Police Research Series
Paper 119

Vehicle Crime Reduction: Turning the Corner

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Policing and Reducing Crime Unit: Police Research Series

The Policing and Reducing Crime Unit (PRC Unit) was formed in 1998 as a result of the merger of the Police Research Group (PRG) and the Research and Statistics Directorate. The PRC Unit is now one part of the Research, Development and Statistics Directorate of the Home Office. The PRC Unit carries out and commissions research in the social and management sciences on policing and crime reduction, broadening the role that PRG played.

The PRC Unit has now combined PRG's two main series into the Police Research Series, containing PRG's earlier work. This series will present research material on crime prevention and detection as well as police management and organisation issues.

Research commissioned by PRG will appear as a PRC Unit publication. Throughout the text there may be references to PRG and these now need to be understood as relating to the PRC Unit.

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Foreword

In September 1998, the Prime Minister announced a national target to reduce vehicle crime by 30% over five years. Building on a 28% reduction witnessed in the previous five years, this is clearly an ambitious target that will require a concerted effort by all those involved in vehicle crime prevention work.

The Vehicle Crime Reduction Action Team (VCRAT), a multi-agency group formed by the Home Office in 1998 to oversee vehicle crime work, has been tasked with co-ordinating efforts to achieve the 30% reduction target. One of the first actions of VCRAT was to commission a review of research and statistics relevant to the target. This report provides the findings from that review.

The report provides an analysis of international, national and local police force patterns of vehicle crime and highlights some of the key issues that will need to be addressed if the 30% target is to be achieved. The report concludes with a number of recommendations that help to clarify the priorities for a vehicle crime reduction strategy.

Gloria Laycock
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September 1999

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The authors

Joanna Sallybanks and Rick Brown are members of the Home Office Policing and Reducing Crime Unit.

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Executive summary

This report provides an overview of recent trends in vehicle crime and highlights issues regarding vehicle crime reduction. It supports the work of the newly established Vehicle Crime Reduction Action Team (VCRAT) and its contribution towards the 30% vehicle crime reduction target announced by the Prime Minister in September 1998 and provides some guidance to local practitioners on reducing vehicle crime. This target is to be achieved over a five-year period starting 1 April 1999.

Vehicle crime trends

England and Wales have a serious problem with vehicle crime: the scale of vehicle crime in this country has to be a cause for concern. In 1997, over 1.1 million vehicle crime offences were reported to the police and estimates from victimisation surveys suggest the true figure may be closer to 2.5 million offences. Approximately a quarter of all recorded crime is vehicle related and the overall rate was estimated to be 22 recorded vehicle crime offences per 1,000 licensed vehicles.

In 1997, over 400,000 vehicles were reported stolen. Estimates suggest that 81% of these were cars, while nine percent were motorcycles, nine percent were LCVs and one percent was HGVs. The majority of stolen vehicles were recovered (69%) and estimates show professional theft to account for approximately 27% of vehicle thefts. However, the recovery rate has been in decline and this may suggest that the proportion of professional thefts is gradually rising.

Theft of cars

The types of car which are at most risk of theft are older (more than five years old), familiar high volume models, although there appears to be a preference for those at the high performance end of the ranges concerned.

Analysis of the 1997 Car Theft Index (based on thefts in 1996) showed that, although there were 4,050 models of car in the index, just 38 models accounted for 19% of stolen vehicles. The Car Theft Index is currently in the process of being updated and therefore crime reduction efforts may usefully concentrate on those models found to be most at risk.

Car security was found to have improved significantly on new models in recent years and a large proportion of cars on the road now have some form of additional security beyond the steering column lock. In terms of the effectiveness of the security, there is some evidence to show that new security works but this evidence is still weak and further work is required.

According to the British Crime Survey, cars tend to be at more risk of theft in inner city areas, council estate areas and areas with high levels of physical disorder. In terms of the specific parking location, those parked in public car parks are most at risk, while domestic garages provide the best protection against theft.

Those with the highest risk of being a victim of car theft include the young (16 to 24 year olds), those on low incomes (earning less than £5,000 pa), the unemployed and single parents. This demographic profile is likely to be related to the types of area in which car thefts most often occur.

Thefts from cars

As around two-thirds of vehicle crime involves thefts from vehicles, it was considered important to look at this type of offence in more detail. The items most frequently stolen from vehicles are external parts (wheel trims, badges, and hub caps) followed by stereo equipment, and other items such as bags, briefcases and cameras.

Thefts from cars again tend to be focused on the poorest areas, with those on council estates, or in low income, multi-ethnic areas being particularly at risk. However, in terms of the demographic profile, those earning in excess of £30,000 pa were more likely than others to be the victim of a theft from a vehicle.

Recommendations

An effective vehicle crime reduction strategy needs a clear understanding of both the nature and extent of the problem and how and why crime reduction approaches tackle this problem. Areas where possible action may be taken are targeting the vehicle itself, the parking location, the victim and the offender. These will often be related – for example older vehicles may be less secure, however they are more likely to be owned by people living in areas where garaged parking is not available and there may also be a supply of potential offenders living nearby. Local analysis is necessary to explore these areas, as there is considerable variation between forces on the scale and nature of the problem. Once this information has been obtained the scope for effective action in any of these areas can be examined.

Vehicles

As cars account for 81% of vehicles stolen it follows that significant gains could be achieved by focusing on this type of vehicle. The Car Theft Index has also shown that some makes, models and years are more at risk than others. Implications for action are as follows:

- Nationally, the precise effectiveness of both manufacturer fitted and retro-fit security measures need to be evaluated and those found to be effective should be promoted.
- A market reduction approach to reduce demand for professionally stolen vehicles and goods could reduce the incentive for theft and increase the risk for thieves to sell stolen goods. A greater understanding of how markets operate could help identify the most effective point to disrupt offenders' activities.

Locations

The risk of vehicle crime can vary both by residential area and by specific parking location. Local analysis is essential to identify 'hot spots' and to target action on those areas where cars are stolen. Implications for action are as follows:

- Owners of car park 'hot spots' should be persuaded to achieve Secured Car Park status. Levers for those reluctant to take action might include simply demonstrating the scale of the problem or direct action such as publicising the risks of that location.
- Those car owners with garages should be persuaded to use them, especially if residential street parking is a problem. If garages are not available then there is a need to focus on improving vehicle security or directly detecting/deterring offenders.

Victim groups

Particular socio-economic groups are more frequently victims of crime, and repeat victimisation also occurs in relation to vehicle crime. Implications for action are as follows:

- Tailoring and targeting crime prevention information to vulnerable victims through the use of direct mail should be considered.
- A graded response to repeat victims depending on the number of prior offences suffered could also be considered; action could include crime prevention advice through to the loan of security equipment.

Offender groups

The vehicle offender population can be segmented into those who commit temporary theft and those who steal vehicles for financial gain. The ratio varies geographically however, and local analysis could establish the type of offenders involved. Implications for action are as follows:

- Tackling prolific young offenders who steal cars for enjoyment rather than financial gain. Forensics can be an effective means of detecting vehicle thieves, however, a potential problem could be an increase in arson as an attempt to dispose of evidence.

Constant monitoring of a vehicle crime reduction strategy is essential so that it can be refined as required and examples of good practice can be disseminated to other police forces and their partnerships.

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1. Introduction

Background

In September 1998, the Prime Minister announced a target to reduce vehicle crime (both theft of and theft from) by 30% over a five year period starting 1 April 1999. The progress will be measured against a baseline of recorded crime figures for the year April 1998 to March 1999. Following the 28% reduction achieved in the last five years, this is clearly going to be a challenging target to work towards and will require a concerted effort by all those involved in reducing vehicle crime.

The recently established Vehicle Crime Reduction Action Team (VCRAT) has been tasked with co-ordinating the work required to achieve the 30% reduction. This team is a multi-agency partnership which brings together the skills and experiences of representatives from many different organisations working across a range of vehicle-related sectors. The latter includes the police service, car manufacturers, insurance industry and other Government departments and agencies.

This paper has been prepared as a supporting document for those involved in this challenging area of vehicle crime reduction. The main aim is to provide an overview of the patterns and trends in vehicle crime, and areas are identified where significant gains could be made in reducing this problem.

Methodology

This report utilises existing data sources to provide an overview of vehicle crime. Data sets used include Criminal Statistics and the British Crime Survey produced by the Research Development and Statistics Directorate of the Home Office. Previous research carried out by the Directorate's Policing and Reducing Crime Unit (formerly Police Research Group), as well as research carried out by other organisations, is also drawn upon.

Format of the report

The remainder of this report is divided into five sections:

- Section 2 provides an overview of vehicle crime drawn from published statistics and examines the problem from an international and national perspective.
- Section 3 studies vehicle crime at the local force level.
- Section 4 focuses attention on theft of cars by examining the types of car stolen, the locations of theft and the victims involved.

- Section 5 examines theft from cars and looks at what is commonly stolen in such offences, where these offences occur and who the victims are.

- Finally, section 6 sets out the conclusions and recommendations to be drawn from this work.

2. International and national trends in vehicle crime

This section analyses vehicle crime on two levels. As a starting point, the international perspective is examined to determine how vehicle crime in England and Wales compares to other countries. The main body of this section, however, deals with the nature and extent of vehicle crime at the national level. As the 30% reduction target is a national one, it is important to gain an understanding of how vehicle crime at this level is constituted and how the problem has changed over time.

International patterns of vehicle crime

England and Wales are commonly held up as the "Car Crime Capital of Europe". This would appear to be borne out by comparisons of recorded vehicle crime in various European countries. In 1996, England and Wales reported 495,500 vehicle theft offences, which was considerably higher than the next highest nation – France – which recorded 344,900 offences.

