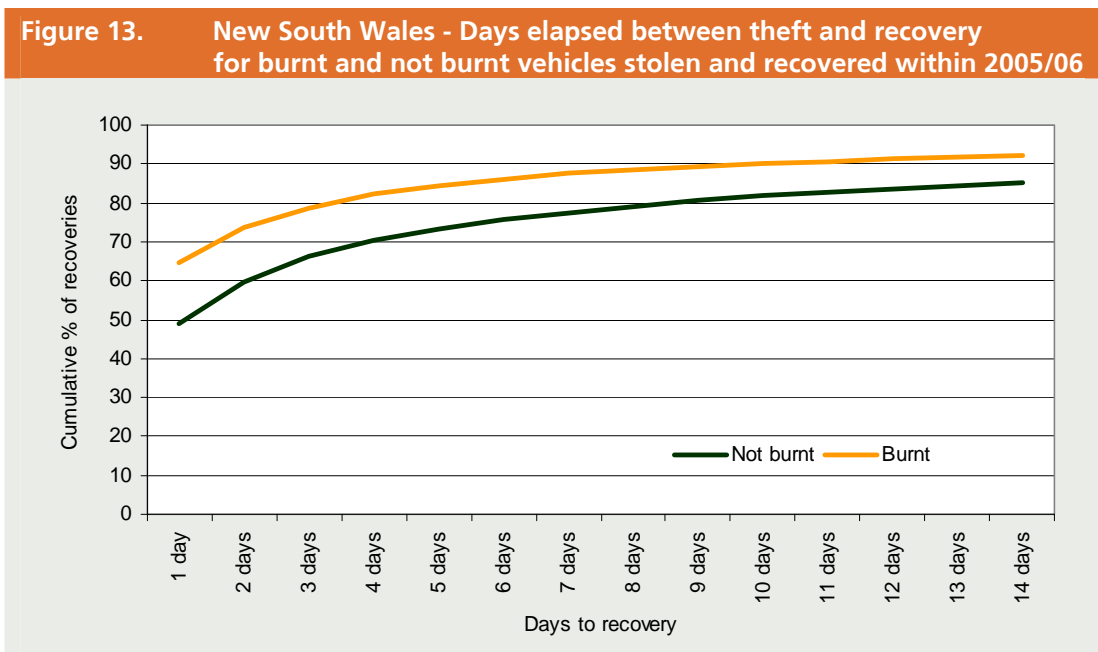
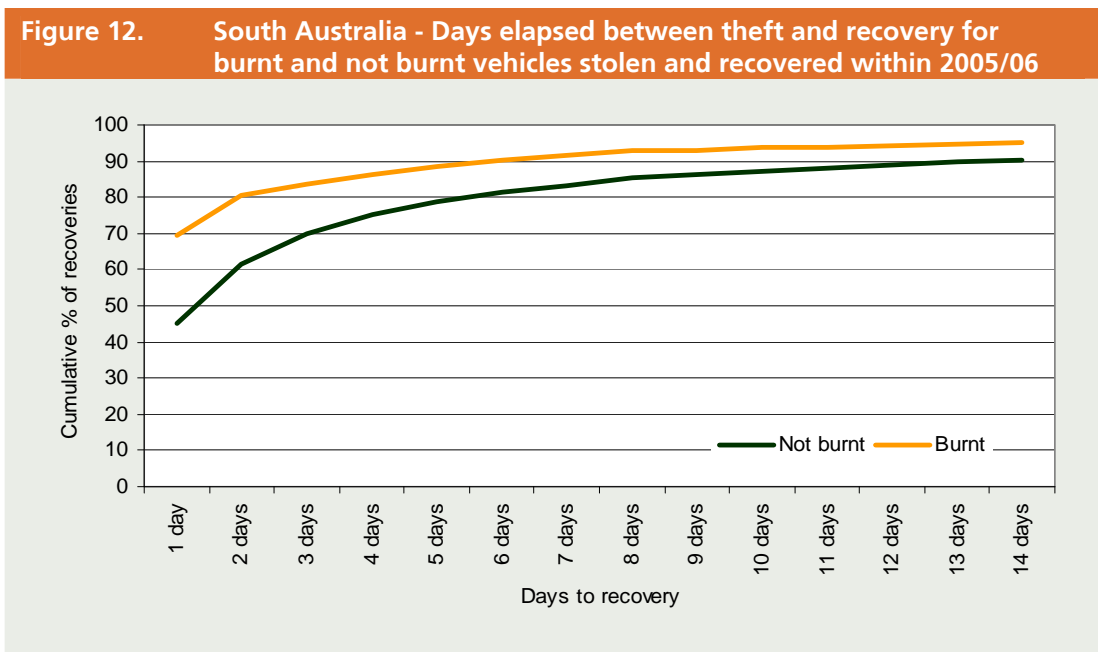


Figure 11. New South Wales - Time of recovery for vehicles recovered burnt and recovered not burnt, 2005/06



Time between theft and recovery

Figures 12 and 13 show the number of days between theft and recovery, for all vehicles stolen and recovered within the 2005/06 financial year. In both States, the burnt vehicles were recovered more quickly than the non-burnt vehicles. In South Australia, 69.6% of burnt vehicles were recovered within one day of the theft, compared to only 45.3% for stolen vehicles that were recovered not burnt. In New South Wales, 64.4% of burnt vehicles were recovered within one day of the theft compared to 48.9% among non-burnt vehicles. This suggests that most vehicle arson occurs very soon after the vehicle has been stolen. The faster recovery time for burnt vehicles may be because the fire attracts attention which results in the recovery of the vehicle. This finding, along with the preceding figures, indicate that most burnt vehicles are being stolen in the early evening then dumped and set alight later that same night.



Vehicle profile

Vehicle type

Table 2 shows that the large majority of vehicles recovered burnt during 2005/06 were passenger and light commercial vehicles. Stolen motorcycles are rarely recovered at all, which partly explains why they made up such a small proportion of vehicles recovered burnt. Also, motorcycles are much more likely to be stolen for their value than for joyriding or to aid in the commission of another crime, so they are less likely to be burnt to destroy evidence of this sort of crime, or to be burnt frivolously following a joyriding incident.

Table 2 shows that motorcycles made up different proportions of burnt and not burnt vehicles, constituting only a very small proportion of the burnt vehicles. Motorcycles stolen in the year differed from stolen passenger/light commercial vehicles in several important ways: they were newer than passenger/light commercial vehicles; they had a lower mean value despite being newer; and motorcycles generally do not have immobilisers. Heavy/other vehicles also made up very small proportions of thefts overall and generally differ from passenger/light commercial vehicles in similar ways. For these reasons, analyses in this section which would be affected by the inclusion of motorcycles and other vehicles include only passenger/light commercial vehicles.

Table 2. Australia and New South Wales - Type of vehicles recovered burnt, 2005/06

Vehicle type	South Australia				New South Wales			
	N (%)							
	Burnt		Not burnt		Burnt		Not burnt	
Passenger/light commercial	631	(97.4%)	6,277	(91.0%)	3,015	(96.5%)	21,880	(86.5%)
Motorcycles	6	(0.9%)	508	(7.4%)	20	(0.6%)	2,212	(8.7%)
Heavy/Other/Unknown	11	(1.7%)	111	(1.6%)	90	(2.9%)	1,193	(4.7%)

Vehicle make

Figures 14 and 15 show the distribution by manufacturer for the top passenger/light commercial theft targets in 2005/06, for burnt and not burnt stolen vehicles. In both States, the distributions of thefts by manufacturer were very similar for vehicles recovered burnt and those not recovered burnt. In New South Wales vehicles manufactured by Holden were slightly more likely to be recovered burnt, and vehicles manufactured by Toyota were slightly less likely to be recovered burnt.

Figure 14. South Australia - Stolen passenger/light commercial vehicles burnt and not burnt by make (top 10), 2005/06

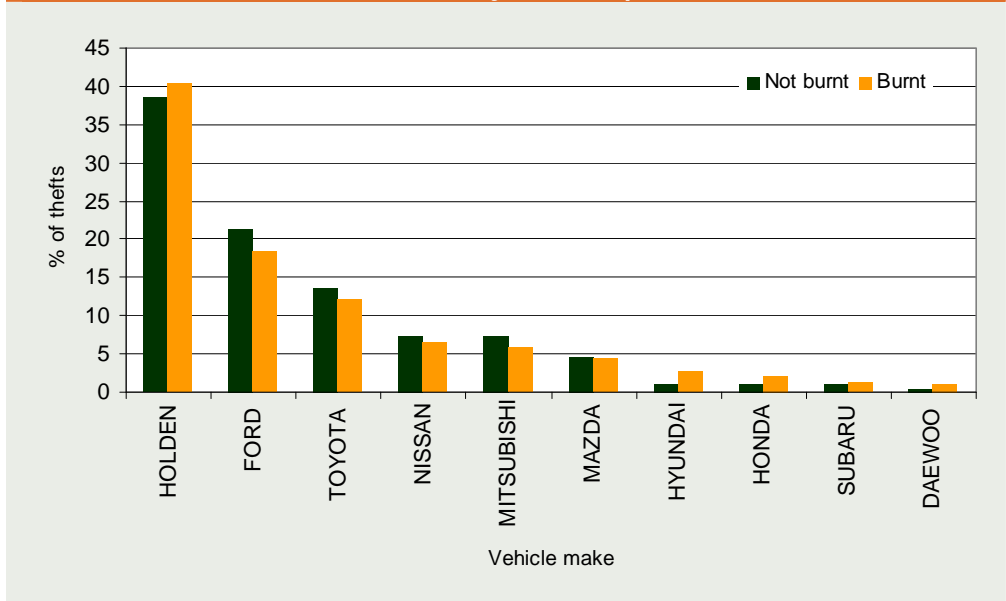
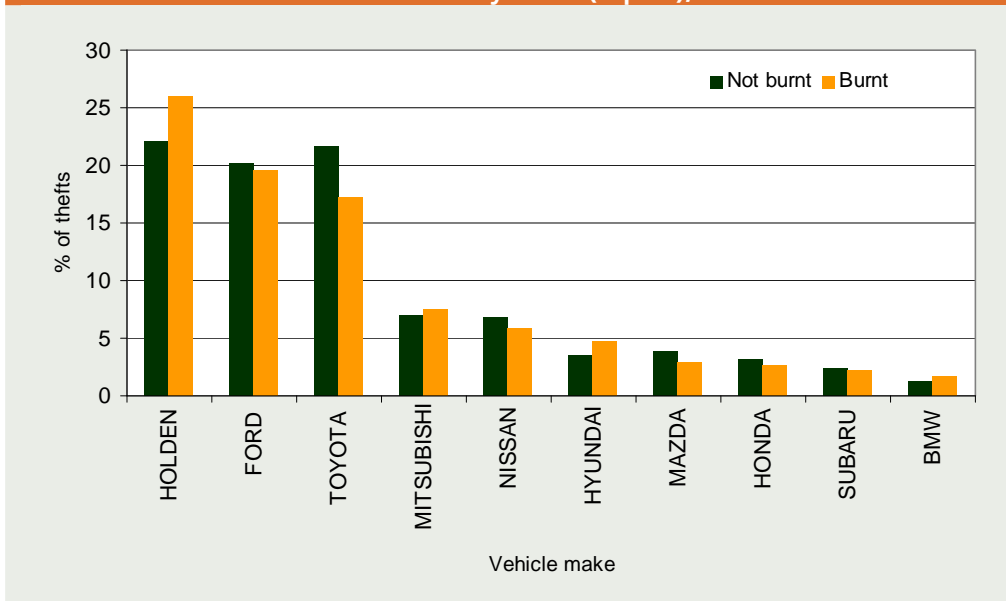


Figure 15. New South Wales - Stolen passenger/light commercial vehicles burnt and not burnt by make (top 10), 2005/06



Top passenger/light commercial theft targets

Table 3 shows the top ten passenger/light commercial vehicles recovered burnt in South Australia, by make, model and series. The table is mostly made up of Holden Commodores. The table shows that in most cases, the proportion of thefts is similar for both burnt and not burnt vehicles. Holden Commodore VT, VS and VR made up a larger proportion of the burnt vehicles than the non-burnt vehicles, suggesting they are more likely than some other vehicles to be recovered burnt once stolen.

