The Problem of Mobile Phone Theft

Suzanne Briscoe

Ownership of mobile phones in Australia has increased substantially as improvements in technology have made them more affordable for the average consumer. Coinciding with the spread of mobile phones is an increase in the number of phones stolen each year. This bulletin examines trends in mobile phone thefts in NSW over a three-year period. The results indicate that in just two years incidents of mobile phone theft have doubled, rising from 19,433 to 39,891 incidents per year. Furthermore, the largest growth in crime associated with stolen mobile phones has been in offences that are violent in nature. Contributing factors to this observed increase, as well as options for its control are explored.

INTRODUCTION

Since Telstra first introduced its analogue MobileNet service in Sydney in 1987, two additional mobile carriers have commenced operations in Australia (Optus and Vodafone) and three new operators have recently acquired spectrum capable of being used for mobile phone services (AAPT, Hutchison and One.Tel).[1] This increase in competition between mobile networks, combined with significant improvements in technology, has meant that mobile phones have become more affordable and accessible for the average consumer. Consequently, more Australians are using mobile phones than ever before. As with past developments in consumer technology, the spread of mobile phones has created a host of new opportunities for crime. The purpose of this bulletin is to examine the impact of mobile phone theft on crime and discuss some options for its control.
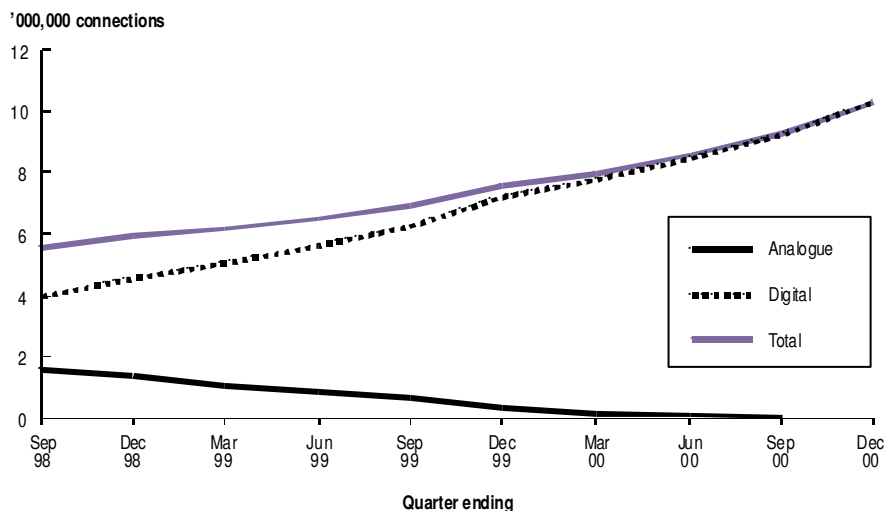
MOBILE PHONE SALES IN AUSTRALIA

Figure 1 presents quarterly information on the total number of mobile network connections in Australia, as well as the number of digital and analogue connections, for the period September 1998 through December 2000. At the end of December 2000, there were over 10 million network connections Australia-wide and, with the closure of the analogue mobile phone network on 3 October 2000, all of these connections were to digital networks. Between September 1998 and December 2000 there was an 86 per cent increase in the total number of network connections and a 160 per cent increase in digital connections in Australia.
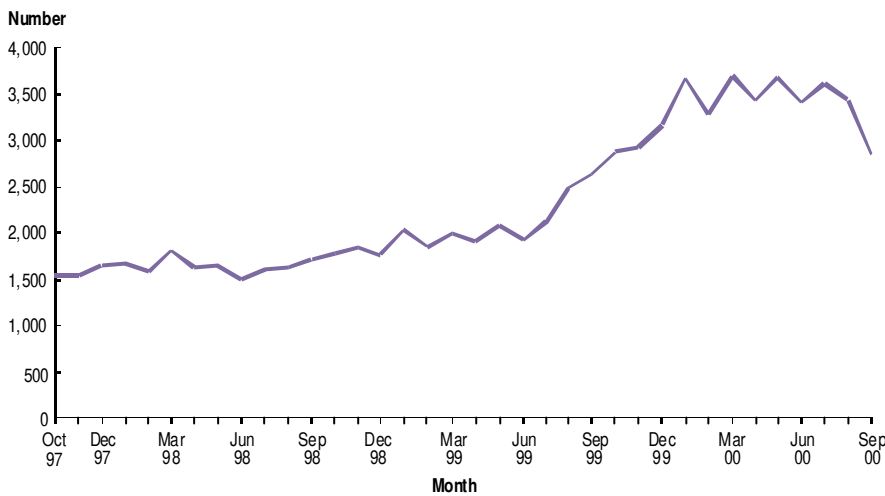
Although the Australian Mobile Telecommunications Association (AMTA) has no information available on the number of network connections in each State, over one-third of Australian residents live in New South Wales[2] and therefore, it would be reasonable to