However, there is good reason for treating such statistics with some caution. One problem recently identified by Hardy (1998a) is the variation in the definition of a vehicle theft between European states. For example, while the police in England and Wales declare all vehicles when recording thefts, Germany and Italy only record thefts of cars and no other type of vehicle, while France records all vehicles except buses and Switzerland incorporates bicycles in their vehicle theft figures.

Comparing the raw numbers stolen also ignores the important issue of the number of vehicles available to steal in a given country. A low number of thefts could simply be a result of there being a small pool of available cars to be stolen in that country. It is therefore important to make comparisons on the basis of the rate of theft per licensed vehicle on the road. Hardy (1998b) has shown that as a proportion of the light vehicle parc[1], stolen vehicles in the UK account for 15.6 per 1,000 of the total parc, in comparison to 13.4 per 1,000 in France, 9.1 per 1,000 in Italy and 4.2 per 1,000 in Germany. However, interestingly, Denmark and Sweden are at the top of the 'league table' with 19.2 per 1,000 and 17.9 per 1,000 respectively. England and Wales may have a graver vehicle crime problem than many of our European counterparts, but this problem is certainly not limited to England and Wales.

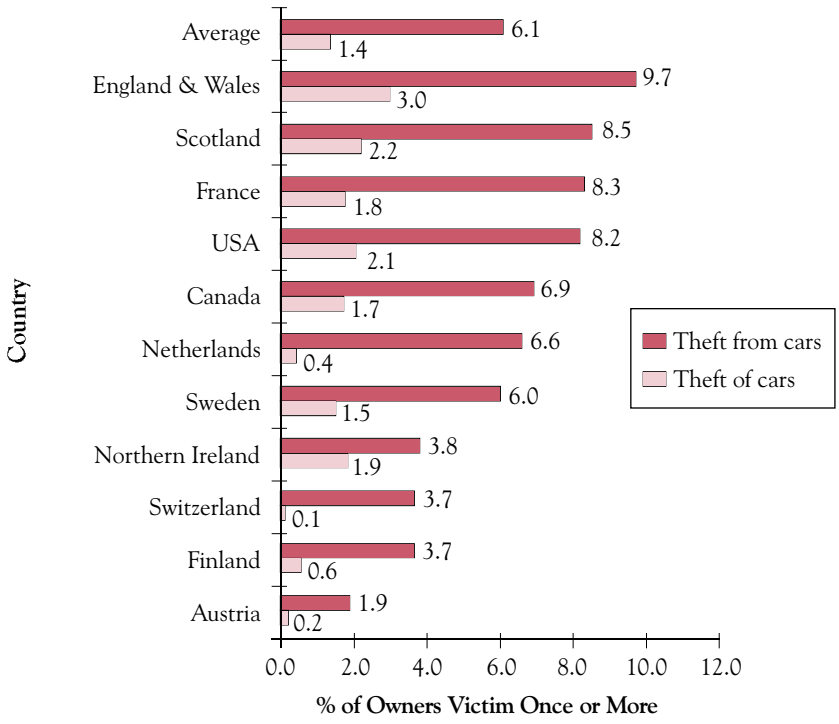
[1] *Light vehicles are defined as all vehicles of <3.5 tonnes (95% of all vehicles). Vehicle 'parc' is a collective term for the total number of vehicles on the road.*

An alternative method for comparing England and Wales with other countries is to use victimisation survey data. The 1996 International Crime Victimisation Survey (Mayhew and White, 1997) reports the risk of theft of cars and from cars across 11 countries. With similar methodology to the BCS, the survey asked respondents

about their experiences of crime in 1995. The rate of theft of a car was on average 14 per 1,000 owners across the 11 countries surveyed.

[2]*Figures differ between studies using recorded crime compared to self-report victimisation studies due to differences in reporting levels and definitions of a stolen vehicle. Furthermore, studies based on police data tend to use the vehicle parc as the denominator, while victim surveys often use vehicle owners, as in Figure 1.*

Figure 1: Victims of theft of and from cars across 11 countries in 1995 [2]



Source:The 1996 International Crime Victimisation Survey (Home Office)

Figure 1 shows that owners in England and Wales suffered the greatest risk of theft (three percent, that is, 30 per 1,000 owners were victims of one or more thefts); the risk was also high in Scotland and the USA. Switzerland and Austria had the lowest risk of theft with respectively one and two per 1,000 owners suffering a theft. The 1996 International Crime Victimisation Survey also shows the rate of theft per 100 owners. It was relatively rare for owners to be victimised more than once and therefore the incidence risks were similar to victimisation risks.

The same survey published in 1994, based on two years data 1988 and 1991, showed Italy, Australia and New Zealand also suffering a high rate of theft of cars.

(These countries were excluded from the 1996 survey.) Those countries low on the table in the 1996 survey also suffered a low rate of theft in the 1994 survey. Where thefts from cars were concerned, victimisation again appears to have been highest in England and Wales, Scotland and the USA (1996 International Crime Victimisation Survey, Mayhew and White, 1997). Owners in France were also at a high risk of theft with 8.3% suffering theft from a car. Again risks were lowest in Austria, Switzerland and Finland. Spain and Poland had a substantially higher rate of theft from cars than England and Wales in the 1994 survey (14.6% and 11.5% respectively). These countries were not included in the 1996 survey. The incidence risks were slightly greater than the victimisation risks suggesting owners in some countries were more likely to be victims of thefts from cars more than once. This was especially the case in England and Wales, Scotland, France and the USA.

It would appear that England and Wales have a significant problem with vehicle crime, whether based on crimes reported to and recorded by the police or on the findings from victimisation surveys. If a 30% reduction were to be achieved while vehicle crime in other countries remained constant, this would result in a considerable drop in the European 'league table' position.

Vehicle crime trends in England and Wales

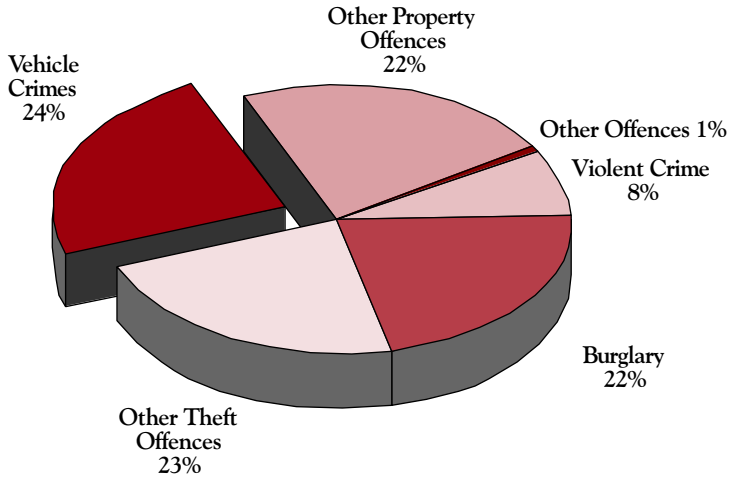
Figure 2 shows that vehicle crime in 1997 made up the largest proportion of all notifiable offences reported to the police, totalling 24%. This proportion is similar to the position in the early 1980s. However, in the early 1990s this proportion rose to 28% of all crime recorded. The BCS reports a lower percentage; in 1981 vehicle crime contributed only 16% to all crime, although by 1991 this percentage was similar to that of recorded crime. The 1998 British Crime Survey shows the proportion of vehicle crime to all crime in 1997 was 21%. The BCS proportions are lower than those recorded by Criminal Statistics probably due to a greater relative under-reporting of other offences to the police. Indeed, the 1998 BCS (based on victims' experience of crime in 1997) notes that the average reporting rate for all vehicle crime was 47% compared to 44% across all notifiable offences.

Recorded crime statistics

Vehicle crime recorded by the police incorporates theft or unauthorised taking of a motor vehicle, theft from a motor vehicle, and aggravated vehicle taking. Aggravated vehicle taking[3] was introduced as a separate notifiable offence in 1992 and the number of these offences has increased steadily since then, rising from 0.4% of theft or unauthorised taking of a vehicle, to two percent of such offences in 1997. For the purpose of comparison with earlier years, this offence has been re-grouped with theft or unauthorised taking of a vehicle throughout this report.

[3]*Aggravated vehicle taking constitutes theft of a vehicle (thieves can act either alone or in a group) and that whilst stolen one or more of the following took place: the vehicle was driven dangerously on a road/public place; an accident caused injury to another person, or damage to either personal property, or the vehicle itself while the vehicle was being driven.*

Figure 2: Notifiable offences recorded by the police 1997



Source: Notifiable Offences England & Wales, 1997 (Home Office 1998)

Since 1 April 1998 notifiable offences have been classified and counted under a new set of Home Office rules, which in the long term could have an effect on recorded crime levels. In terms of its effect on vehicle crime figures the following should be noted:

- The rules for counting crime are now on the basis of one crime for each victim; e.g. if one thief breaks into five cars in a car park owned by five different people this would be recorded as five offences not one. Previously, this counted as one offence.

- A new notifiable offence category, vehicle interference, has been introduced. Previously the offence of tampering with a vehicle was only a summary offence.

Vehicle interference and criminal damage to a vehicle will be incorporated into the recorded vehicle crime figures but will not contribute to the 30% vehicle crime target. Estimates based on the 1998 British Crime Survey show that 18.5% of vehicle crime reported to the police is attributable to criminal damage to a vehicle. The impact of this on recorded vehicle crime figures is unclear at this stage but it will have to be monitored carefully.