Table 3. South Australia - Top passenger/light commercial vehicles recovered burnt, 2005/06

Make/model/series	Frequency	% of vehicles recovered burnt	% of stolen vehicles not burnt
HOLDEN COMMODORE VN	40	6.3	6.1
HOLDEN COMMODORE VL	35	5.5	6.3
HOLDEN COMMODORE VT	23	3.6	1.4
HOLDEN COMMODORE VK	20	3.2	3.9
HOLDEN COMMODORE VS	17	2.7	1.4
HOLDEN COMMODORE VR	16	2.5	0.9
FORD FALCON EA	15	2.4	3.4
HOLDEN COMMODORE VP	14	2.2	1.7
FORD LASER KB	9	1.4	1.3
NISSAN SKYLINE	9	1.4	1.5

Table 4 shows the top passenger/light commercial vehicles recovered burnt for New South Wales, by make, model and series. Again, Holden Commodores feature as popular targets. Most vehicles in the table make up similar proportions of both burnt and not burnt stolen vehicles, indicating that no particular models are likely to be targeted to be burnt. Holden Commodore VN, VT and VS were slightly over-represented among the burnt vehicles, indicating that once stolen they have a slightly higher risk than some other vehicles to be recovered burnt.

Table 4. New South Wales - Top passenger/light commercial vehicles recovered burnt, 2005/06

Make/model/series	Frequency	% of vehicles recovered burnt	% of stolen vehicles not burnt
HOLDEN COMMODORE VN	171	5.7	4.4
FORD FALCON EA	102	3.4	3.6
HOLDEN COMMODORE VL	95	3.2	2.8
HOLDEN COMMODORE VT	95	3.2	1.6
HYUNDAI EXCEL X3	93	3.1	2.2
TOYOTA TARAGO YR22	68	2.3	2.2
HOLDEN COMMODORE VS	65	2.2	1.4
HOLDEN COMMODORE VR	44	1.5	1.1
FORD LASER KE	41	1.4	1.4
FORD FALCON EF	36	1.2	0.6

Vehicle age

Figure 16 shows that in South Australia during the 2005/06 financial year, stolen vehicles recovered burnt were generally newer than other stolen vehicles. Burnt vehicles were more likely than non-burnt stolen vehicles to fall into the 6 to 10 year and 11 to 15 year age groups. Non-burnt stolen vehicles were more likely to fall into the older age groups. Figure 17 shows that in New South Wales, vehicles aged 6 to 10 years were over-represented among the burnt vehicles. Overall, these findings mean that once stolen, vehicles of these age groups (particularly those age 6 to 10 years) have a higher risk of being recovered burnt than vehicles of other ages. It is likely that many of these cases are instances of insurance fraud because vehicles in this age group are no longer covered by a new car warranty, and are at an age where they may begin to require costly repairs. However they are perhaps still valuable enough for a fraudulent claim to seem worthwhile to the vehicle owner.

Figure 16. South Australia - Stolen passenger/light commercial vehicles burnt and not burnt by vehicle age groups, 2005/06

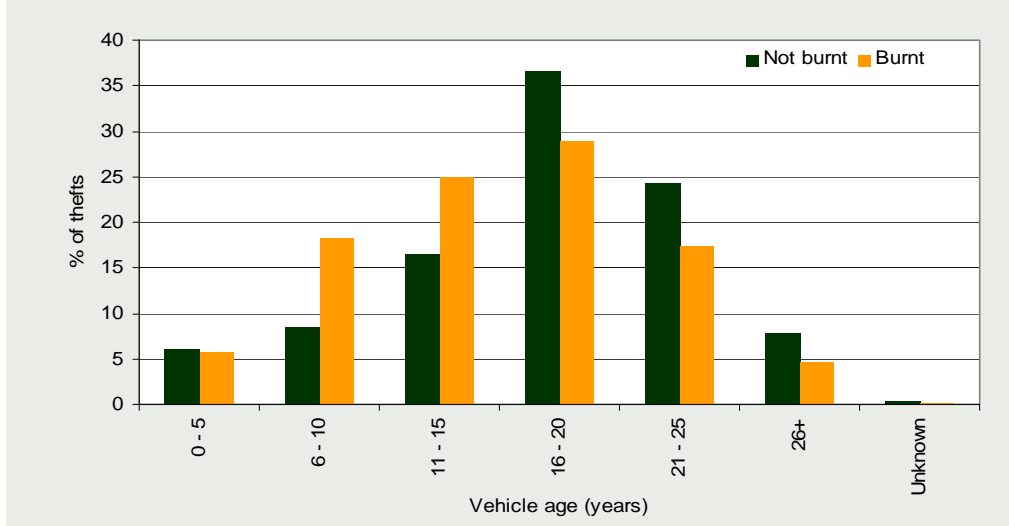
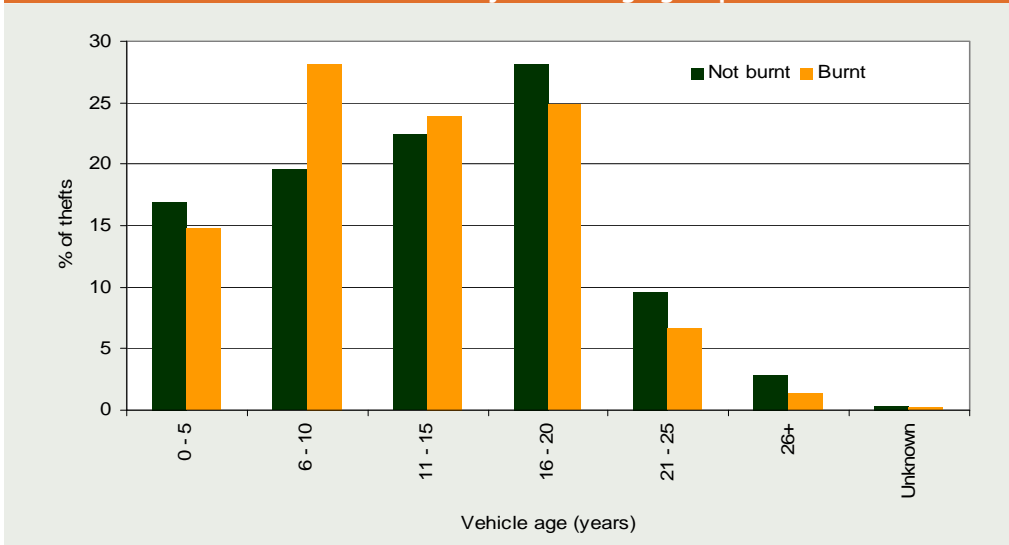


Figure 17. New South Wales - Stolen passenger/light commercial vehicles burnt and not burnt by vehicle age groups, 2005/06



Figures 18 and 19 show that in both States the average age of burnt vehicles over time has consistently been lower than that for vehicles not recovered burnt. As noted in Table 1, the overall mean age of vehicles stolen in South Australia was generally higher than that for New South Wales. In both States, particularly New South Wales, the average age of stolen vehicles overall has increased slightly over time, with a shift towards older theft targets. This may be a response to improving security of newer vehicles, and the introduction of other initiatives such as the written-off vehicles register, which prevents identities of vehicles aged up to 15 years from being used to re-birth a stolen vehicle.

Figure 18. South Australia - Mean age for passenger/light commercial vehicles recovered burnt and not recovered burnt by financial year

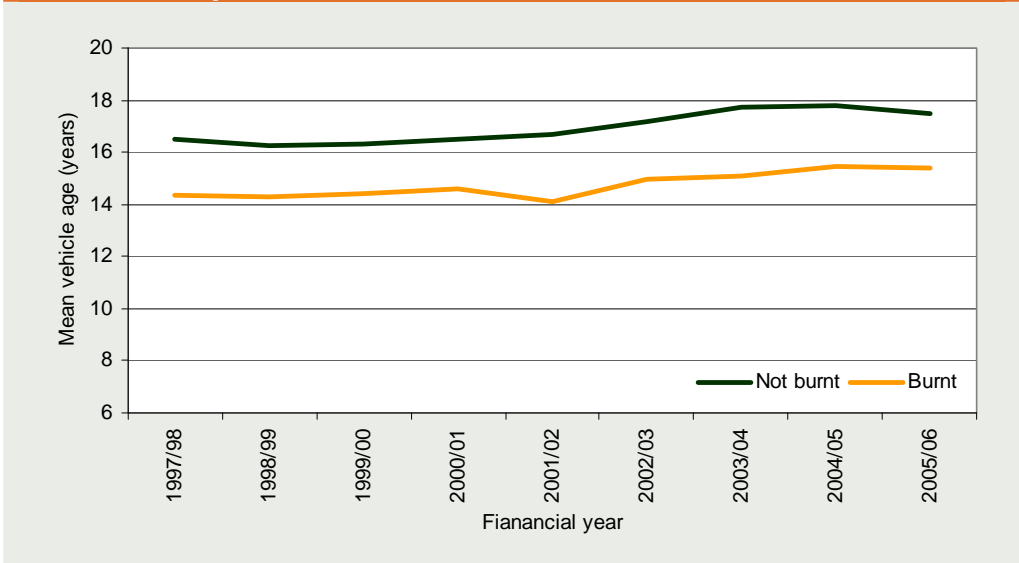
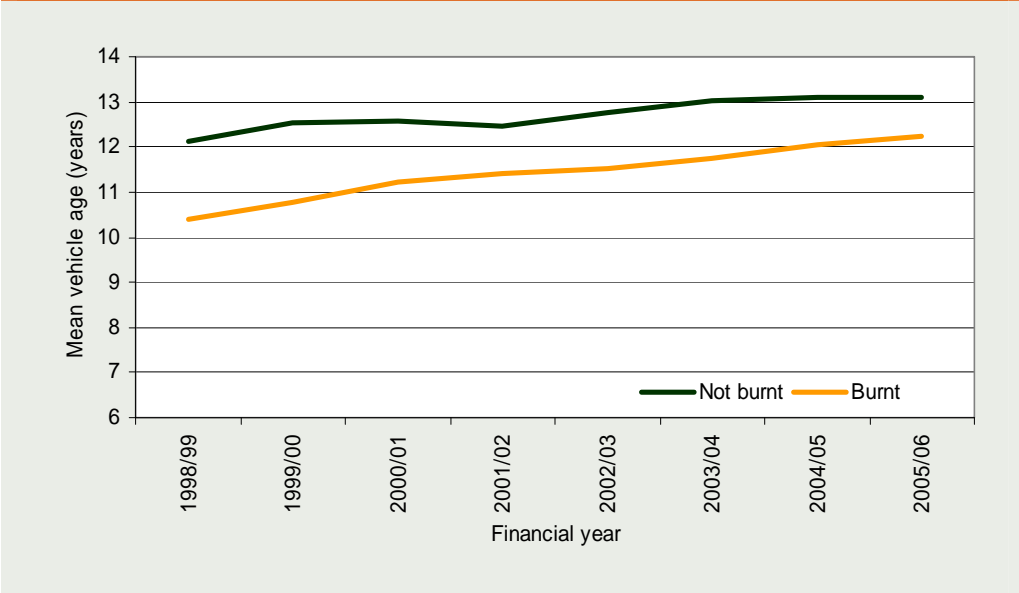


Figure 19. New South Wales - Mean age for passenger/light commercial vehicles recovered burnt and not recovered burnt by financial year



Immobiliser status

Figures 20 and 21 show burnt and not burnt stolen passenger/light commercial vehicles by immobiliser type. The CARS data regarding immobiliser status included factory-fitted immobilisers only, and only assumed a vehicle had an immobiliser fitted if it was a standard feature for that make/model/series combination; if it was an optional extra it was assumed that the vehicle did not have an immobiliser.