Figure 1: Total number of mobile network connections in Australia

'000,000 connections

Quarter ending

Legend: Analogue, Digital, Total

Source: Australian Mobile Telecommunications Association (AMTA), personal communication, 19th January 2001.

Figure 2: Total number of incidents where mobile phones were stolen in NSW, by month

incidents was evident for both January 1999 and January 2000. These increases occurred immediately after Christmas, a period during which mobile phone sales probably increase.

A more comprehensive picture of the problem of stolen mobile phones emerges when we examine how mobile phones are stolen. Table 1 lists the number and type of offences in which mobile phones were stolen in NSW for the period October 1997 through September 2000. As can be seen from this table, a large majority of mobile phones were stolen from motor vehicles, with this offence type accounting for 38 per cent of all incidents reported during the three-year period. Substantial proportions of mobile phone thefts also resulted from break and enter — dwelling (11%), steal from person (7%), steal from dwelling (5%) and 'other theft' offences (30%).[3]

Furthermore, there was a noticeable increase over the three-year period in the number of violent incidents in which mobile phones were stolen. Mobile phones stolen in robbery incidents (without a weapon) increased from 330 incidents in the 12 months prior to September 1998 to 1,239 incidents in

assume that a large majority of mobile connections would be in this State.

STOLEN MOBILE PHONES IN NEW SOUTH WALES (NSW)

The increase in mobile phone ownership has coincided with a dramatic increase in the number of incidents of mobile phone theft recorded each year. Figure 2 shows the total number of incidents in which mobiles were stolen each month in NSW between October 1997 and September 2000. This information and that reported in the remainder of the bulletin was extracted from the NSW Police Service's Computerised Operational Policing System (COPS).

The total number of incidents where mobile phones were stolen in NSW during the three-year period was 83,598, with an average of 2,322 incidents every month. In the 12 months prior to September 1998 a total of 19,433 incidents of mobile phone theft was recorded in NSW. However, in the equivalent period just two years later, this figure had doubled to 39,891 incidents. Figure 2 shows that the number of incidents of mobile phone theft recorded each month increased steadily throughout 1998 and early in 1999, but increased sharply between June 1999 and January 2000. During 2000, the total number of mobile phone

theft incidents remained consistently high but varied markedly from month to month and showed a noticeable decrease in September 2000. This September decrease may partly be due to a delay in processing of incidents during the Olympic period but could also be due to increased vigilance on behalf of the NSW police or a reduced Sydney population during this time. Interestingly, an increase in mobile phone theft

Table 1: Total number of incidents where mobile phones were stolen, by offence type, NSW