Since 1981, vehicle crime levels have fluctuated considerably, albeit broadly in line with total recorded crime levels. Recorded vehicle crime since the early 1980s can be divided into three main phases:

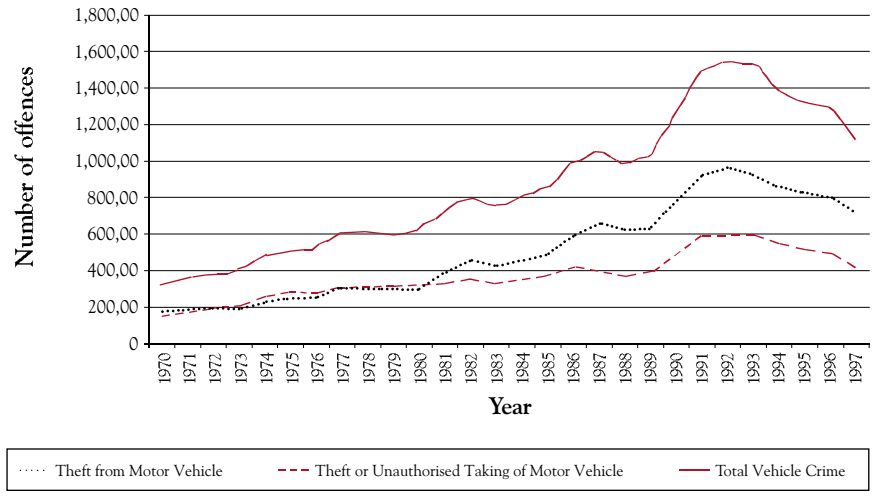
- **1981 – 1988** : vehicle crime rose steadily during the early 1980s, levelling off between 1986 and 1988 at approximately one million thefts of and thefts from vehicles a year. This accounted for approximately 27% of all recorded crime during this period.

- **1989 – 1992** : a sudden growth occurred during 1989 – 1990, with a 24% rise in a single year. Levels of vehicle crime continued to rise, peaking in 1992 at approximately 1.5 million recorded offences of theft of and from vehicles.

- **1993 – 1997** : Since 1993, vehicle crime has seen a 27% reduction and is now at a level similar to that experienced in the late 1980s. In contrast, total recorded crime has fallen by 17% during this period.

Figure 3 shows the trends in recorded vehicle crime since 1970. If the 30% target is achieved, overall vehicle crime levels in 2004 will be at a similar level to those last seen in the early 1980s. The effect will be even more significant on thefts of vehicles; the numbers would return to a level not seen since the mid 1970s.

Figure 3: Number of notifiable vehicle crimes in England and Wales 1970-1997



Source: Criminal Statistics for England and Wales (1970 – 1997)

Victimisation survey estimates

The British Crime Survey (BCS), first published in 1982 and now carried out every two years, shows a quite different picture in the total level of vehicle crime. The BCS asks adults (over 16 years) in private households about their experience of victimisation in the previous year. Therefore the most recent BCS published in 1998 measures experiences of crime in 1997. The BCS covers the following vehicle crime offences: thefts from a motor vehicle, theft or unauthorised taking of a motor vehicle and attempted thefts of and from motor vehicles. The BCS includes only privately owned vehicles, namely cars, vans, motorbikes and scooters. Commercially owned vehicles are not included in the survey and therefore adjustments are made in the survey so that comparisons can be made with these figures with recorded statistics.

In 1981, the BCS estimated that 1.7 million vehicle crime offences (excluding attempts) occurred. By 1991 this had more than doubled to nearly four million offences. The number of offences again grew to 4.3 million in 1993 and remained constant at this level in the estimates for the 1995 survey. The 1997 BCS showed a drop of nearly one million offences to approximately 3.5 million estimated crimes against a vehicle.

As mentioned previously, the BCS reports attempted thefts from and of motor vehicles separately. Between 1981 and 1991 the number of attempts reported increased almost five-fold from 180,000 to 895,000. By 1995 this figure had risen by nearly 45% to almost 1.3 million reported attempts; however the 1997 BCS reported a fall to 943,000.

Comparing recorded crime statistics and BCS estimates[4]

The 1997 edition of the BCS was the first survey to show a fall in levels of vehicle crime in line with notifiable offences recorded by the police. The number of vehicle offences recorded by the police fell by 15% between 1995 and 1997, comparable to a 19% fall in all vehicle crime estimated by the BCS.

Table 1 shows that the levels of total vehicle crime recorded by the BCS are much higher than those recorded by the police. For example, in 1997, despite both the BCS and recorded crime showing a significant reduction in crime levels, the BCS estimates were still more than twice as high as those recorded by the police. The main reasons for this large discrepancy are that not all vehicle crimes are reported to the police and not all of those reported are recorded. Furthermore some offences will be classified under other headings (e.g. criminal damage rather than attempted theft).

[4] *It must be borne in mind that for reasons previously mentioned BCS and recorded crime figures are not directly comparable as recorded crime figures include* ***ALL*** *vehicles. The BCS adjusts the recorded crime figures in their reports to make the data more comparable.*

Table 1: Comparison of vehicle offences recorded by the police and estimated by the British Crime Survey [5]

Offence Group	1981	1983	1987	1991	1993	1995	1997
Theft from Motor Vehicle (Recorded)	379,640	424,238	658,577	913,276	925,819	813,094	710,089
Theft from Motor Vehicle (BCS)	1,287,000	1,537,000	2,098,000	2,412,000	2,565,000	2,525,000	2,164,000
Ratio of Recorded : BCS	**1:3.4**	**1:3.6**	**1:3.2**	**1:2.6**	**1:2.8**	**1:3.1**	**1:3.0**
Theft or Unauthorised Taking of Motor Vehicle (Recorded)	332,590	325,699	389,576	581,901	597,519	508,450	407,569
Theft or Unauthorised Taking of Motor Vehicle (BCS)	286,000	284,000	387,500	520,000	544,000	500,000	375,000
Ratio of Recorded : BCS	**1:0.9**	**1:0.9**	**1:1.0**	**1:0.9**	**1:0.9**	**1:1.0**	**1:0.9**
Attempts of and from (BCS)	180,000	294,000	430,000	895,000	1,236,000	1,292,000	943,000
Total Vehicle Crime (Recorded)	712,230	749,937	1,048,153	1,495,177	1,523,338	1,321,544	1,117,658
Total Vehicle Crime (BCS)	1,753,000	2,115,000	2,916,500	3,827,000	4,345,000	4,317,000	3,483,000
Ratio of Recorded : BCS	**1:2.5**	**1:2.8**	**1:2.8**	**1:2.6**	**1:2.9**	**1:3.3**	**1:3.1**

Sources: British Crime Survey, Notifiable Offences for England and Wales

[5]The recorded crime figures shown here are taken from Criminal Statistics, however the British Crime Survey makes adjustments to these figures in their reports to make them more comparable. Statistics from the British Transport Police (BTP) are added and a percentage of thefts are deducted from the totals to exclude thefts of or from commercial vehicles. Attempted thefts are also calculated by adding nil value thefts from vehicles to the recorded attempted thefts of vehicles. Again figures from the BTP are added and a percentage of the total deducted to exclude attempted thefts of and from commercial vehicles.

Differences in reporting and recording are particularly noticeable with attempted thefts and thefts from vehicles. Attempted thefts from vehicles are incorporated into recorded thefts from vehicles and are not listed as a separate offence. However, Criminal Statistics does break down thefts of vehicles into thefts and attempted thefts. In 1997 there were 47,737 recorded attempted thefts of vehicles. Attempted thefts from are often recorded as 'nil value' thefts or perhaps vehicle interference or criminal damage. The BCS figures, however, combine both attempted thefts of and from vehicles into a separate offence[6], of which there were an estimated 943,000 attempted thefts in 1997. Obviously these figures are not comparable due to the absence of a separate category for attempted thefts from vehicles in Criminal Statistics, but they are indicative of the difference in reporting levels. Such attempts are seldom reported to the police because:

- the crime may be considered insignificant;
- the crime may be considered a waste of police time; or
- the cost of any damage resulting from the crime is too little to claim on insurance.

[6]Attempted thefts of and from vehicles are grouped together as there is little evidence as to the offenders' true intention.

Indeed, the BCS estimates that only 37% of attempted thefts were reported in 1997. Thefts from vehicles also show a considerable under-reporting. According to the BCS, only 43% of these crimes were reported to the police. The reasons for this are similar to those described for the low reporting of attempted thefts. This can be contrasted with thefts of vehicles, where reporting rates are estimated to be 97% mainly for insurance reasons.

Summary of trends

Recorded statistics

- Vehicle crime accounted for 24% of all recorded crime in 1997.
- Between 1989 and 1990 recorded vehicle crime increased by 24% and continued to rise before peaking in 1992.
- Since 1992 there has been a 28% reduction in recorded levels of vehicle crime.

British Crime Survey

- The BCS reports substantially higher levels of vehicle crime than recorded crime figures.
- The BCS shows considerable under-reporting of thefts from vehicles and attempted thefts in recorded crime statistics.

Theft or unauthorised taking of vehicles

In 1997, there were 407,569 thefts or unauthorised takings of motor vehicles recorded by the police. These constituted 36% of vehicle crime offences and nine percent of all crime. While there has been a decline of 32% since its peak in 1993, the current total is still higher than the figures for 1989.

Estimates from the BCS show a similar trend, with a peak in 1993, followed by a significant decline. The total for 1997 was 375,000 vehicles stolen or subject to an unauthorised taking. While slightly lower than the criminal statistics, this figure excludes attempted thefts (included in the criminal statistics) and also excludes thefts of commercially owned vehicles.

According to the BCS, attempted thefts accounted for a further 943,000 offences in 1997, although only 37% were reported to the police. This is a decline of 27% since the survey was last carried out in 1995 (The 1996 British Crime Survey).

Focusing on criminal statistics, a 30% reduction on 1997 figures would require the total amount of vehicle crime to be reduced by 335,297 offences. If this was to be achieved solely through thefts / unauthorised taking of vehicles, an 82% reduction in this type of crime would be required.