Australian Standard immobilisers have been compulsory on all new passenger vehicles since 2001, but prior to that time some manufacturers had already started fitting immobilisers to vehicles. These had varying levels of effectiveness and some were equivalent to the current Australian Standard while others were not. Most vehicles fitted with a non-Australian Standard immobiliser were manufactured in the 1990s, although not all were.

Figure 20 shows that in South Australia burnt vehicles were slightly more likely to have an immobiliser overall, particularly a non-Australian Standard immobiliser, and less likely to have no immobiliser. This is probably associated with the age profile of burnt vehicles, which were more likely than non-burnt vehicles to be aged between 6 and 15 years. This means they were more likely to be manufactured in the 1990s, and hence were more likely to have either a non-Australian Standard immobiliser, or no immobiliser, fitted. In New South Wales there was no notable difference in immobiliser status between the two groups.

Figure 20. South Australia - Stolen passenger/light commercial vehicles burnt and not burnt by immobiliser type, 2005/06

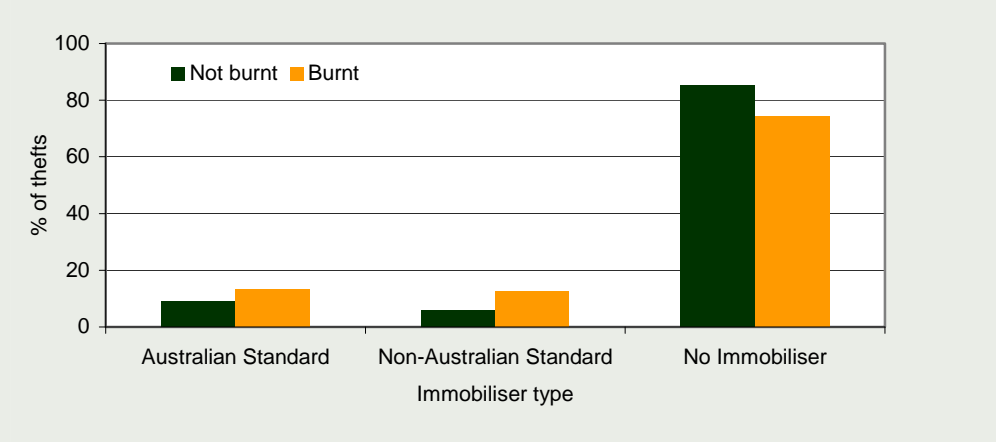
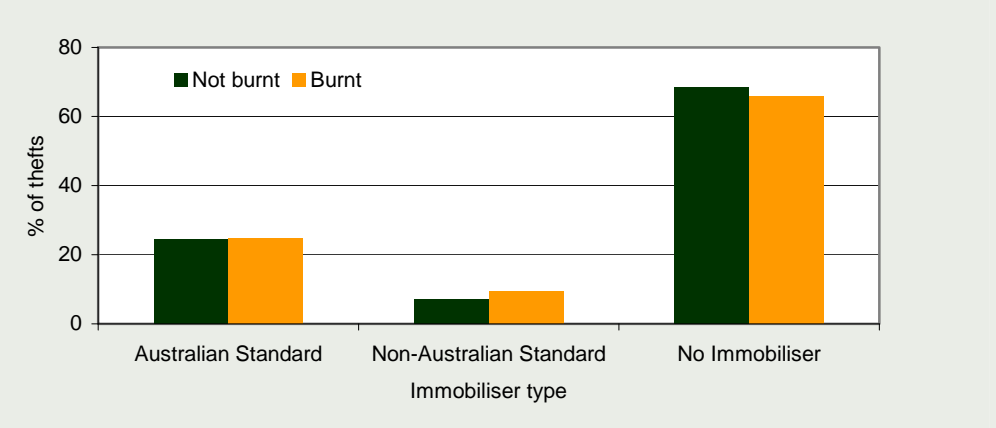


Figure 21. New South Wales - Stolen passenger/light commercial vehicles burnt and not burnt by immobiliser type, 2005/06



Vehicle value

During the 2005/06 financial year the total estimated value of all stolen vehicles recovered burnt in South Australia was \$4.6 million and in New South Wales was \$158.4 million. These figures are based on the estimated vehicle value provided to the police by the victim at the time the theft was reported. It should be emphasised that this is the total estimated value of the stolen vehicles, and not necessarily the value of the damage caused by arson. Figure 22 shows that in South Australia the total estimated value of stolen burnt vehicles each year generally increased with time, as the number of vehicles recovered burnt increased. Similarly, Figure 23 shows that in New South Wales the total value of stolen vehicles recovered burnt peaked then declined, in line with the number of vehicles recovered burnt overall. In both States arson of burnt vehicles represents a considerable cost to the community.

Figure 22. South Australia - Total estimated value of stolen vehicles recovered burnt by financial year

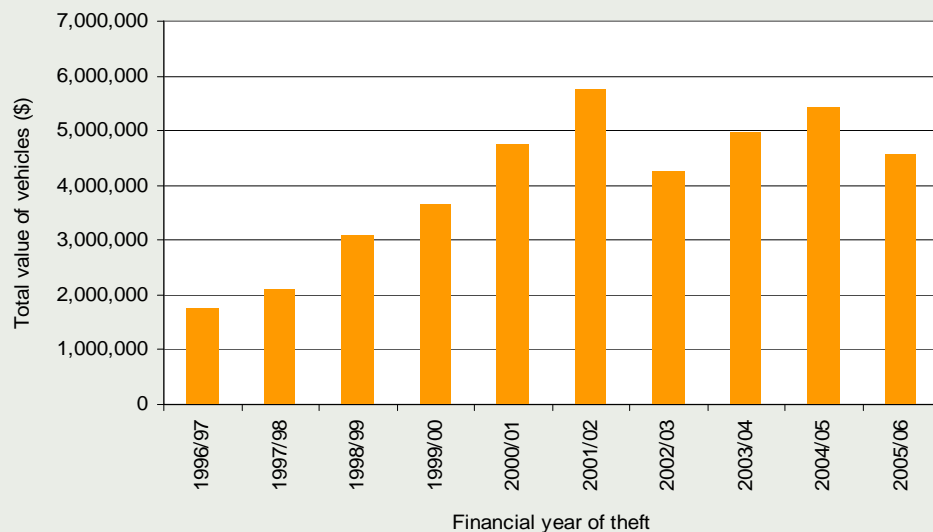
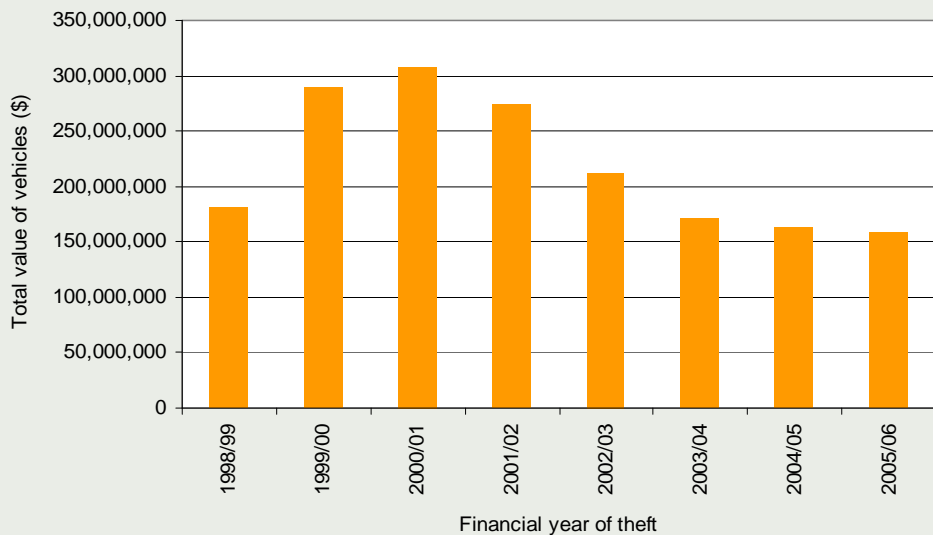


Figure 23. New South Wales - Total estimated value of stolen vehicles recovered burnt by financial year



Figures 24 and 25 show the mean estimated value of stolen vehicles recovered burnt and those not recovered burnt, by financial year. Figure 24 shows that in South Australia the mean estimated value of the burnt vehicles remained considerably higher than for vehicles stolen and not recovered burnt. Interestingly, Figure 25 shows that the opposite is true in New South Wales, where vehicles recovered burnt have a lower mean estimated value than those not recovered burnt. This is the opposite of what may be expected based on findings in Figures 17 and 19 which showed that burnt stolen vehicles in New South Wales were newer overall than not burnt stolen vehicles. Further, in South Australia, the two lines in the graph are converging, while in New South Wales they are diverging.

A possible explanation for the higher estimated vehicle value for not burnt stolen vehicles in New South Wales could be the fact that this group includes unrecovered vehicles, which tend to have a higher value than recovered stolen vehicles. Table 1 showed that New South Wales has a lower recovery rate than South Australia, and hence the not burnt group would include a larger number of unrecovered vehicles. However, this still does not explain why the burnt vehicles are newer overall but not worth more than the not burnt vehicles. It must be kept in mind that this analysis is not based on an objective estimate of the vehicle value, but rather on the estimated value provided by the theft victim at the time of reporting the theft to police. Therefore findings based on this data must be regarded with caution.