Offence type	Oct 97 to Sep 98	Oct 98 to Sep 99	Oct 99 to Sep 00	% increase 98-00	Total incidents
Robbery without a weapon	330	684	1,239	275	2,253
Robbery with a firearm	37	27	44	19	108
Robbery with a weapon (not a firearm)	114	219	405	255	738
Other against the person	8	23	40	400	71
Break & enter — dwelling	2,140	2,451	4,327	102	8,918
Break & enter — non-dwelling	554	704	1,093	97	2,351
Receiving	14	25	11	-21	50
Goods in custody	48	67	87	81	202
Steal from motor vehicle	9,535	9,463	13,112	38	32,110
Steal from retail store	367	443	445	21	1,255
Steal from dwelling	756	1,040	2,243	197	4,039
Steal from person	1,031	1,749	3,202	211	5,982
Other theft	4,487	7,316	13,553	202	25,356
Other offences	12	63	90	650	165
Total	**19,433**	**24,274**	**39,891**	**105**	**83,598**

the 12 months leading up to September 2000. This equates to a 275 per cent growth in two years. Similarly, robbery incidents (with a weapon — not a firearm) where mobile phones were stolen rose from 114 to 405 incidents over the three-year period, equating to a 255 per cent increase. This increase in violent incidents associated with the theft of mobile phones has previously been observed in other western countries.[4]

Table 2 shows the top 20 Local Government Areas (LGAs) in NSW that had the highest incident rate of mobile phone theft per capita in the 12 months prior to September 2000.

Sydney LGA recorded the most mobile phone theft incidents per 100,000 residential population, followed by South Sydney, Leichhardt, North Sydney and Strathfield. It is not surprising that Sydney LGA has the highest per capita rate given that the use of mobiles in the Central Business District is likely to be relatively high and also Sydney LGA has a very high transient population. However, it is of interest that all 20 of the LGAs included in Table 2 showed substantial increases in incidents of mobile phone theft from September 1998 to September 2000. The percentage increase in mobile phone theft incidents during this period was 198 in Manly, 141 in Auburn, 131 in Willoughby, 127 in Botany Bay, 120 in Randwick and 113 in Sydney. It is also worth noting that Sydney metropolitan areas recorded more incidents of mobile phone theft per capita than rural or other metropolitan areas. Although these figures need to be considered in light of the increase in mobile phone sales during this period, they illustrate that the incidents associated with stolen mobile phones are rising at a rapid rate, highlighting the urgency with which this problem needs to be addressed.

FACTORS CONTRIBUTING TO THE PROBLEM

Apart from the spread of mobile phones, one factor likely to contribute to the observed increase in crime associated with stolen mobile phones is the

Table 2: NSW LGAs with the highest incident rate of mobile phone theft, per 100,000 residential population

LGA*	Oct 97 to Sep 98		Oct 99 to Sep 00		% increase from Oct 97-Sep 98 to Oct 99-Sep 00
	Total incidents	Rate per 100,000[†]	Total incidents	Rate per 100,000[†]	
Sydney	2,467	10,833	5,258	23,089	113.1
South Sydney	2,042	2,378	3,739	4,355	83.1
Leichhardt	625	1,007	1,151	1,855	84.2
North Sydney	435	743	861	1,470	97.9
Strathfield	210	734	371	1,297	76.7
Botany Bay	204	566	462	1,282	126.5
Woollahra	510	935	695	1,274	36.3
Waverley	389	598	805	1,238	106.9
Marrickville	699	875	962	1,204	37.6
Manly	144	376	429	1,120	197.9
Burwood	188	620	301	992	60.1
Parramatta	624	428	1,363	934	118.4
Willoughby	242	400	559	924	131.0
Bankstown	731	434	1,494	886	104.4
Auburn	211	363	509	875	141.2
Randwick	499	394	1,098	867	120.0
Ashfield	178	423	320	761	79.8
Liverpool	541	378	1,057	738	95.4
Mosman	117	416	202	718	72.6
Hurstville	285	405	477	678	67.4

*   Any LGA with a population less than 3,000 was excluded from the analysis.