Thefts from vehicles

In 1997, 710,089 thefts from vehicles were reported to the police. These thefts constituted 63% of recorded vehicle crime offences and accounted for 15% of all recorded crime. According to this source, thefts from vehicles peaked in 1992 at 961,340 offences and the 1997 figures represent a 26% decline over the five years.

Thefts from vehicles are significantly under-reported in criminal statistics. According to BCS estimates there were 2,164,000 thefts from vehicles in 1997. Although the BCS and criminal statistics vary in the scale of the problem, both show a similar trend, with a significant reduction in both theft of and theft from vehicles having been achieved in recent years.

Where the 30% reduction target is concerned, if this was to be achieved entirely through focusing effort on theft from vehicles, this would require a reduction of 47% in such offences (based on recorded criminal statistics). In practice, it will be necessary to tackle both the theft of and theft from vehicles if the target is to be achieved. However, it is worth noting that, because of the relatively greater scale of thefts from vehicles, there are proportionately greater gains to be made by focusing effort on this type of problem.

Rate of theft

In examining vehicle crime trends, it is important to take into account the size of the vehicle parc, as any increase in theft could be a function of the number of vehicles available as targets. Indeed, Wilkins (1964) has shown a close association between the number of vehicle thefts and the number of cars on the road. The number of licensed vehicles on the road has grown steadily since 1981. However, the relative number of thefts of and from vehicles have out-paced this increase, suggesting that factors other than the number of vehicles on the road must be considered in explaining vehicle crime[7].

As the BCS may be considered to provide a more accurate reflection of the scale of vehicle crime, these data have been used to examine trends in the **rat**e of vehicle related offences. Figure 4 shows rates of vehicle theft using recorded crime figures as a comparison to the BCS figures.[8] The BCS only incorporates thefts of and from

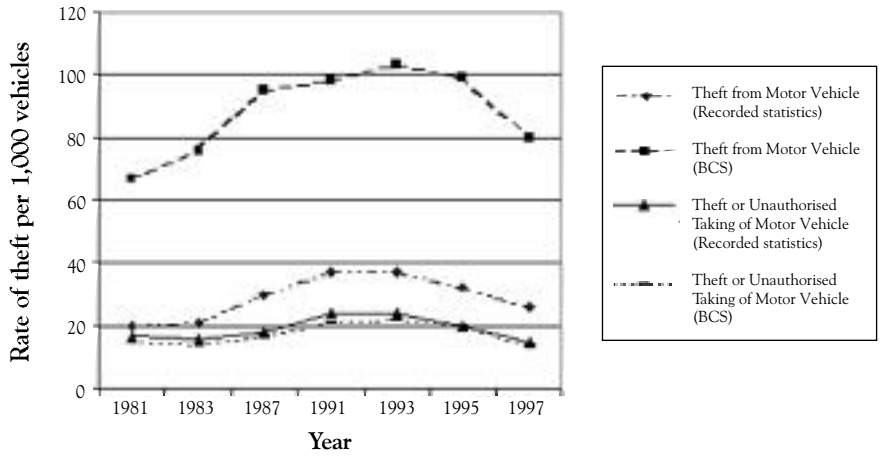
[7] *Mayhew (1990) further examines the relationship between vehicle availability and vehicle theft analysing both Wilkins' theory and that of Gould and his colleagues (1969,1974). It is shown that the relationship is more complex, and other factors need to be considered to explain vehicle theft.*

[8] *Although BCS figures are usually presented in terms of rates per household or vehicle owner, the following analysis calculates BCS incidents of vehicle crime as a rate per 1,000 vehicles on the road.*

privately owned cars, vans and motorbikes as opposed to recorded crime figures which include all vehicles. The BCS shows that thefts of vehicles rose steadily to peak in 1993 at 22 thefts per 1,000, falling to 14 per 1,000 by 1997.

The rate of thefts from vehicles has shown much more variation over time. Rising rapidly during the early 1980s, the rate of theft from vehicles peaked in 1993 at 103 per 1,000. Since then the rate has declined to 80 thefts per 1,000 registered. Put another way, for every 13 cars on the road in 1997, one had something stolen from it.

Figure 4: Comparison of rates of vehicle theft using BCS estimates and recorded crime statistics 1981 - 1997



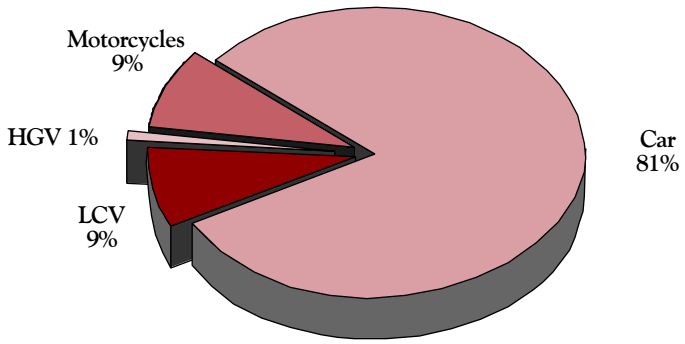
Source: British Crime Survey England & Wales,
1998 Transport Statistics, 1998

Types of vehicle stolen

Figure 5 uses a number of data sources to provide an indication of how vehicle crime is distributed between types of vehicle. By far the largest proportion of thefts (81%) relates to cars (1997 Car Theft Index), followed by motorcycles (unpublished figures compiled by PRG) and light commercial vehicles (LCVs) (Brown and Saliba, 1998), each accounting for nine percent of thefts. Heavy goods vehicles (HGVs) account for a further one percent of vehicles stolen (Brown, 1995).

As with the overall trends, the numbers stolen may be a function of the number of such vehicles on the road and analysis of the rates of thefts has produced a quite different picture. The overall rate of theft was found to be 18 per 1,000 registered. Although cars were found to account for eight out of ten thefts, their rate of theft (16 per 1,000) was slightly lower than the average. LCVs had a rate of theft of 19 per 1,000 and HGVs had a rate of just seven per 1,000.

Figure 5: Types of vehicles stolen 1996



Source: The Car Theft Index 1996 (Home Office)
The Nature & Extent of Light Commercial Vehicle Theft (Brown & Saliba, 1998)
The Nature & Extent of Heavy Goods Vehicle Theft (Brown, 1995)
Unpublished figures compiled by the Police Research Group on motorcycle theft.

In contrast, motorcycles had a rate of theft of 73 per 1,000, four times the average rate of theft of vehicle[9]. Little research has been carried out into the extent of theft of motorcycles; however, the rate of theft indicates there is a substantial problem. Earlier work carried out by Mayhew et al (1989), however, showed that the introduction of helmet legislation in 1973 had a large impact on motorcycle theft. In London thefts fell by 24% over a twelve month period following legislation. In West Germany fines for non-compliance with the requirement to wear helmets were introduced in mid-1980. Thefts began to fall and there were 40% less in 1986 than 1980. This was accompanied with very little displacement to any other type of vehicle theft.

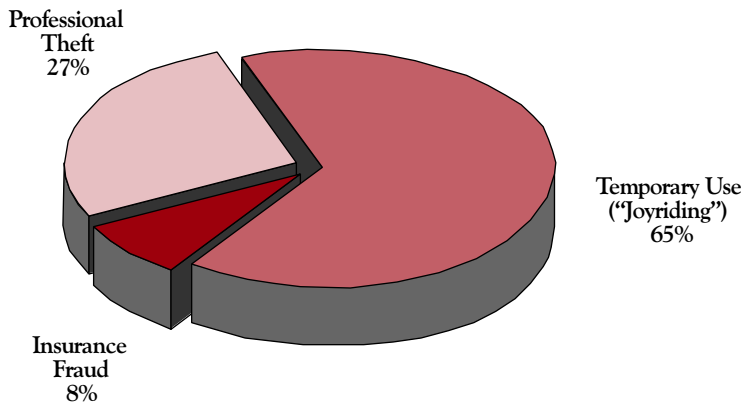
[9]The data used to illustrate theft of vehicles by vehicle type has been derived from Home Office sources from differing years. The figures for LCVs, HGVs and motorcycles are based on 1994 data, and cars on 1996. The 1994 figures have therefore been adjusted by 8.91% (the reduction in vehicle crime between 1994 and 1996) to come into line with the 1996 data.

Although motorcycles have a high risk of theft, it should be noted that efforts to reduce this problem would have a maximum impact of a six percent reduction in vehicle crime. Identifying crime reduction approaches for specific types of vehicle can, when aggregated, contribute towards an overall reduction. For example, targeted crime reduction efforts focused on motorcycles, LCVs and HGVs could, in combination, produce a 12% decline in vehicle crime (both theft of and theft from). Furthermore, in terms of financial loss, there could be greater gains to be made from concentrating on these vehicle types. However, as the 30% target is a numerical one, it follows that the greatest effort will need to be focused on cars, as this is where the highest volume problems lie, although this is not to suggest that other types of vehicles should not receive due attention.

Type of theft

There are many motivations for stealing vehicles – to achieve peer status, simply as a means of transport or for spare parts are simply a few possible reasons. Webb and Laycock (1992) defined three main reasons for taking a vehicle; casual use, professional theft and insurance fraud. Their analysis provided an estimated distribution for these categories as shown in figure 6.

Figure 6: The nature of vehicle theft



Source: Webb & Laycock (1992)

- **Casual use** : In these cases, the theft is temporary and for the thief's own use. The offence of taking a vehicle without the owner's consent was introduced in the 1930 Road Traffic Act as a response to this problem. If the car was recovered

within 48 hours then it was not considered theft, but unauthorised taking. The length of recovery time was increased to 30 days in 1960. However, if a vehicle is recovered within this time and it appears that the thief has 'assumed the right of the owner' then this would be recorded as a theft.

- **Professional theft** : This type of theft is more permanent and entails the taking of a vehicle for financial gain, whether to resell the car through export, 'ringing' (changing its identity) or breaking it down to its component parts.