Figure 24. South Australia - Mean estimated vehicle value for passenger/light commercial vehicles recovered burnt and not recovered burnt by financial year

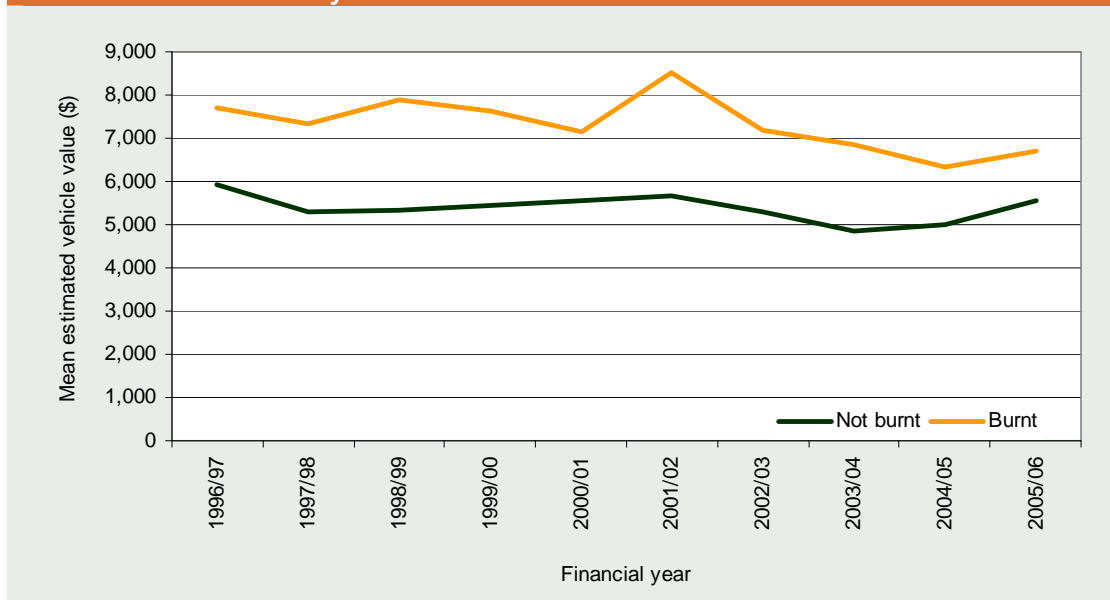
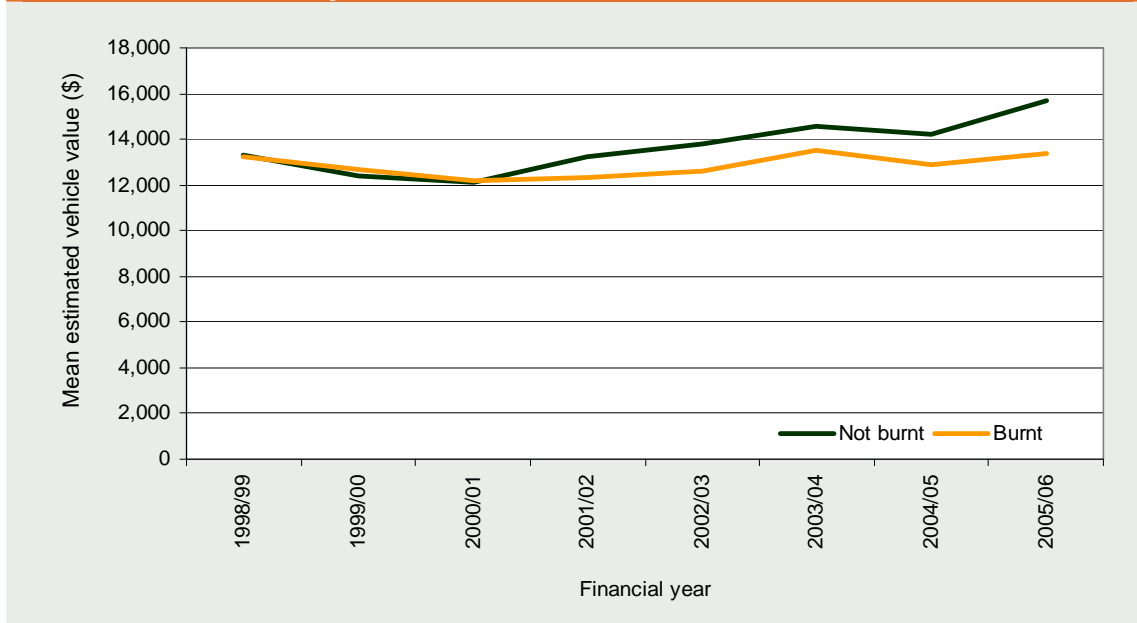


Figure 25. New South Wales - Mean estimated vehicle value for passenger/light commercial vehicles recovered burnt and not recovered burnt by financial year



Geographical factors

Theft and recovery location

South Australia

Figures 26 and 27 are thematic maps of greater Adelaide, showing the theft and recovery location of all vehicles recovered burnt during the 2005/06 financial year. Figure 26 shows that most of the vehicles recovered burnt are stolen in a small number of postcodes in the north and northeast of Adelaide, and many are also stolen from the central business district (CBD). Two postcodes to the south of the CBD also show more than 10 thefts.

Figure 27 shows a rather different picture, with the majority of recoveries occurring across a large area in Adelaide's north. Only a small number of vehicles are recovered burnt in the inner metropolitan area, but two southern postcodes also show a moderate number of burnt recoveries. The maps suggest that some vehicles are stolen in the city and driven to the north before being set alight. These areas in Adelaide's north are more sparsely populated than the inner-city suburbs. There are many locations where a vehicle could be dumped and set alight undetected, which is a likely explanation for the density of burnt recoveries in this region.

Figure 27. Adelaide - Recovery location of vehicles stolen and recovered burnt, 2005/06

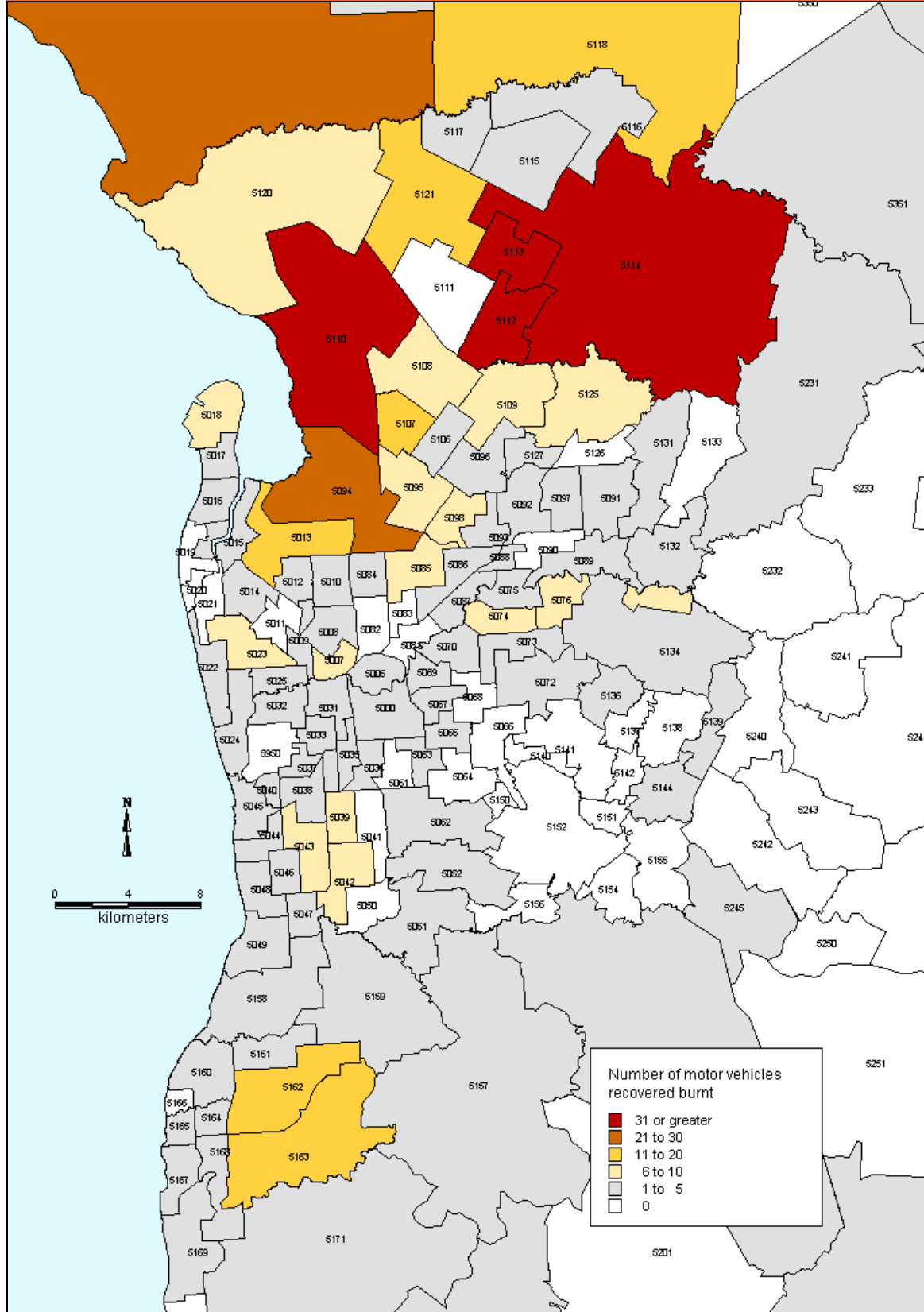


Table 5 lists the top theft postcodes for vehicles recovered burnt in South Australia, while Table 6 lists the top recovery postcodes for burnt vehicles. Many areas feature in both tables, but not all. Consistent with Figures 26 and 27, the suburb of Adelaide appears in the list of top theft locations but not the top recovery locations, suggesting that some vehicles are stolen in Adelaide's CBD but driven to the northern suburbs to be dumped and burnt. The postcode 5108 (which is also in Adelaide's north) also features in the top theft area list but not in the top recovery area list, suggesting that vehicles may be stolen here and driven further north before being burnt.

For recoveries, postcodes 5013 and 5162 accounted for a similar proportion of recoveries of both burnt and not burnt vehicles, but all others in the table accounted for a far larger proportion of burnt vehicle recoveries than of non-burnt recoveries. This shows that vehicles recovered in these areas are more likely to be burnt than vehicles recovered in other areas. There may be something about these areas which make them popular places to dump and set fire to vehicles, such as open spaces, or secluded locations, away from densely populated areas.

Table 5. South Australia - Top nine postcodes for theft of vehicles recovered burnt

Postcode	Examples of suburbs	No. stolen and recovered burnt	% of recovered burnt	No. stolen and not recovered burnt	% of stolen and not recovered burnt
5108	Salisbury, Paralowie	40	6.2	314	4.6
5112	Elizabeth, Elizabeth Vale, Hillbank	40	6.2	227	3.3
5000	Adelaide	34	5.2	452	6.6
5114	Craigmore, Smithfield	27	4.2	157	2.3
5113	Davoren Park, Elizabeth Downs	21	3.2	154	2.2
5092	Modbury, Modbury Heights	20	3.1	139	2.0
5109	Salisbury East, Brahma Lodge	19	2.9	100	1.5
5118	Gawler, Willaston	16	2.5	84	1.2
5290	Mount Gambier	12	1.9	40	0.6

Table 6. South Australia - Top ten postcodes for recovery of burnt stolen vehicles

Postcode	Examples of suburbs	No. recovered burnt	% of recovered burnt	No. recovered not burnt	% of recovered not burnt
5114	Craigmore, Smithfield	40	6.2	103	1.8
5110	Bolivar, Burton	36	5.6	55	1.0
5113	Davoren Park, Elizabeth Downs	35	5.4	166	2.9
5112	Elizabeth, Elizabeth Vale, Hillbank	31	4.8	170	3.0
5094	Cavan, Gepps Cross	21	3.2	50	0.9
5501	Lower Light, Port Gawler	21	3.2	12	0.2
5013	Rosewater, Wingfield	19	2.9	151	2.7
5118	Gawler, Willaston	18	2.8	40	0.7
5121	Penfield, Penfield Gardens	18	2.8	6	0.1
5162	Morphett Vale, Woodcroft	14	2.2	85	1.5

Tables 7 and 8 use Local Government Areas (LGAs) as the geographical unit. Metropolitan Adelaide is made up of 19 LGAs, as shown in Figure 28. Table 7 shows the top 9 LGAs for the recovery of stolen vehicles in the 2005/06 financial year. The top three LGAs (the Cities of Playford, Salisbury and Port Adelaide Enfield) are all adjoining, in Adelaide's north. Together they account for 47.2% of all burnt vehicle recoveries in South Australia.