†   Per capita rates were calculated using LGA residential population estimates for 1999 (Regional Population Growth 1999-2000, Australian Bureau of Statistics, Canberra).

emergence of digital mobile phone technology in Australia. While this technology has meant better network coverage for consumers, it has increased the opportunities for illegal criminal activity. Previously, when an analogue mobile phone was stolen, the phone could continue to be used, without any cost to the thief, only up until the owner notified the mobile phone network. Once the customer reported the phone as stolen to the mobile network, the account would be cancelled and the phone could no longer be used. Similarly, for digital mobile phones connected to Code Division Multiple Access (CDMA) networks (the replacement for the old analogue network, typically used by rural subscribers), once the Equipment Serial Number (ESN) of a stolen mobile phone is reported, the account is cancelled and

the phone is no longer of use. However, unlike analogue phones and digital phones connected to CDMA networks, digital mobile phones using Global System for Mobiles (GSM) technology can continue to be used even after they have been reported stolen. Stolen digital mobile phones of this type can continue to be used because they contain a removable Subscriber Identity Module (SIM) card, which identifies the account holder. When the network has cancelled the account, the thief can simply replace the cancelled SIM card with another purchased legitimately. Furthermore, unauthorised users who continue to use the phone in this way have little or no prospect of apprehension by police. Stolen mobile phones, particularly those with newer features and a higher retail price, have thus become a readily saleable commodity on the black market.

The theft problem generated by the low risk of apprehension may be exacerbated by certain marketing practices adopted by telecommunication service providers in response to competitive market pressures. Many service providers now encourage customers to enter into contracts for set periods of time (usually 24-36 months), in return for which the customer receives a handset 'free' or at reduced cost. When customers lose their mobile phones or have them stolen they are usually required to continue the contract and buy another handset at their own expense. Given the high cost differential between mobile phones purchased legitimately and those available on the black market, victims of mobile phone theft may in many instances be tempted to cut their losses by purchasing another mobile phone illegally.

Police do have avenues open to them to track down and arrest mobile phone thieves but they are hampered in their efforts to do so by the public's lack of knowledge in this area and cumbersome bureaucratic requirements. In addition to the SIM card, digital mobile phones connected to GSM networks contain another identifier called the International Mobile Equipment Identity (IMEI) which is associated with the phone or handset itself. If the IMEI number of a stolen phone were known, it would usually be possible for police to obtain the identity of the phone's current user from the mobile phone carrier. At present, however, most mobile phone customers do not know their IMEI number or fully appreciate its importance in police investigations. Furthermore, by itself, the IMEI number conveys no information about the mobile phone service provider being used by the individual currently holding the phone. Police must therefore supply each IMEI number belonging to a particular stolen mobile phone to all five major mobile phone carriers in order to identify the relevant mobile phone user. At present, since carriers charge a fee for every search that is conducted, police procedure requires that a separate form be filled out for each stolen mobile phone and a different form is required for each of the five major carriers. This means that if one thousand

phones are stolen from a mobile phone retailer, the police would be required to fill out five thousand separate forms.

The low risk of apprehension for mobile phone theft and the opportunity to profit from it also combine to create crime problems other than mobile phone theft. The fact that it is possible to use SIM cards which are pre-paid or held under a false subscription makes it very difficult for police to carry out interception of communications between suspects involved in organised crime (e.g. drug trafficking). This is an important avenue through which law enforcement agencies targeting organised crime seek to gather evidence for prosecution. The difficulties encountered by police in intercepting mobile phone communication therefore contribute to the attractions of organised crime. Perhaps not surprisingly, contact by phone is now the preferred means by which drug users contact their suppliers to purchase illegal drugs.[5]

WHAT CAN BE DONE ABOUT IT?

The simplest solution to the problem of mobile phone theft is to reduce the opportunity to use mobile phones which have been reported as lost or stolen. When the IMEI number of a stolen phone is known, carriers can scan their networks to identify any persons who may be using that phone unlawfully. Once the carrier has obtained information about the IMEI number of a stolen phone and the corresponding SIM card(s) being used with that phone, unauthorised users could simply be electronically logged off the system. This can be achieved either by blocking the SIM card so that illegal calls cannot be made or by blocking the IMEI code so that the handset cannot be used with another SIM card. Eliminating the capacity of a stolen mobile phone to receive incoming or make outgoing calls would significantly reduce the value of the handset and thereby reduce the incentive to steal mobile phones. However, this strategy would only work if it were employed by all carriers. At present, it is unclear whether all carriers have this technology.