- **Insurance fraud:** If more is to be gained through the insurance of a car than through the legitimate resale, the owner may make a fraudulent claim. Either the owner has disposed of the car or has arranged for someone else to do so.

Recovery of vehicles

The recovery rate of vehicles gives a good indication of the likely reasons for the theft. The police recorded an overall recovery of 69% for all vehicles in 1997 (Notifiable Offences England and Wales, 1997). According to the 1996 British Crime Survey, the recovery rate for cars stolen was 64%. The recovery rate for other vehicle types is much lower; 41% for LCVs, 28% for motorcycles and only 12% for HGVs. Recovered vehicles can be used to estimate the number of vehicles taken for casual use. The very fact that they are recovered suggests there was no intention to remove them from the owner permanently. By contrast, those unrecovered are likely to have been subject to either professional theft or insurance fraud.

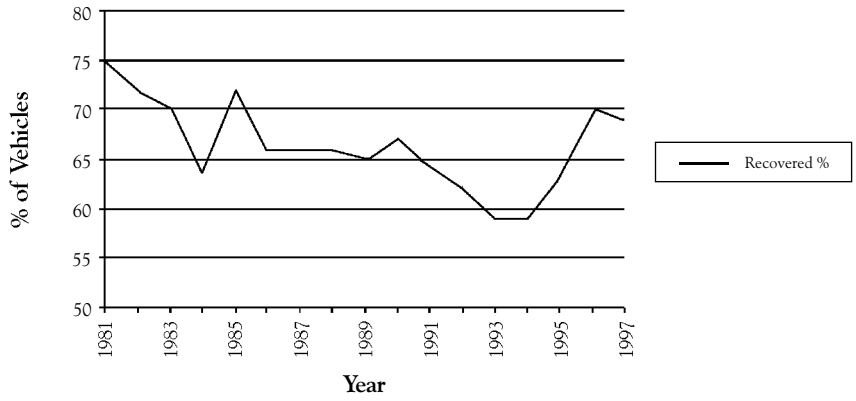
Richards and Warman (1991) hypothesised that unrecovered older cars may reflect insurance fraud. They found that 25% of vehicles remaining on the Police National Computer (PNC) at the end of 1990 were more than ten years old and they concluded that these could have been subject to insurance fraud. However, this ignored the possibility that older cars are in demand for their parts and one would equally expect these to be unrecovered. The same research reported that vehicle insurers considered 15% of vehicle theft claims to be fraudulent. Webb and Laycock's (1992) calculations suggested that insurance fraud accounted for eight percent of all vehicle theft. The vehicles that cannot be accounted for by either temporary use or insurance fraud provide an estimate of professional theft.

Different types of vehicle would appear to be subject to different forms of theft. For example, the large percentage of cars recovered suggest that they are more prone to casual (temporary) theft, rather than professional theft or insurance fraud. Motorcycles, HGVs and LCVs, however, appear to be more likely to suffer from

organised, professional theft or insurance fraud because of their relatively low recovery rates. When considering initiatives to combat vehicle crime, these factors must be taken into consideration.

Using recorded crime data, the trend in the recovery of vehicles stolen since 1981 has been one of decline – in 1981 the recovery rate was 75%, which steadily fell to 59% in 1993 and 1994. According to Webb and Laycock (1992), the gradual decline in recovery rates represents a relative increase in theft for financial gain. There was however, a slight upturn in 1995 and 1996, while 1997 figures have remained approximately constant at 69% (figure 7). The upturn was largely an artefact of changes in recording practices. Criminal Statistics now calculate vehicle recovery rate using just thefts and unauthorised takings. Previously (prior to 1995) the recovery rate was calculated using both thefts and attempted thefts.

Figure 7: Recovery of stolen vehicles in England and Wales 1981 - 1997



Source: Criminal Statistics England & Wales, 1997 (Home Office)

Summary

Theft of vehicles

- Since 1993 recorded thefts or unauthorised takings of motor vehicles have fallen by 32%. However, in 1997 they still constituted 36% of recorded vehicle crime and nine percent of all crime.
- 81% of vehicles stolen are cars, although the rate of car theft (16 per 1,000 registered) is slightly less than the average rate of 18 per 1,000 registered.
- The recovery rate of vehicles in 1997 was 69%.

Theft from vehicles

- Thefts from vehicles accounted for 15% of all recorded crime in 1997 and accounted for approximately 710,000 offences.
- The British Crime Survey estimated over two million thefts from vehicles in 1997, the large difference compared to criminal statistics is due to only a 43% reporting rate to the police for this offence.

3. Vehicle crime at the local level

Recognising that the reduction target will only be met through a concerted effort at the local level, this section deals with the patterns of vehicle crime at the police force level. National trends have shown us that vehicle crime makes up a substantial percentage of all crime that occurs in England and Wales. Vehicle crime, however, is not evenly distributed across the country, and in order to analyse the data effectively it is necessary to see which areas suffer the greatest problem. Looking at the 1997 recorded vehicle crime figures broken down by force area, it is possible to calculate the rate of theft within each force. The force area population is used in this calculation rather than number of licensed vehicles, as the latter is not available at force level, and would anyway be skewed by company owned fleets registered at headquarters addresses.

Rate of vehicle crime per 1,000 head of population

In 1997, the average rate of theft of and from vehicles was 22 per 1,000 head of population by force area. There was, however, considerable variation between forces, with theft rates ranging from five per 1,000 population to 33 per 1,000 (Figure 8)[10]. Those forces with a low rate of vehicle crime tended to be more rural forces, while high vehicle crime areas tended to contain large conurbations, which are synonymous with higher levels of crime. Interestingly, one or two large urban forces had rates that were lower than average, and there may be benefits in gaining an understanding of why these are different to comparable areas. If it were possible to determine how much of the difference was due to police practice rather than other local factors (demographic factors, level of traffic congestion etc.), this may help to highlight areas of good practice that could be replicated by other metropolitan forces. Many of the other forces with below average rates of vehicle crime were mainly rural areas. One explanation for this difference could be variations in reporting patterns across the country. Further analysis of the BCS (a combined sweep of the 1994, 1996 and 1998 surveys) showed little difference, however, in the levels of reporting of vehicle crime across regions. The levels ranged from 47% in Wales to 63% in the North and East Midlands. There was also a lower level of reporting in inner cities than elsewhere which perhaps could also account for the lower rates in some of the large urban forces.

[10] *City of London police are excluded for the purposes of this analysis due to wide variation in population between daytime and night-time.*

Figure 8: Rate of vehicle crime per 1,000 head of population by force area, 1997

Source:Notifiable Offences England & Wales, 1997 (Home Office)

Figure 9: Rate of theft of vehicles per 1,000 head of population by force area, 1997

Source: Criminal Statistics England & Wales, 1997 (Home Office)

Rate of theft of vehicles per 1,000 head of population

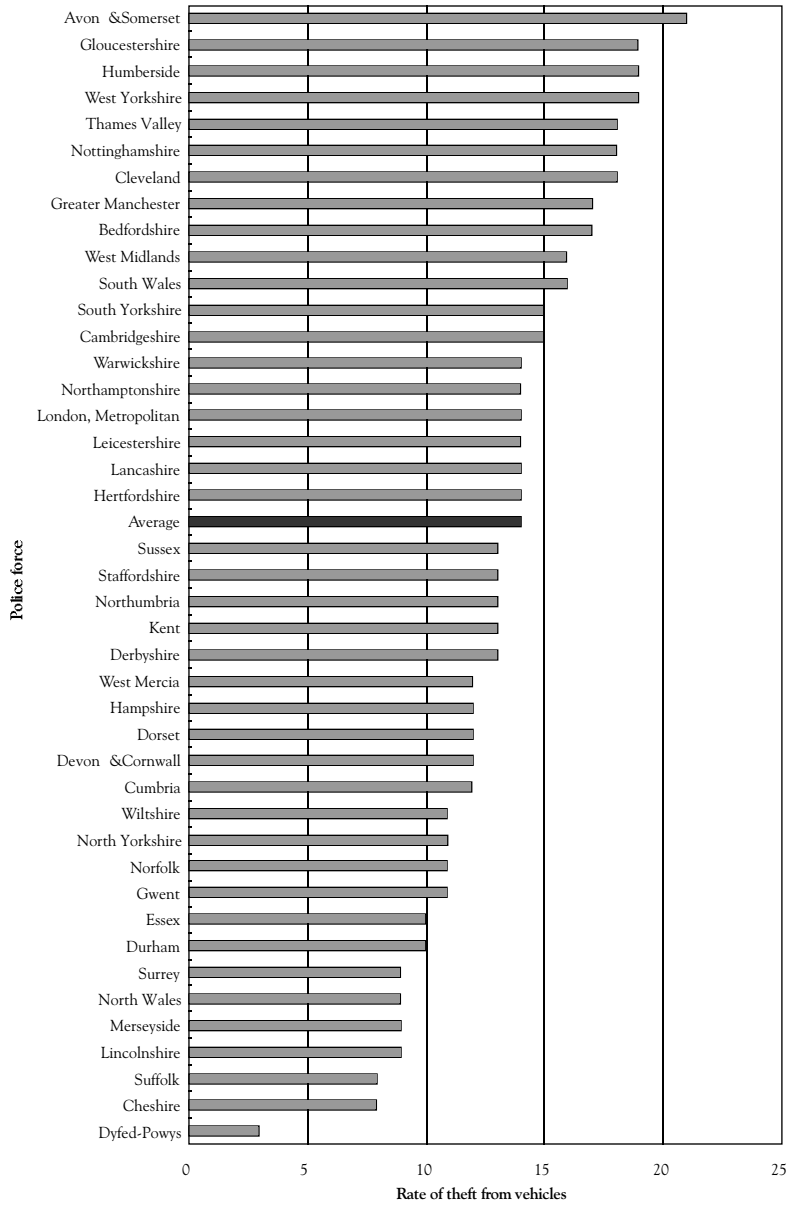
Analysis of the rate of theft of vehicles per 1,000 head of population found an average rate of eight thefts per 1,000 people across all forces. There was, however, a considerable variation between forces (Figure 9). Thirteen forces were found to have a rate above the national average. The forces with the highest rates of vehicle theft appear to be the areas with major conurbations, as reflected in the overall vehicle crime rate. Those forces with the lowest rate of vehicle theft tended to be more rural forces, indeed, the 11 forces with the lowest rate could all be considered predominantly rural areas.