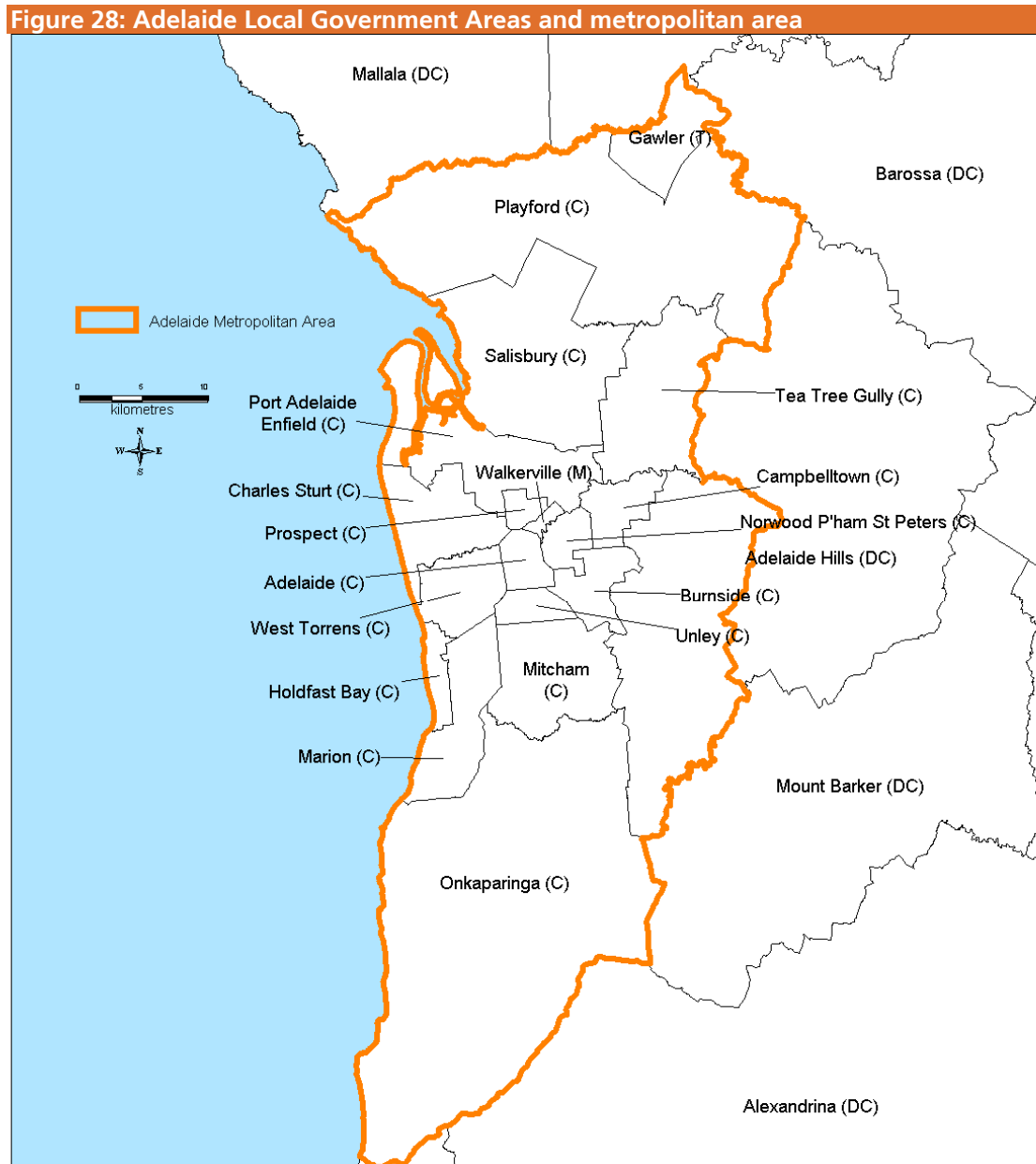


Table 7. South Australia – Top nine Local Government Areas (LGA) for recovery of burnt stolen vehicles, 2005/06

Local Government Area	Number recovered burnt	% of recovered burnt
PLAYFORD (C)	148	22.8
SALISBURY (C)	87	13.4
PORT ADELAIDE ENFIELD (C)	71	11.0
ONKAPARINGA (C)	62	9.6
CHARLES STURT (C)	41	6.3
MALLALA (DC)	30	4.6
MARION (C)	30	4.6
CAMPBELLTOWN (C)	20	3.1
TEA TREE GULLY (C)	20	3.1

C = City, DC = District Council, M = Municipality, T= Town

Table 8 presents the theft location for vehicles recovered burnt in this northern Adelaide area, by including only vehicles recovered burnt in the top three LGAs, and showing which LGA these vehicles were stolen from. The table shows that the majority of vehicles (66%) were also stolen from one of these three northern LGAs, suggesting that the theft and arson of vehicles is a predominantly localised problem in northern Adelaide. However, some thefts occurred right across the Adelaide metropolitan area (including the central business district (CBD) and southern suburbs), which supports the notion that northern Adelaide serves as a ‘dumping ground’ for car thieves to dispose of and set fire to stolen vehicles taken from other areas. It must be noted that this analysis only includes vehicles both stolen and recovered within South Australia so vehicles stolen interstate and recovered in South Australia do not appear here.

Table 8. South Australia - Theft location by LGA for vehicles recovered burnt in the Cities of Salisbury, Playford or Port Adelaide Enfield, 2005/06

Local Government Area	Number of thefts	% of recovered burnt
SALISBURY (C)	88	28.8
PLAYFORD (C)	78	25.5
PORT ADELAIDE ENFIELD (C)	37	12.1
CHARLES STURT (C)	22	7.2
ADELAIDE (C)	21	6.9
TEA TREE GULLY (C)	20	6.5
MITCHAM (C)	6	2.0
GAWLER (T)	5	1.6
NORWOOD PAYNEHAM ST PETERS (C)	4	1.3
ONKAPARINGA (C)	4	1.3
PROSPECT (C)	4	1.3
WEST TORRENS (C)	4	1.3
MARION (C)	3	1.0
UNLEY (C)	3	1.0
CAMPBELLTOWN (C)	2	0.7
HOLDFAST BAY (C)	2	0.7
ADELAIDE HILLS (DC)	1	0.3
BURNSIDE (C)	1	0.3
LIGHT (REGC)	1	0.3
Total	306	100.0

C = City, DC = District Council, M = Municipality, T= Town

New South Wales

Figures 29 and 30 are thematic maps showing the theft and recovery postcodes for vehicles recovered burnt in greater Sydney. Figure 29 shows that most thefts occur in a group of postcodes across western and south-western Sydney, although some postcodes in the far north and far south also show a number of thefts. Figure 30 shows that although most recoveries of burnt vehicles occurred in the same general area (western and south-western Sydney), recoveries also tended to occur in areas further out. Like in Adelaide, this may suggest that offenders are stealing the cars and then driving them further away to less densely populated suburbs before dumping and burning them.

Figure 29. Sydney - Theft location of vehicles stolen and recovered burnt, 2005/06

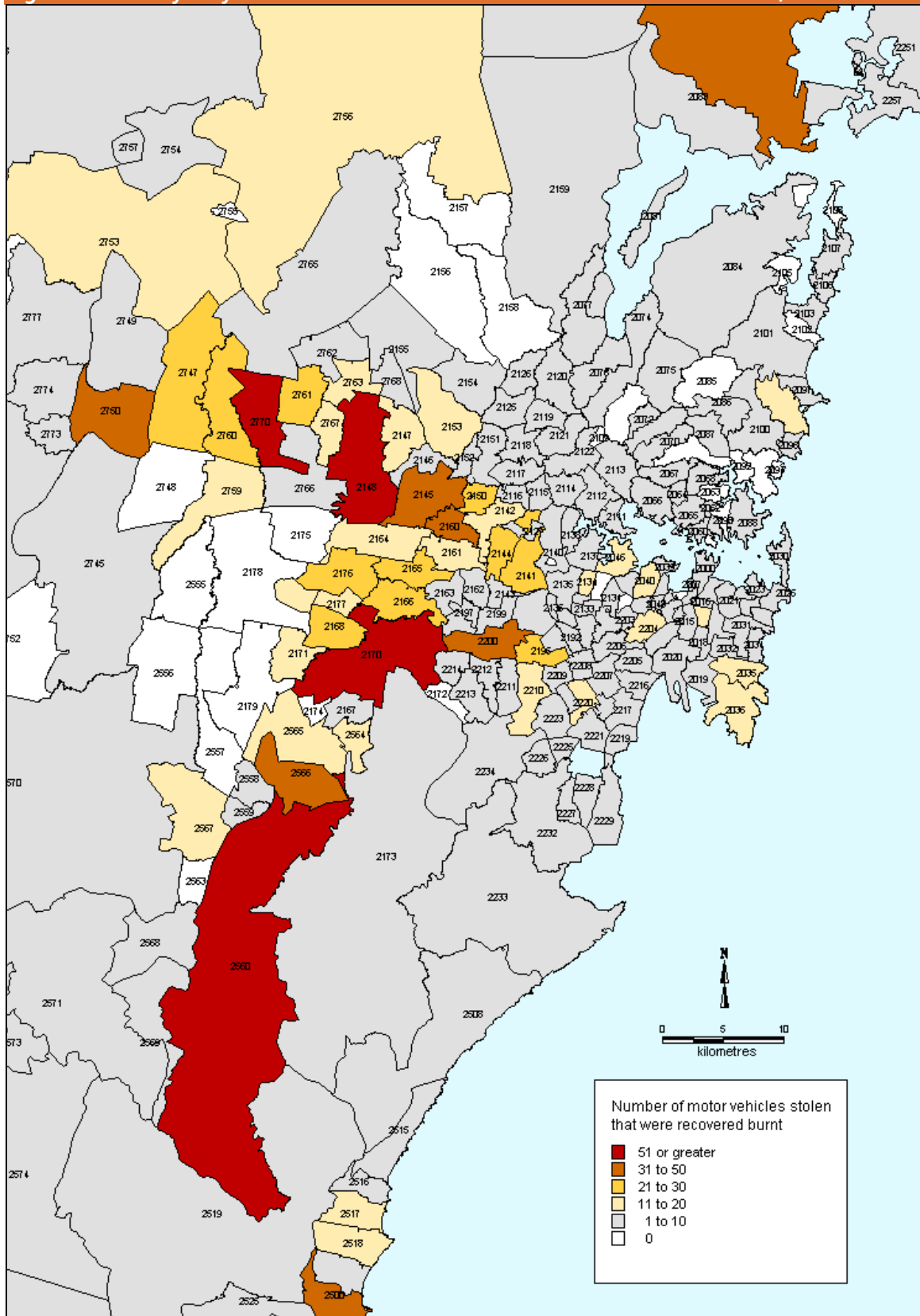


Table 9 lists the top ten theft postcodes in New South Wales for vehicles that were subsequently recovered burnt, while Table 10 shows the top ten recovery postcodes for burnt vehicles. Some postcodes feature in both lists, particularly 2560, which tops the list for both thefts and recoveries. Not all are in both lists however, suggesting that some vehicles are stolen and driven to other areas. In Table 10, postcodes 2770, 2200 and 2161 accounted for a similar proportion of recoveries of both burnt and not burnt vehicles, but most others in the table accounted for a far larger proportion of burnt vehicle recoveries than of non-burnt recoveries. This shows that vehicles recovered in these areas are more likely to be burnt than vehicles recovered in other areas.