An alternative solution is to create a deterrent to mobile phone theft by increasing the risk associated with the use of stolen mobile phones. This option would require law enforcement agencies to be supplied with the IMEI numbers of all stolen mobile phones. This would enable them, with the help of the carriers, to identify and track down offenders. The Australian Mobile Telecommunications Association (AMTA), in conjunction with RNR International Marketing, have attempted to implement this strategy. Last year, the AMTA and RNR launched a Mobile Phone Handset Registry System called 'Find A Phone', which is a centralised holding and management system containing lost and stolen mobile phone IMEI numbers. These numbers are automatically listed with 'Find A Phone' whenever a mobile phone is reported as lost or stolen to a mobile network. Presently, only Telstra, Optus and Vodafone contribute to this database but 'Find A Phone' reports that the newer mobile phone networks of Orange, AAPT and One.Tel will also participate when they complete their network roll-outs.[6] The key to the success of the 'Find A Phone' system is that it allows law enforcement agencies and mobile phone carriers access to the IMEI numbers of all lost or stolen mobile phones in Australia. Using this information, mobile phone carriers can identify stolen handsets prior to their connection to mobile networks and scan their networks to locate the users of stolen mobile phones. When a missing phone is detected and the unauthorised user is identified, this information can be made available to law enforcement agencies. Although 'Find A Phone' appears promising, the system is still in its infancy and its effectiveness in recovering lost and stolen mobile phones is yet to be determined. One constraint on its potential effectiveness is that the tracking down and arrest of mobile phone thieves in this way would be a costly exercise for police given the large volume of theft offences involved.

Finally, there are several preventative steps that mobile phone users themselves can take to avoid victimisation. Most telecommunication

manufacturers have built security measures into the phone itself. For example, some phones may require the user to enter a password or a Personal Identification Number (PIN) before the phone can be activated. Locking phones with a PIN or password when not in use ensures that if the phone is stolen, an unauthorised user cannot make outgoing calls. Mobile phone users should also change these PINS and passwords regularly and keep IMEI numbers secure in case a report needs to made to police (the IMEI number on most handsets can be determined by dialling *#06#). Other more obvious preventative measures include not leaving mobile telephones unattended in motor vehicles or in obvious places, using only authorised technicians to service the phone and eliminating international dialling capabilities when phones are not in use.[7] Moreover, when purchasing a mobile phone consumers should carefully read contractual obligations if the phone is stolen and if necessary, take out insurance with the mobile phone supplier to cover any theft.[8]

CONCLUSION

The problem of mobile phone theft may be small relative to the number of mobile phones but it is a rapidly growing problem for law enforcement, especially given the growth in violent offences associated with mobile phone theft. Key players in the mobile telecommunications industry therefore need to develop pro-active strategies to address this problem at this early stage before it increases any further. Several of the prevention strategies discussed above would involve costs for mobile phone carriers which would, inevitably, have to be passed onto consumers. The fact is, however, that consumers are already paying for the problem of mobile phone theft not only through having to purchase new phones to replace those that are stolen but also via the public investment in law enforcement to deal with it.

NOTES

1 Australian Bureau of Statistics 2000, *New South Wales Year Book,* No. 80, Australian Bureau of Statistics, Canberra.

2 See note 1.

3 'Other theft' is any theft offence which does not fall under the 4 specified stealing categories. The 'other theft' category would include incidents where mobile phones were stolen from personal belongings that were unaccompanied, for example a mobile phone stolen from an office desk that was unattended.

4 Grabosky, P.N. & Smith, R.G. 1998, *Crime in the Digital Age: Controlling Telecommunication & Cyberspace Illegalities,* Federation Press, Sydney.

5 Makkai, T., Fitzgerald, J. & Doak, P. 2000, 'Drug use monitoring in Australia', *Crime and Justice Bulletin,* No. 49., NSW Bureau of Crime Statistics and Research, Sydney.

6 Find A Phone, About find a phone lost IMEI check - Which mobile phone networks participate in the find a phone lost IMEI check?, website <http://www.findaphone.com.au/qa.cfm?a14=c6.htm> accessed 16 Mar. 2001.