The theft figures can be broken down to show the number of attempted thefts recorded by each police force. The ratio of attempts to total number of thefts shows a large variation throughout the country. Attempted thefts account for less than five percent of all recorded vehicle thefts for nine forces, eight of which are rural. At the other extreme, attempted thefts in two forces made up 43% and 31% of all thefts respectively. The average percentage of attempted thefts was found to be 12% in 1997 across all forces with 29 of the 42 forces examined falling between 10% and 20%.

Rate of theft from vehicles per 1,000 head of population

The average rate of thefts from vehicles by force area in 1997 was 14 per 1,000 head of population. Twenty three (55%) of the 42 forces considered had below average rates of theft. As with thefts of vehicles, those forces suffering the lowest levels of thefts from vehicles were mainly rural areas, with the lowest rate being three thefts per 1,000 head of population (Figure 10).

Figure 10: Rate of theft from vehicles per1,000 head of population by force area, 1997



Source: Criminal Statistics England and Wales 1997 (Home Office)

It does not necessarily follow that the force areas that appear to have a problem with thefts from vehicles have a problem with thefts of vehicles. For example, one area may have a very high rate of thefts from vehicles, yet experience a relatively low rate of theft of vehicles.

These analyses underline the importance of differentiating between types of vehicle crime. A high overall rate of vehicle crime does not necessarily mean both thefts of and thefts from vehicles will be high. Similarly, analysis of recovery rates will be important for determining the nature of the vehicle crime problem – i.e. whether the problem is one of temporary or professional theft. Clearly, the measures taken to combat the problem at the local level depend on the nature of the problem in that area. While these figures indicate the scale of the problem at the force level, there is likely to be a considerable degree of variation within forces. Much of the effort required to achieve the national 30% vehicle crime reduction target will require action at the local level. Locally based crime pattern analysis will therefore be important for identifying local patterns and trends, that will form the basis for targeted crime reduction efforts.

4. Theft of cars

This section deals with the theft of cars as these account for approximately 80% of stolen vehicles and 30% of all vehicle crime (based on 1997 recorded theft data). In examining this issue, analysis has been undertaken of:

- the types of cars stolen;
- their security;
- the theft locations; and
- the profile of the victims involved.

Make and model of cars stolen

The risk of theft associated with cars varies considerably according to their make, model and age. While the majority of models have a relatively low rate of theft, there are a few model ranges which have a high likelihood of being stolen. From interviewing car offenders, Light et al. (1993) identified three factors related to the risk of theft:

- older cars had a high risk of theft because they were considered to have less security;
- familiar cars were targeted because the offenders felt more comfortable with these. These tended to be Fords and Vauxhalls which were "disproportionate in numbers in their rather poor home environments than on the road generally" (Light et al., 1993, p.49); and
- performance / 'sporty' models, which offenders liked to be seen driving.

The preference for 'sporty' models was also noted in a study of car offenders on the Pennywell Estate in Sunderland (Spencer, 1992). The preferred cars among those interviewed were Ford XR3s, Cosworths, 4x4s and Vauxhall Astra GTEs.

Analysis of data from car theft indices tends to confirm these patterns[11]. For example, the 1992 Car Theft Index (Houghton, 1992) found that those classed as "Very High Risk" were all from the high performance end of their model ranges. Furthermore, all seven models concerned were built by Ford and Vauxhall.

The results of the 1997 Car Theft Index (based on 1996 data) also tend to show that high performance models have the highest risk of theft (although the findings

[11] *It must be borne in mind that stolen cars that are recovered very quickly may not be recorded onto the PNC. Therefore they would not be included in the Car Theft Indices.*

are not as clear-cut as in the 1992 version of the index[12]). Table 2 shows the 20 models with the highest risk of theft in the 1997 index. While previously published analyses have grouped models into three year bands, the current work has disaggregated the data to present individual years of registration.

Each of these 20 models had a risk of theft of at least 93 per 1,000 registered on the road[13]. Put another way, for every 11 cars on the road, at least one was stolen. As Table 2 shows, 12 of the 20 models listed included those in the high performance

Table 2: Top 20 models with the highest risk of theft

Make	Model	Variant	Year	Theft Rate (Per 1000)	Number Stolen
Austin/Morris	Maestro	others[14]	1994	140	8
Austin/Morris	Montego&1800&2000	all	1987	133	5609
Austin/Morris	Montego & 1800 & 2000	all	1994	129	40
Austin/Morris	Metro	others	1991	127	39
Vauxhall	Opel-Monza & Velox & VX & Magnum & Cresta & Ventora	all	1989	118	6
Ford	Orion	L	1993	117	13
*Vauxhall	Opel-Manta	all	1989	116	10
*Vauxhall	Nova	S&SR&SRI&SX	1983	108	55
*Vauxhall	Cavalier	SR&SRI&STD	1982	108	195
*Austin/Morris	Metro	MG	1990	102	74
*Vauxhall	Cavalier	SR&SRI&STD	1984	100	798
*Vauxhall	Cavalier	SR&SRI&STD	1983	99	487
*Austin/Morris	Metro	MG	1985	99	630
*Vauxhall	Cavalier	SR&SRI&STD	1986	99	929
*Austin/Morris	Metro	MG	1988	98	1050
*Vauxhall	Cavalier	SR&SRI&STD	1987	97	878
*Vauxhall	Astra	GL&GLD&GLS &GSI&GTE	1980	94	90
Austin/Morris	Montego & 1800 & 2000	all	1989	93	4027
*Austin/Morris	Metro	MG	1986	93	783
Vauxhall	Cavalier	LS&LI&LX	1988	93	982

* Denotes those which include high performance models.

Source: 1997 Car Theft Index

[12]It should be noted that the 1992 and 1997 car theft indices are not strictly comparable due to changes in methodology. While the 1992 version was based on thefts recorded locally in a sample of police forces, the 1997 version is based on thefts recorded on the Police National Computer. A more detailed classification of models is also used in the 1997 index.

[13]The average rate of theft of cars in 1996 was 16 per 1,000 registered on the road.

[14]Variants described as 'others' refer to those which have been grouped together because of their low number in the vehicle parc. These can be distinguished from other models where a variant specific description is given. For example, Austin/Morris Maestro 'others' can be distinguished from Austin/Morris Maestro HL/HLE/HLS and L/LE. (See Car Theft Index 1997 pg. 8).

end of the range, although there are also a number of standard family models, such as Maestros and Montegos.

These findings also support Light et al's (1993) notion that familiar cars are particularly at risk of theft. Although data are not currently available to test this assumption, it is possible that there is an alternative but compelling explanation, i.e. that these particular models may be more likely to be found in less affluent residential areas[15]. (All can be described as high volume, relatively old models with a low resale value.) The age of these models would also suggest that many are unlikely to have adequate security and are therefore more vulnerable to theft.

[15]It should be noted that a breakdown of the cars registered in each postcode area is available from organisations like the Society of Motor Manufacturers and Traders. This might allow theories regarding the theft risk of the types of area in which cars are parked to be tested.

Caution should be shown in interpreting the findings in Table 2 due to the small number of thefts involved for some models. For example, although the 1994 Maestro (others) has the highest theft rate overall, only eight were, in fact, stolen. The high rate is a factor of the low number on the road – Austin ceased production of the Maestro in 1993, so very few were registered in 1994. If crime reduction efforts concentrated solely on the vehicles with the highest rates of theft, some models with low numbers stolen would also be included.

The most efficient method of targeting high risk models would therefore be to select models which had a high risk of theft and which had a high number stolen. Further analysis of the 1997 Car Theft Index was therefore undertaken to produce the Car Theft Matrix presented in Figure 11. This matrix segments each of the theft rate categories used in the theft index into three 'number stolen' categories[16] to produce a nine cell matrix.

[16]The 'number stolen' categories were based on similar criteria to the theft rate categories. Cut-off points at the 20th percentile and 80th percentile were used, which means that the three low 'number stolen' cells constitute 20% of stolen cars, the three medium 'number stolen' cells constitute 60% of stolen cars and the three high 'number stolen' cells constitute 20% of stolen cars.

The purpose of this Car Theft Matrix is to help target effort on the vehicles where most gains could be made. For example, cell 'C' contains car models, which have been found to be at high risk (with a rate of theft in excess of 27 per 1,000 registered). However, the actual number of each of these models stolen is relatively small and their position in the theft index is a function of there being few of these vehicles on the road. Therefore, targeting effort on the 243 model types falling into this cell would reap a maximum dividend of a three percent reduction in theft of cars. In contrast, cell 'I' also contains high risk car models, but these have been shown to have a high number stolen too. There are just 38 models (including different model types and years of registration) identified with high risk and high number stolen in this cell, but as Table 3 shows, these consisted of only 12 specific model types registered in a number of years. For example, all Austin/Morris Metro Ls and LEs registered over a four year period (1985-1989) fell into this category (and therefore count as four models for the purpose of Table 3). Crime reduction

efforts focused on these 38 models could deliver up to a 19% reduction in car theft. Overall, this could provide a six percent reduction in vehicle crime[17].