Table 9. New South Wales - Top ten postcodes for theft of vehicles recovered burnt

Postcode	Examples of suburbs	No. stolen and recovered burnt	% of recovered burnt	No. stolen and not recovered burnt	% of stolen and not recovered burnt
2560	Bradbury, Campbelltown, Rosemeadow	145	4.6	530	2.1
2170	Casula, Liverpool, Moorebank	93	3.0	714	2.8
2770	Lethbridge Park, Mt Druitt	70	2.2	411	1.6
2259	Lake Munmorah, Tuggerah, Wyong	59	1.9	280	1.1
2148	Arndell Park, Blacktown, Huntingwood	51	1.6	430	1.7
2830	Dubbo	47	1.5	344	1.4
2200	Bankstown, Condell Park	44	1.4	502	2.0
2500	Wollongong, Gwyneville	44	1.4	286	1.1
2566	Minto, St Andrews	40	1.3	116	0.5
2285	Cardiff, Glendale	38	1.2	127	0.5

Table 10. South Australia - Top ten postcodes for recovery of burnt stolen vehicles

Postcode	Examples of suburbs	No. recovered burnt	% of recovered burnt	No. recovered not burnt	% of recovered not burnt
2560	Bradbury, Campbelltown, Rosemeadow	150	4.8	296	1.8
2770	Lethbridge Park, Mt Druitt	86	2.8	439	2.7
2259	Lake Munmorah, Tuggerah, Wyong	81	2.6	177	1.1
2171	Cecil Hills, West Hoxton	75	2.4	82	0.5
2200	Bankstown, Condell Park	68	2.2	307	1.9
2170	Casula, Liverpool, Moorebank	58	1.9	459	2.8
2325	Aberdare, Cessnock	46	1.5	130	0.8
2250	Erina, Gosford, Wyoming	45	1.4	145	0.9
2566	Minto, St Andrews	45	1.4	109	0.7
2161	Guildford, Yennora	43	1.4	189	1.1

Tables 11 and 12 use Local Government Areas (LGAs) as the geographical unit. Greater Sydney is made up of 37 LGAs, as shown in Figure 31 (although not all inner-city LGAs are labelled here). Table 11 shows the top 10 LGAs for recovery of burnt vehicles in New South Wales. Five of the top 10 LGAs, including the top 3, are all adjacent one another in Sydney's south-west, consistent with Figures 28 and 29. These are the Cities of Campbelltown, Blacktown, Bankstown, Liverpool and Fairfield. Together these adjacent LGAs account for 30.5% of burnt recoveries. The other two top LGAs for recovery of burnt vehicles, the Cities of Wollongong and Lake Macquarie, are not part of the Sydney metropolitan area.



A = Area, C = City, DC = District Council, M = Municipality, T = Town

Table 11. New South Wales - Top ten LGAs for recovery of burnt stolen vehicles, 2005/06

Local Government Area	Number recovered burnt	% of recovered burnt
CAMPBELLTOWN (C)	267	8.5
BLACKTOWN (C)	209	6.7
BANKSTOWN (C)	188	6.0
LAKE MACQUARIE (C)	159	5.1
WOLLONGONG (C)	156	5.0
LIVERPOOL (C)	149	4.8
FAIRFIELD (C)	139	4.4
WYONG (A)	133	4.3
PENRITH (C)	125	4.0
CESSNOCK (C)	98	3.1

A = Area, C = City, DC = District Council, M = Municipality, T= Town

Table 12 examines the theft location of the vehicles recovered in the five adjoining LGAs described previously; the Cities of Campbelltown, Blacktown, Bankstown, Liverpool and Fairfield. The table shows that 64.9% of the vehicles recovered in these combined LGAs were also stolen in one of these areas. However, the remainder were stolen from all over Sydney and also other regions of New South Wales, suggesting that south-western Sydney is a popular area for both stealing cars and also for dumping and burning cars stolen in other areas. It must be noted that this analysis only includes vehicles both stolen and recovered within New South Wales.

Table 12. South Australia – Top twenty theft LGAs for vehicles recovered burnt in the Cities of Campbelltown, Blacktown, Bankstown, Liverpool or Fairfield, 2005/06

Local Government Area	Number of thefts	% of recovered burnt
CAMPBELLTOWN (C)	210	22.1
BLACKTOWN (C)	146	15.3
LIVERPOOL (C)	100	10.5
FAIRFIELD (C)	90	9.5
BANKSTOWN (C)	72	7.6
CANTERBURY (C)	36	3.8
PENRITH (C)	34	3.6
PARRAMATTA (C)	33	3.5
HOLROYD (C)	31	3.3
AUBURN (A)	21	2.2
HURSTVILLE (C)	14	1.5
SYDNEY (C)	12	1.3
BAULKHAM HILLS (A)	10	1.1
LEICHHARDT (A)	10	1.1
SUTHERLAND SHIRE (A)	9	0.9
WAVERLEY (A)	9	0.9
CAMDEN (A)	8	0.8
RANDWICK (C)	8	0.8
WOLLONGONG (C)	8	0.8
HAWKESBURY (C)	7	0.7
Total (all LGAs)	952	100.0

A = Area, C = City, DC = District Council, M = Municipality, T= Town

Distance between theft and recovery postcode

The following analysis examines the distance between theft and recovery locations for burnt and non-burnt vehicles. The analysis is based on the centroids of the theft and location postcodes, and the Euclidean (or 'straight-line') distance between these. Therefore a vehicle stolen and recovered within the same postcode will be recorded here as being recovered 0 kilometres from the theft location. This gives a rough indication of the distance between the two locations, but it does not take into account any driving that occurred in between theft and recovery of the vehicle.

Figures 32 and 33 show the distance between the theft and recovery postcodes for burnt and not burnt recovered vehicles in both South Australia and New South Wales, broken into distance categories. The graphs show that burnt vehicles were less likely than non-burnt vehicles to be recovered within the same postcode from which they were stolen, and instead were more likely to be recovered between 6 and 50 kilometres away. It is interesting to note that in both States substantial proportions of stolen vehicles overall were recovered within the same postcode from which they were taken.

Figure 32. South Australia - Distance between centroids of theft and recovery postcodes for burnt and not burnt vehicles, 2005/06

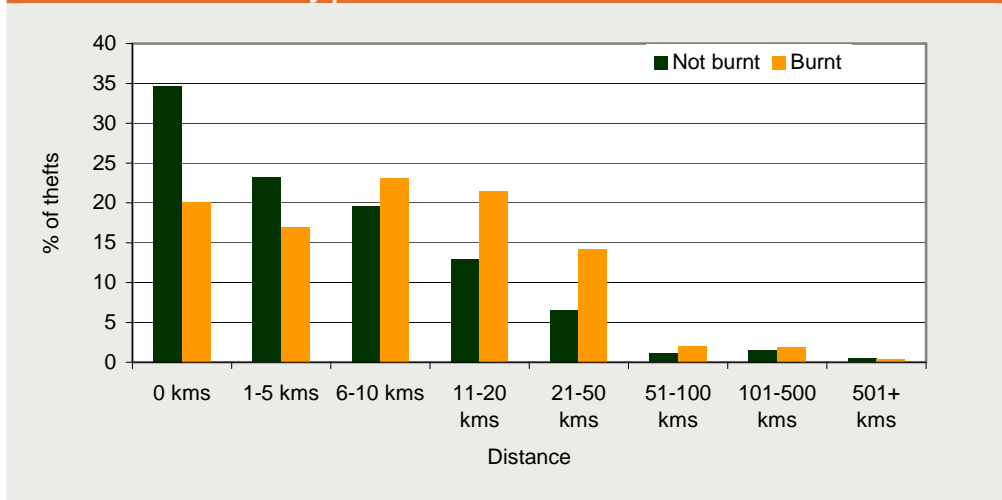
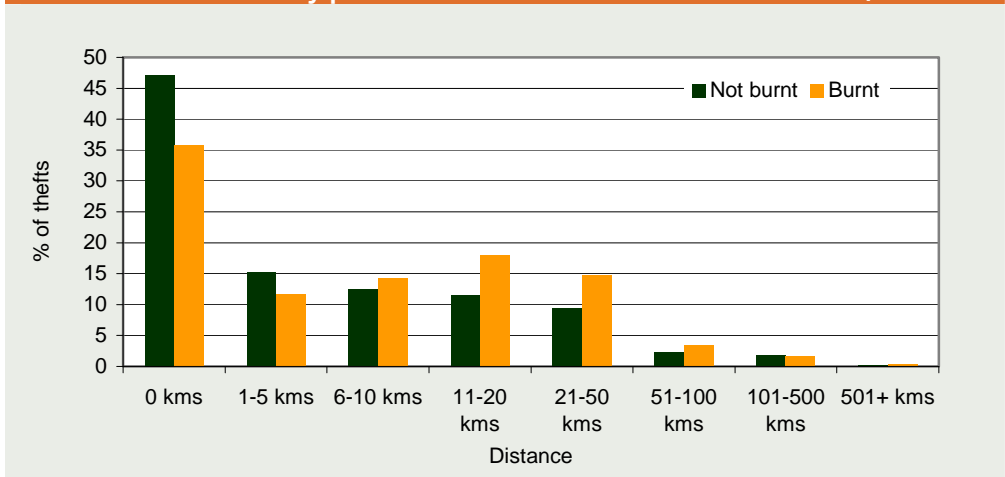


Figure 33. New South Wales - Distance between centroids of theft and recovery postcodes for burnt and not burnt vehicles, 2005/06



Recovery location type

Figures 34 and 35 show the broad types of locations in which vehicles were recovered during the 2005/06 financial year. South Australia and New South Wales police use different categories to record this data, but both figures show that burnt vehicles were slightly less likely to be recovered in residential areas and carparks, and more likely to be recovered in outdoor areas generally, such as reserves and scrubland.

Figure 34. South Australia - Recovery location type for burnt and not burnt recovered vehicles (top 7), 2005/06

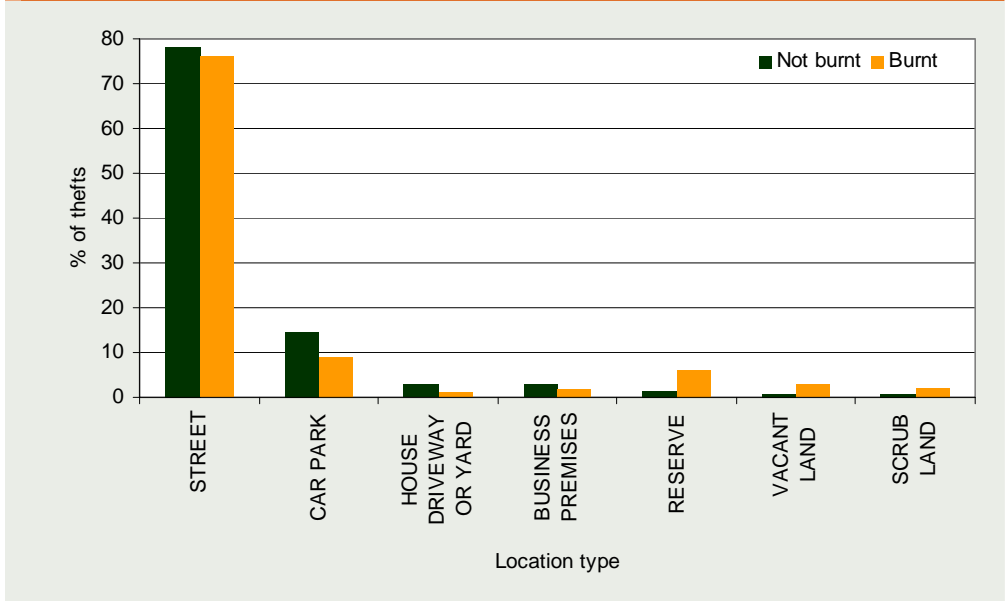
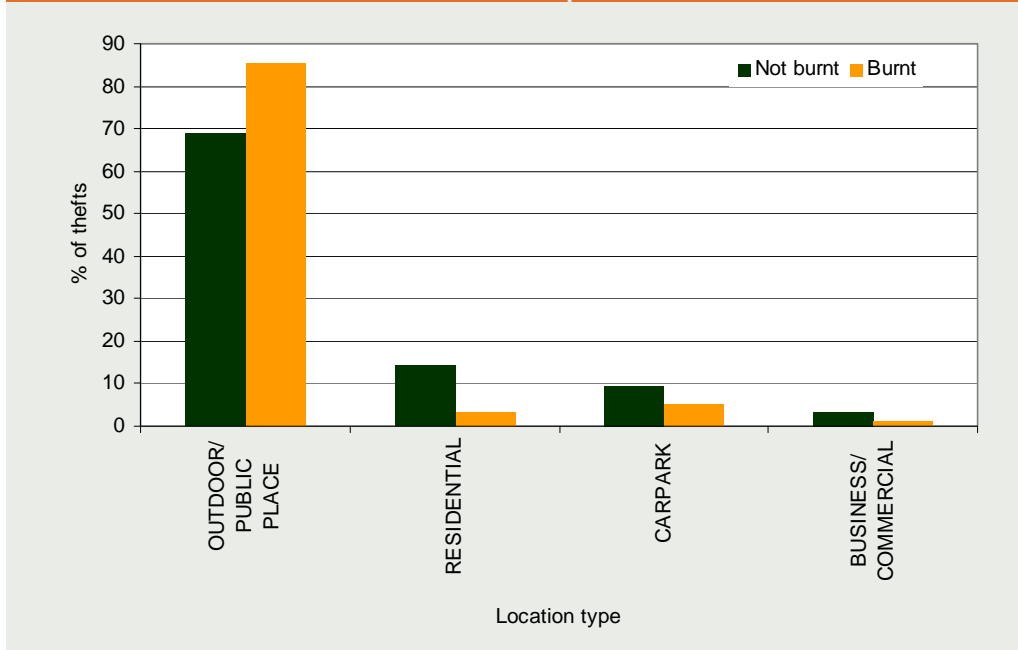