7 Smith, R.G. 1996, *Preventing Mobile Telephone Crime,* paper presented to the Communications Research Forum, arranged by Bureau of Transport and Communications Economics and the Media and Telecommunications Policy Group, RMIT, October, Melbourne.

8 Australian Communications Authority, Consumer alert no. 3 - Stolen mobile phones, website <http://www.aca.gov.au/consumer/alerts/alert03.htm> last updated Feb. 1999.

As well as the series *Contemporary Issues in Crime and Justice,* the Bureau publishes statistical and research reports. Recent releases include:

Price

- **An Evaluation of the Safe City Strategy in Central Sydney** (ISBN: 0 7313 2626 1)

  Free

  The report presents an evaluation of the Safe City crime prevention strategy implemented in Sydney's city area. The Strategy's impact on recorded crime and on perceptions of personal safety are discussed.

- **Simulating the New South Wales Criminal Justice System: A Stock and Flow Approach** (ISBN: 0 7313 2627 X)

  $27.50

  This report describes a simple stock and flow model of the New South Wales criminal justice system. The model was developed to help assess the impact on the prison population of policy and procedural changes made by police and courts.

- **Validation of NSW Police Crime Statistics: A Regional Analysis** (ISBN: 0 7313 2621 0)

  $27.50

  This report presents a series of statistical tests which examine the link between crimes notified to NSW police, and crimes recorded by police at the level of Local Area Command.

- **Managing Trial Court Delay: An Analysis of Trial Case Processing in the NSW District Criminal Court** (ISBN: 0 7313 2615 6)

  $27.50

  Delay in the NSW District Criminal Court has been a longstanding problem. This report examines the principal causes of delay in bringing criminal matters to trial, and considers whether delay is primarily a problem of inefficiency in case processing or a shortage of trial court capacity.

- **An Evaluation of the NSW Youth Justice Conferencing Scheme** (ISBN: 0 7313 2618 0)

  $27.50

  This report examines conference participants' satisfaction with the conferencing process and resulting outcome plans, and the extent to which specific statutory requirements relating to the conferencing scheme are met.

- **Drug Law Enforcement: Its Effect on Treatment Experience and Injecting Practices** (ISBN: 0 7313 2611 3)

  $27.50

  This report presents the findings of a survey of more than 500 heroin users who were interviewed to determine whether drug law enforcement encourages drug users into methadone treatment, and whether drug law enforcement promotes unsafe injection practices.

- **Juveniles in Crime - Part 1: Participation Rates and Risk Factors** (ISBN: 0 7313 2602 4)

  $27.50

  Based on a pioneering survey of self reported offending behaviour among NSW secondary school students, this report provides valuable information on the nature and extent of juvenile offending and the risk factors that lead juveniles to become involved in crime.

- **New South Wales Criminal Courts Statistics 1999** (ISSN: 1038 - 6998)

  $27.50

  This report is the most recent summary of statistical information on criminal court cases finalised in NSW Local, District and Supreme Courts in 1999 and in NSW Children's Courts in 1998/99. The report includes information about charges, outcomes, delays and sentencing in the Local, District and Supreme Courts of New South Wales in 1999. The Children's Courts section includes information about trends in appearances, determined offences and outcomes of charges before the Courts in 1998/99.

- **New South Wales Recorded Crime Statistics 1999** (ISSN: 1035 - 9044)

  $27.50

  This report is the most recent summary of statistical information on crimes reported to and recorded by the NSW Police Service in 1997, 1998 and 1999. It includes an overview of major trends in recorded crime and a comparison of the number of incidents and crime rates by Statistical Division in New South Wales and by Statistical Subdivision within the Sydney region. The report also includes information about the time it takes for recorded criminal incidents to be cleared by charge or otherwise.

If you would like to order a publication, please write to the Bureau indicating the title of the publication and enclosing a cheque or money order payable in AUSTRALIAN CURRENCY ONLY to the NSW Bureau of Crime Statistics and Research and forward to: NSW Bureau of Crime Statistics and Research, GPO Box 6, Sydney NSW 2001. NB: Credit card facilities are now available.