[17]It must be borne in mind that the vehicles shown here to be 'high risk and high number' stolen have been selected following analysis of 1996 data. These 'high risk, high number' stolen vehicles may alter over time.

Figure 11: Car Theft Matrix

Number Stolen					
High	1067-5609 stolen	G No. of models = 0 0% of all stolen	H No. of models = 4 1% of all stolen	I No. of models = 38 19% of all stolen
Medium	136-1066 stolen	D No. of models = 5 0% of all stolen	E No. of models = 328 25% of all stolen	F No. of models = 282 35% of all stolen
Low	0-135 stolen	A No. of models = 1211 2% of all stolen	B No. of models = 1943 15% of all stolen	C No. of models = 243 3% of all stolen
		0-3 per 1,000 **Low**	4-26 per 1,000 **Medium**	27-140 per 1,000 **High**

Number stolen per 1,000 registered

Source: 1997 Car Theft Index

Age of vehicle

Both Houghton (1992) and Light et al (1993) noted that older vehicles were most at risk of theft. This is a pattern confirmed by the 1997 Car Theft Index. For example, further analysis of data presented in Table 2 reveals that 17 of the top 20 models most at risk of theft were five or more years old when stolen, and five were more than 10 years old. Overall, cars which were 11 years old faced the greatest risk of being stolen, with a theft rate of 28 cars per 1,000 registered. The newest cars (less than three years old) were the least likely to be stolen; those registered in 1996 had a theft rate of only two cars per 1,000 registered (see Figure 12).

Cars registered after 1985 have a gradually improving rate of theft and the most recently produced cars have the lowest rate of theft. It is currently unclear why this should be the case, although Light et al (1993) have suggested that this may be related to the lower level of security on older models. However, there are a number of possible reasons for this pattern. The age profile of stolen vehicles may be the result of:

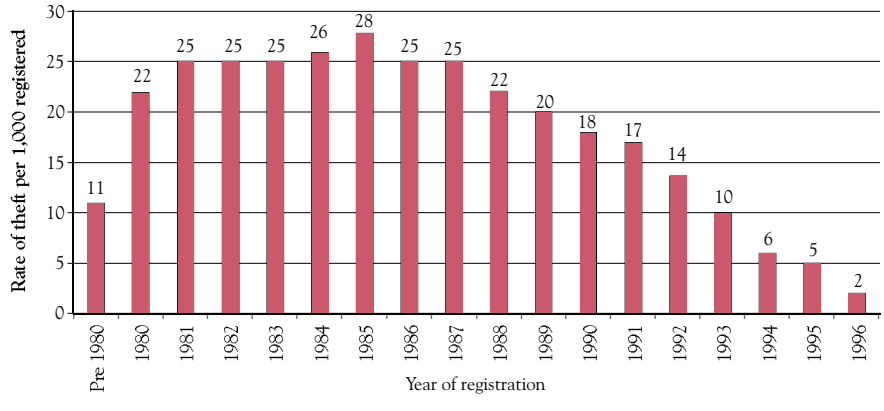
Table 3: Models with high risk and high number stolen (those in 'Cell I' of car theft matrix)

MAKE	MODEL	VARIANT	YEAR
Austin/Morris	Metro	City	1985 - 1989
Austin/Morris	Metro	L & LE	1985 - 1988
Austin/Morris	Metro	others	1989
*Austin/Morris	Montego & 1800 & 2000	All	1985 - 1989
*Ford	Fiesta	XR2 & XR2I	1987
Rover	Metro	others	1990
Rover	Montego	All	1990
Vauxhall	Astra	L	1985 - 1990
Vauxhall	Astra	Merit	1987 - 1990
Vauxhall	Belmont	All	1986 & 1989
Vauxhall	Cavalier	L	1983 - 1988
Vauxhall	Cavalier	others	1985 - 1986

* High performance vehicles

Source:1997 Car Theft Index

Figure 12: Rate of car theft by year of registration



Source: 1997 Car Theft Index

- improved manufacturer fitted security on recent models;
- older vehicles being stolen to supply a demand for used parts;
- knowledge of how to steal older vehicles being more widely disseminated among car thieves;
- older vehicles being in more plentiful supply in the areas in which car thieves reside; and
- older vehicles being more susceptible to insurance fraud.

In reality, the age profile of stolen vehicles is likely to be a reflection of a number of these factors. If improved security on new cars shifts the attention towards older models, then one might also expect the motivation for the theft to vary according to the age of the vehicle. Older cars with poorer security might be more susceptible to temporary theft as the relatively unskilled 'opportunist' thief will be able to steal such vehicles with little difficulty. By contrast, one would expect the newer vehicles to be targeted by more professional thieves, who are equipped with skills and tools to overcome modern security systems. If these hypotheses were correct, one would expect a higher recovery rate among older vehicles than among more recent models.

While national data on the recovery rate of specific ages of vehicles are not available, some evidence is available at the local force level. Analysis of recovery rates by Avon and Somerset Constabulary shows relatively little difference between years of registration. Overall, the recovery rate of stolen cars was 77% and as Figure 13 indicates the trend is in the expected direction (older vehicles more likely to be recovered), but the differences are not as marked as might be expected. The recovery rate for new cars was 68% in comparison to 79% for those 12 years old. One explanation for this may be that older vehicles are also stolen for their parts and such vehicles are also unlikely to be recovered. Perhaps less explicable is the fact that two-thirds of new cars in Avon and Somerset are recovered. If these were stolen by professional thieves for re-sale, one would have expected a lower recovery rate. This would suggest that when new vehicles are targeted they may be just as likely to be stolen for temporary use as are older vehicles. In short, some 'opportunist' thieves are stealing new cars.

There are two opposing hypotheses on the long term effects of new cars on theft patterns:

- **The time lag theory** : Some 'opportunist' thieves may have developed methods to overcome security systems on new car models and the low rate of theft is merely a function of how widely disseminated this knowledge is among the offending community. As the methods for stealing new models become common knowledge, one might expect to see a corresponding increase in the theft of these vehicles. As this process of knowledge dissemination may take a number of years, the risk of theft will gradually increase over time. By this time, these models will be several years old and newer models will have been developed with even better security. Also, as these models age they are more likely to be bought by those living in high risk areas (see section on 'victims of car theft'), bringing together suitable theft targets with offenders who know how to steal those particular cars.

- **The reduced pool theory:** As high quality security becomes standard on an increasing proportion of new models[18], 'opportunist' thieves may be displacing attention towards the remaining insecure models. Improved security on new cars may therefore be reducing the pool of available targets and this may partly explain the low theft rate for new models. Over time, as security becomes a standard feature on cars in the vehicle parc, we may expect to see fewer cars at risk of theft by 'opportunists' and, all things being equal, theft should naturally decline.

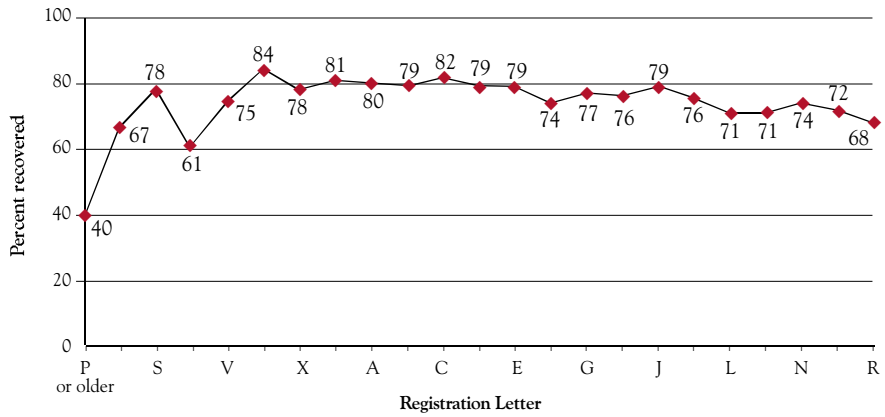
[18]*A recent study by What Car? (1999) questions the effectiveness of this new security. It found that 87% of 77 new car models tested had inadequate perimeter security to pass the 2 minute 'attack' test recommended by Home Office guidelines. In addition, 32% could be driven away within a further five minutes by the would-be thief.*

Both of these theories assume a static pattern of modus operandi (MO) of theft, with thieves overcoming security systems to steal the cars. It is possible that improved security could lead to a change in the MO, with a shift in emphasis towards illegitimately obtaining the keys (e.g. through burglaries). However, the lack of available information on the relationship between vehicle security and theft rates means these theories cannot currently be tested. This may be an area where further research may be required in order to predict the future effects of further improvements in vehicle security.

Car security

There is good evidence that vehicle security has improved over recent years. Analysis of the 1996 British Crime Survey (Mirrlees-Black et al., 1996) reveals that there have been marked improvements in the proportion of cars with security features installed. Respondents were asked to indicate whether their main car was fitted with central locking, car alarms or some form of immobilisation. Figure 14 shows the use of all three forms of security increased between 1992 and 1996 in cars of all ages.