Figure 35. New South Wales - Recovery location type for burnt and not burnt recovered vehicles (top 4), 2005/06



New South Wales fire services data

This section features data provided by the New South Wales fire services, which includes the New South Wales Fire Brigades and the New South Wales Rural Fire Service. The data includes vehicle fires attended throughout New South Wales which were considered incendiary (intentionally lit) or suspicious. Not all of these fires relate to stolen vehicles, and conversely not all stolen vehicle fires would be attended by fire services. However, this data can give an indication of the impact vehicle arson generally places on the fire services. Unfortunately this data is not available for South Australia because data is not recorded by the South Australian Metropolitan Fire Service during periods of industrial action, and in some recent years there have been a substantial number of days of industrial action meaning the dataset is incomplete.

Temporal factors

Figure 36 shows the number of vehicle fires attended by the New South Wales fire services each year in total, and also the number that were considered incendiary or suspicious. The graph shows that the number of incendiary or suspicious fires fluctuated between approximately 2,000 and 3,000 fires per year. There was an average of 2,479 incendiary vehicle fires each year over the past 11 years, placing a significant burden on New South Wales fire services. Incendiary and suspicious fires made up more than half of all vehicle fires attended in New South Wales over the past 11 years.

Figure 36. New South Wales - Incendiary and suspicious vehicle fires and all vehicle fires attended by fire services by financial year, 1995/96 – 2005/06

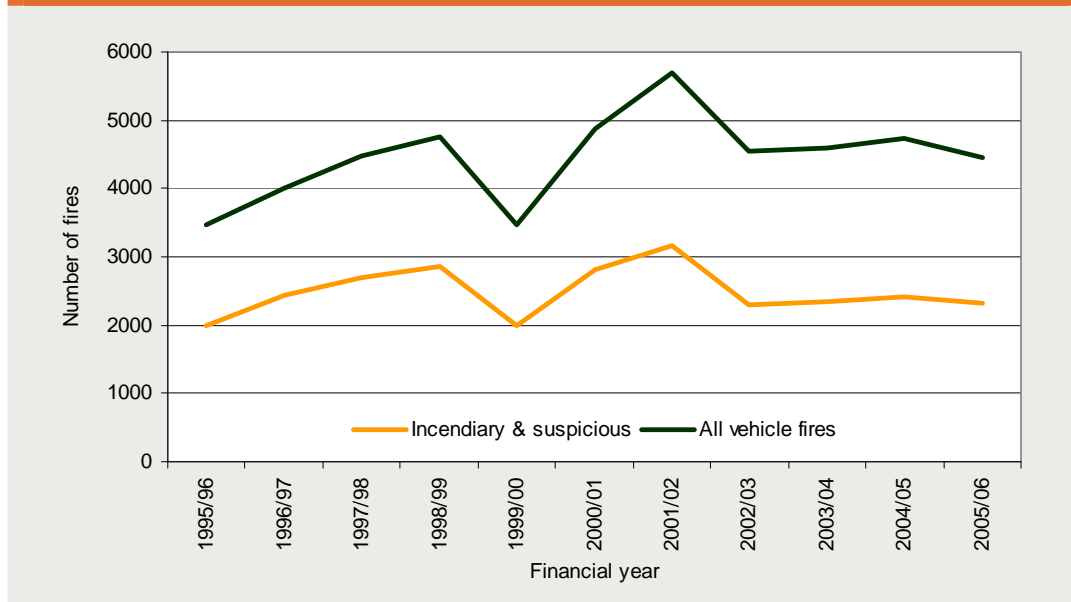


Figure 37 shows the day of the week on which incendiary and suspicious vehicle fires occurred, by financial year. Saturday and Sunday were consistently the most common days for incendiary and suspicious vehicle fires to occur. CARS theft data showed that Fridays, Saturdays and Sundays were the most common days for theft of vehicles which were later recovered burnt (see Figure 7), and also that most burnt vehicles were recovered within one day of being stolen (see Figure 13).

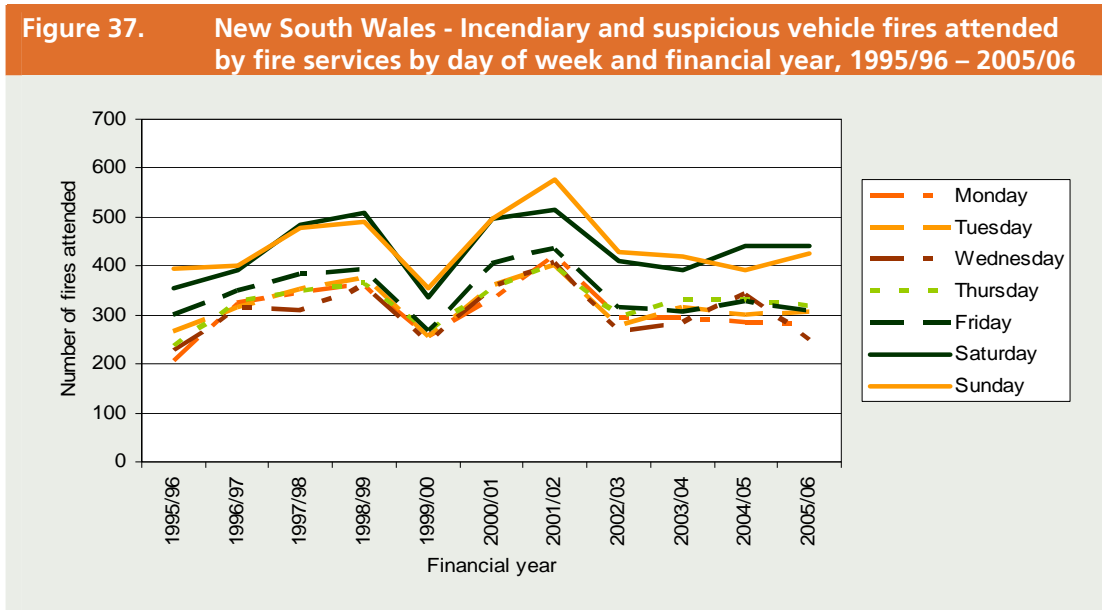


Figure 38 shows the time of day in which incendiary and suspicious vehicle fires occurred, by financial year. The graph shows that the bulk of these fires attended by fire services occurred between midnight and 4.00am, and between 4.00am and 8.00am. This is consistent with CARS data indicating that the most common time for burnt vehicles to be recovered was during the night (between 8.00pm and 8.00am). It is likely that many burnt stolen vehicles were recovered at the time that the fire was attended by police and/or fire services.

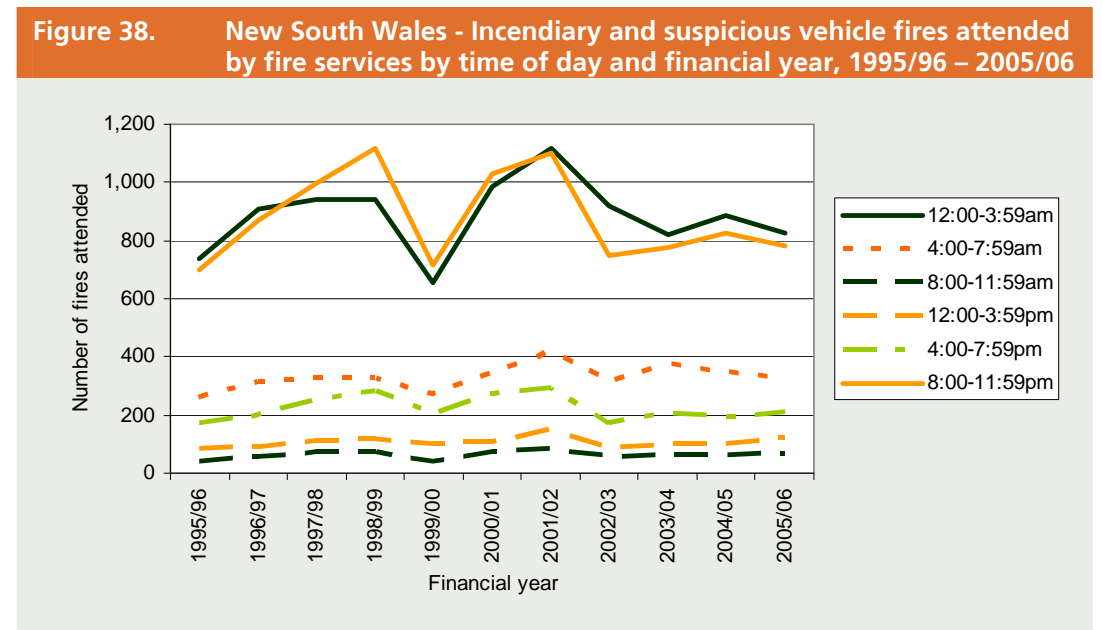
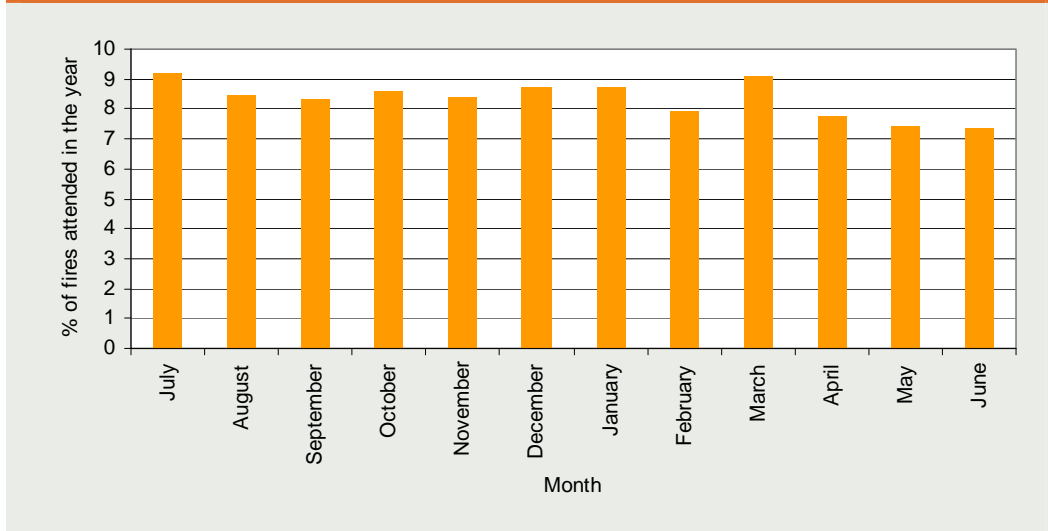


Figure 39 shows the proportion of thefts occurring in each calendar month for the last five financial years combined. The figure shows similar proportions of fires occurring in each month, with slight peaks in March and July (consistent with CARS data for recovery of burnt stolen vehicles), and low points in May and June.

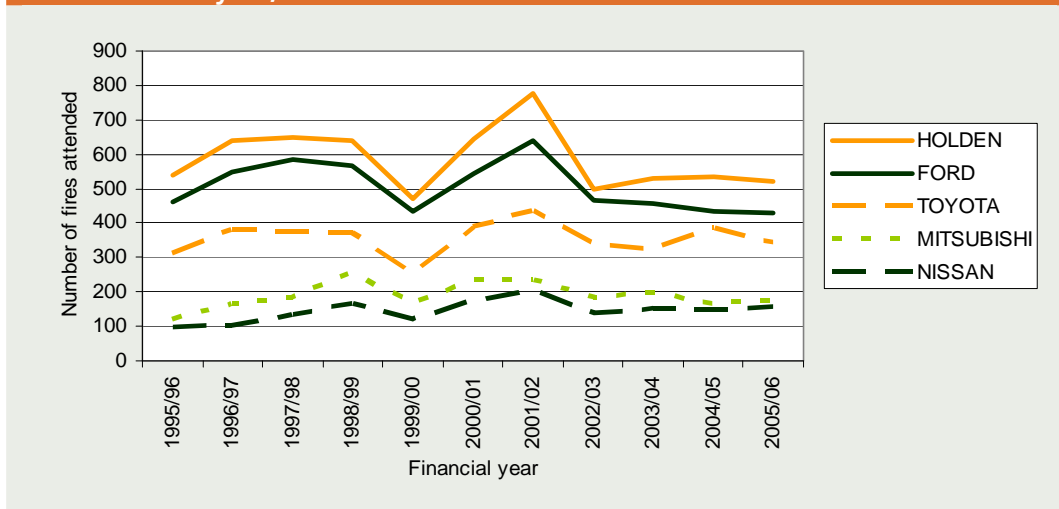
Figure 39. New South Wales - Incendiary and suspicious vehicle fires attended by fire services by calendar month, 2001/02 – 2005/06 combined



Vehicle factors

Figure 40 shows the top five makes for incendiary and suspicious vehicle fires attended by fire services. Holden and Ford remained the most common makes for fires over the past 11 years. Fire services personnel provide an estimate of the damage caused by the fire at the time that they record the fire into their database. These estimates are based on a range of value estimation tools including vehicle value estimate guides. In 2005/06 arson of Holden and Ford vehicles alone resulted in an estimated \$16.2 million of damage. Damage by all deliberate vehicle fires attended by fire services in 2005/06 resulted in an estimated total of \$22.5 million.

Figure 40. New South Wales - Incendiary and suspicious vehicle fires attended by fire services by vehicle make (top five) and financial year, 1995/96 – 2005/06



Geographical factors

Table 13 shows the type of area in which vehicle fires attended by fire services occurred during the 2005/06 financial year. The table shows that most (71%) of the incendiary and suspicious vehicle fires occurred in major cities. Vehicle fires occurring in major cities were also the most likely to be considered incendiary or suspicious, with 57% of all fires attended in major cities considered incendiary or suspicious.

Table 13. New South Wales – Vehicle fires attended by fire services by area type, 2005/06

Type of area	Number of vehicle fires attended	Number of incendiary and suspicious vehicle fires attended	% of incendiary and suspicious fires	% of all fires in area type to be classified incendiary or suspicious
Major Cities	2,870	1,644	70.6	57.3
Inner Regional	1,197	560	24.0	46.8
Outer Regional	322	106	4.5	32.9
Remote	60	13	0.6	21.7
Very Remote	13	6	0.3	46.2
Not reported	1	1	0.0	100.0
Total	4,463	2,330	100.0	52.2

Table 14 shows the top 10 LGAs in New South Wales for incendiary and suspicious vehicle fires attended by fire services during 2005/06. The Cities of Blacktown and Campbelltown show the greatest number of these fires, accounting for 9% and 8% respectively of all incendiary and suspicious vehicle fires. The LGAs listed in this table are consistent with the top LGAs for recovery of burnt stolen vehicles shown in Table 11.

Table 14. New South Wales – Incendiary and suspicious vehicle fires attended by fire services by LGA (top ten), 2005/06

Local Government Area	Number of incendiary/suspicious vehicle fires attended	% of incendiary/suspicious fires attended
BLACKTOWN (C)	216	9.3
CAMPBELLTOWN (C)	175	7.5
BANKSTOWN (C)	151	6.5
FAIRFIELD (C)	100	4.3
WOLLONGONG (C)	93	4.0
LAKE MACQUARIE (M)	86	3.7
LIVERPOOL (C)	82	3.5
PARRAMATTA (C)	66	2.8
CANTERBURY (M)	65	2.8
PENRITH (C)	63	2.7

Table 15 combines data from 1995/96 to 2005/06, and shows that Blacktown and Campbelltown remained top areas for incendiary and suspicious vehicle fires. Although the order is different, the same top ten LGAs feature in both Tables 15 and 16, indicating that problems with incendiary and suspicious vehicle fires have been present in these areas over the past decade.

Table 15 also shows the proportion of all vehicle fires in each LGA to be classified as incendiary or suspicious. All LGAs appearing in the table are above the State average of 55.6%, meaning that vehicle fires in these areas were more likely than fires in other areas to be deliberately lit.

Table 15. New South Wales – Vehicle fires attended by fire services by LGA (top ten), 1995/96 – 2005/06 combined

Local Government Area	Number of vehicle fires attended	Number of incendiary and suspicious vehicle fires attended	% of all fires in LGA to be classified incendiary or suspicious
CAMPBELLTOWN (C)	3,486	2,494	71.5
BLACKTOWN (C)	3,337	2,424	72.6
BANKSTOWN (C)	3,052	2,104	68.9
WOLLONGONG (C)	2,333	1,565	67.1
FAIRFIELD (C)	2,194	1,560	71.1
LIVERPOOL (C)	2,182	1,447	66.3
CANTERBURY (M)	1,814	1,285	70.8
PENRITH (C)	1,505	1,035	68.8
LAKE MACQUARIE (M)	1,363	914	67.1
PARRAMATTA (C)	1,240	721	58.1
NSW Total	49,079	27,269	55.6

DISCUSSION

Summary

The findings in this report show that arson of stolen vehicles increased substantially in South Australia in recent years, but that the problem remained relatively stable in New South Wales over the same period. However, arson of stolen vehicles remained a larger problem in New South Wales, with 11.0% of vehicles stolen in 2005/06 being recovered burnt, compared with 8.6% in South Australia.

The total estimated value of vehicles stolen and subsequently burnt during the 2005/06 financial year was approximately \$4.6 million in South Australia and \$158.4 million in New South Wales. Data from the New South Wales fire services confirm that suspicious and incendiary vehicle fires, of which a large proportion are likely to be stolen vehicles, places a substantial financial burden on the community.

In both States, vehicles recovered burnt were far more likely to be recovered during the night, and were recovered more quickly than vehicles recovered not burnt. This is likely to be because a burning vehicle attracts immediate attention from police and fire services, which results in the recovery of the vehicle. Data from the New South Wales fire services confirm that the large majority of incendiary and suspicious vehicle fires are attended during the night.

Although vehicles recovered burnt in both States did not differ substantially from other stolen vehicles in terms of make, burnt vehicles tended to be newer overall than not burnt vehicles, and were more likely to fall into the 6 to 10 year age group in particular. Many incidents of arson of vehicles of this age are possibly incidents of fraud, where the vehicle is no longer covered by its new car warranty and begins to deteriorate or break down, but it is still valuable enough to make a fraudulent insurance claim worthwhile.

Geographically, arson of stolen vehicles is a largely localised problem in both South Australia and New South Wales. In South Australia, it seems that many vehicles are stolen in the city or northern suburbs and driven further north of Adelaide's central business district where they are set fire to. There are many open spaces in these areas where offenders could easily dump and set fire to vehicles before escaping unnoticed. Similarly, the west and south-west of Sydney appears to be a popular area for both the theft and burning of vehicles.

Implications

In terms of addressing the problem of vehicle arson, the findings from this report provide some useful information. Firstly, arson of stolen vehicles tends to occur within a very short time of the vehicle being stolen, mostly within 24 hours, and often within the same evening. This suggests that preventing the arson of the vehicle is very difficult once the vehicle has been stolen, and to prevent the theft in the first place may be a more useful strategy. Hence, known theft prevention approaches such as immobilising older vehicles, maintaining and improving key security and marking vehicle parts to prevent profit-driven thefts for parts can all help address the problem. Fraudulent cases obviously require a separate, targeted approach, because theft prevention will not have an impact when the vehicle was not actually stolen in the first place. This problem is particularly hard to address, but the current study suggests that vehicles aged 6 to 10 years may be particularly susceptible and this information may be useful to insurers in developing risk assessments and identifying fraudulent cases.

Although preventing the theft from occurring in the first place may be the most effective approach, the current study identified geographical areas where arson of stolen vehicles is particularly likely to occur, in both South Australia and New South Wales. The study also revealed that most of these fires occur at night, so targeted night-time monitoring or patrolling of these areas may be one way to help prevent the fires from occurring, even after the vehicles have been stolen.

In both States, areas where stolen vehicles are most likely to be recovered burnt are also areas of high crime rates generally, including high motor vehicle theft rates. Therefore general crime prevention strategies in general, and motor vehicle theft prevention strategies in particular, would be likely to impact on this problem. These are also areas of generally low socio-economic status, including high unemployment and relatively low levels of income and education. It is likely that many incidents of stolen vehicle arson are driven by financial hardship, in the cases of fraud and theft for profit, and boredom and frustration in the case of opportunistic thefts and frivolous fires. If this is the case any community development initiatives targeting these areas, and improving socio-economic status generally, could be expected to impact on arson of stolen vehicles as well.

In conclusion, vehicle arson and motor vehicle theft are closely linked, and arson of stolen vehicles represents a large community problem in both South Australia and New South Wales. Although it appears very difficult to target this crime, the current study has provided some useful information about trends and targets which may help to ultimately reduce the incidence of this costly crime.

REFERENCES

Bushfire starts as stolen car set alight. *The Advertiser*, 21 December 2006, p.9.

Car fire spreads to scrub. *The Advertiser*, 26 February 2007, P.13.

Casey, S. *Understanding Motor Vehicle Theft in South Australia*. Unpublished report to the South Australian Office of Crime Statistics and Research.

Insurance Australia Group (IAG). (2004). *Hidden Costs: Insurance Fraud in Australia*. www.iag.com.au/pub/iag/results/submissions/media/20041119a.pdf. Accessed 2 April 2007.

Merrall, S. and Chenery, S. (2005). *Vehicle Fires - Explaining the Rise in Vehicle Arson*. London: Office of the Deputy Prime Minister.

Potter, R. (2000). *Arson on the increase: Motor Vehicle Theft and Arson in South Australia*. Adelaide: National CARS Project.