Figure 13: Recovery rate of stolen cars by age of vehicle in Avon and Somerset: April 1997 to March 1998



Source: Avon and Somerset Constabulary, 1998

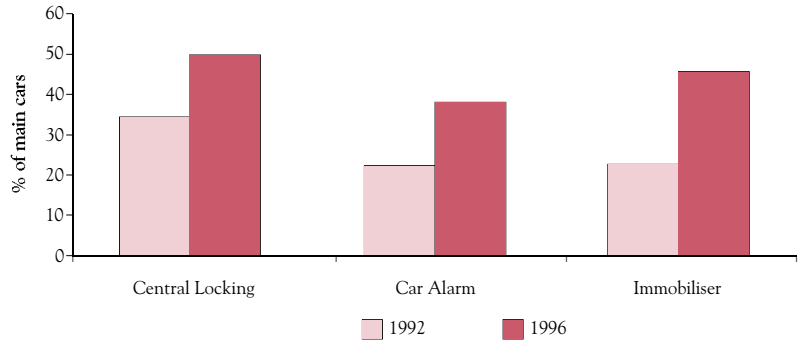
In terms of new cars, there is clear evidence that manufacturers are improving the levels of security on their cars and that most models now sold in the UK have a higher level of security than they did at the beginning of the decade. Electronic immobilisers began to be widely fitted by manufacturers in the early nineties which anticipated fitting becoming compulsory under EU law on 1 October 1998. A survey of anti-theft measures by the Society of Motor Manufacturers and Traders (Dixon, 1996) highlighted this and found that most models offered for sale in the UK now have some form of security beyond the steering column lock. The survey, which examined 879 models accounting for over 80% of new registrations, found that:

- central locking was a standard feature on 81% of UK manufactured models and 83% of imported models;
- alarms were standard on 56% of UK manufactured models and 41% of imported models; and
- immobilisers were standard equipment on 95% of UK manufactured models and 74% of imported models.

The benefits of the change in policy and law should increase over time as more new vehicles have electronic immobilisers fitted and the older vehicles without

them are scrapped at end of life. However, this proposition will only hold if the new security being installed is effective in preventing thefts.

Figure 14: Changes in car security features



Source: 1996 British Crime Survey

Effectiveness of security

While common sense suggests that installing security prevents one's car from being stolen, the research evidence is less clear cut because the risk of theft depends on a range of factors (e.g. the attractiveness of any particular model to the thief, where it is parked etc.), not solely on security. One attempt to assess the effect of security was undertaken by Brown and Billing (1995) as part of the evaluation of the Sold Secure initiative, and it was found that vehicles with an approved device fitted to them were less likely to be stolen than the population of cars as a whole. High and low estimates of the risk of theft associated with cars fitted with security were calculated at between 2.8 and 18.5 thefts per 1,000 compared to 21 thefts per 1,000 in the general population. The authors did, however, indicate that this analysis was inconclusive for a number of reasons – not least the fact that those buying a Sold Secure device may be more proactive about vehicle security and may also take more care about where they park their car. Research by the Highway Loss Data Institute in the USA (Hazelbaker, 1997) found that 1994 GM passenger cars fitted with a PASS-Key II immobiliser suffered lower average claim payments compared to their 1993 counterparts without the device.

Webb (1994) assessed the long term benefits of steering column locks on vehicles which were made compulsory in Germany, USA and Britain in the 1960s and

1970s. The introduction of compulsory steering column locks was found to have a beneficial effect on vehicle theft with data from the three countries showing that vehicle theft was either reduced or stabilised. The effectiveness (both immediate and long term) of more modern car security is, however, an area in which further research is required.

Location of car theft

The location of theft is examined here in terms of the general type of area in which victims reside, as well as the specific parking locations of the vehicles concerned in those areas.

Type of area

The 1998 British Crime Survey (Mirrlees-Black et al., 1998) provides a useful insight into the areas where vehicles are most likely to be stolen from[19]. For example:

- those living in inner city areas experience a higher rate of vehicle theft than do urban or rural areas;
- those living on council estates have a higher rate of theft than do non-council areas; and
- those living in areas with a high level of physical disorder are more prone to vehicle theft than areas with lower disorder.

Using the ACORN classification of neighbourhood types, council estates with high unemployment had the highest rate of car theft, with 4.8% of residents being victims. This was followed by multi-ethnic, low income areas (4.3% victimisation); council estates with greatest hardship (3.8% victimisation); and older people in less prosperous areas (3.6% victimisation). All of these were higher than the average for all households (2.5% victimisation)[20].

The tendency for lower income areas to have the highest rate of car theft victimisation adds further support for the theory that older vehicles with high risks of theft tend to be parked in such areas. Crime reduction activities which focus on high risk vehicles in high risk neighbourhoods may therefore prove a useful means of tackling the problem. However, further work is required to confirm the extent of the relationship between the type of area and risk of theft associated with specific car models. A factor that must be considered in establishing the risk of theft in particular areas is the car ownership density of that area. Vehicles may be more

[19] *It must be borne in mind that vehicles are not necessarily stolen from where the victim lives, although 60% are stolen from outside the owner's home (Mirrlees-Black, 1996).*

[20] *Appendix 1 provides the full breakdown of thefts by neighbourhood type.*

abundant, for example, in urban than rural areas and the opportunity for theft is therefore greater.

Parking locations

The risk of theft is also known to vary according to the specific parking location of the vehicle. A re-analysis of the British Crime Survey data by Clarke and Mayhew (1994) found that cars parked in a domestic garage were 20 times safer than those parked in a drive way and 50 times safer than those parked in a street near home.

In contrast to the domestic garage, cars parked in a public car park face a particularly high risk of theft (454 thefts per 100,000 cars per 24 hours) when the duration of time parked in such locations is taken into account. Indeed, analysis of the 1994 BCS data presented in the 1996 edition (Mirrlees-Black et al., 1996, p.46)[21] showed that cars parked in car parks were four times more at risk of theft than those parked on the street outside the driver's home or work and 40% more at risk than those parked on streets elsewhere.

[21] *See also Clarke and Mayhew (1998) "Preventing crime in parking lots: What we know and what we need to know".*

Analysis of different types of car parks by Webb et al. (1992) showed how car park design could affect the risk of theft. This study identified a range of situational crime prevention measures which could be taken to reduce theft from car parks, such as increasing natural surveillance by staff and customers using the car parks and restricting pedestrian access to the car park. Other studies have also shown how crime prevention measures can reduce crime in car parks (Poyner, 1992; Tilley, 1993; Pengelley and O'Brien, 1996). The general lessons of what has become known as 'Crime Prevention Through Environmental Design' (CPTED) (see Pease, 1997) have also been applied in a practical sense to dealing with crime in car parks. There is some evidence to suggest that the Secured Car Park scheme (Association of Chief Police Officers, 1998) has been effective (Webster and Pengelly, 1997). The Automobile Association on behalf of ACPO has assessed these car parks in their design and management. The car parks often combine CCTV, improved lighting and the employment of security staff etc. to attempt to reduce theft of and from vehicles parked there. The AA audits each accredited car park annually using police force data and information from the car park operators. These audits have shown that car parks in this scheme have on average seen a 70% reduction in recorded crime (Crime Concern, 1998). A VCRAT sub-group concentrating on Secured Car Parks has proposed to collate systematic data nationally on crime rates in these car parks to feed back into the promotion of the scheme. This would also enable a national evaluation of Secured Car Parks to be carried out.

According to the BCS (Mirrlees-Black et al., 1996), car parks also account for 18% of all car-related thefts, which suggests that crime reduction efforts focused on such

locations could achieve significant reductions in the scale of theft. However, in numeric terms, most cars (60%) are stolen from the driver's home, (56% during the night-time), although this is because cars tend to be parked in such places for longer periods of time than elsewhere. Therefore, there is also a potential for crime reduction to be achieved by focusing crime prevention advice on those who park their cars on the street near their homes at night.

Victims of car theft

The 1998 BCS report (Mirrlees-Black et al., 1998) provides a range of useful information regarding the profile of car theft victims. The following section draws heavily on this work and attempts to identify groups who may benefit most from crime reduction activity.

Age

There is an inverse relationship between the risk of being a victim of car theft and age of the head of household. Those most at risk are in the 16-24 age range (3.7% victimised), followed by 25-44 year olds (2.9% victimisation) and 45-64 year olds (1.9% victimisation).

Income

Those with the lowest incomes (earning less than £5,000 p.a.) are most at risk from theft, with 3.2% of this group suffering a car theft. This corresponds with the findings of location of theft, with low income households being a defining feature of the types of residential area where cars are stolen from.

Households with an income of over £5,000 p.a. have victimisation rates for car theft which range from 1.8% to 2.2%. Clearly, these risks of car theft are considerably below that for the lowest income earners.

Employment status

The higher risk for car theft associated with low income earners is likely to be closely related to the employment status of the head of household. Indeed, the unemployed were found to have a victimisation rate twice that of those in employment (5.1% compared to 2.5%).

Family composition

Households with a single adult and child(ren) were also found to have a high victimisation rate, which was twice that of households with two or more adults and child(ren) (5.1% compared to 2.6%). This is also likely to be related to the high risks associated with low income households.

Tenure

The description of the types of residential areas most prone to car theft means it should come as no surprise to find that social renters (local authority / housing association rented) have a higher risk of car theft (3.1%) than either private renters (2.2%) or owner occupiers (2.0%).

Type of neighbourhood

The characteristics of highly victimised groups are not distributed on a geographically even basis, but are concentrated in certain types of neighbourhood. Appendix 1 provides an analysis of victimisation rates based on types of residential area. For example, council estates with high unemployment and multi-ethnic, low income neighbourhoods both experience high levels of car theft victimisation. In contrast, 'prosperous pensioners retirement areas' (without high risk characteristics) experience very low levels of theft.

Summary

Risk of theft

- Some models of car are more at risk of theft than others. As found by previous research, high risk models tend to be sporty versions of older, volume produced models.
- Analysis of car theft risk found that 38 models accounted for 19% of stolen cars.
- Risk of theft was found to increase with age, peaking at 28 thefts per 1,000 registered for 11 year old cars.

Car security

- Security would appear to have improved in recent years, with most models sold in the UK now having some additional form of security.
- While there is some evidence to suggest that security devices reduce the risk of theft, this is an area that requires further work.

Location of theft

- Inner city areas, council estates and areas with a high level of physical disorder all suffer disproportionately high levels of vehicle crime.
- Where specific parking locations are concerned, car parks present a particularly high risk, although in terms of raw numbers, more are stolen from the street outside the drivers' home.

Victims of theft

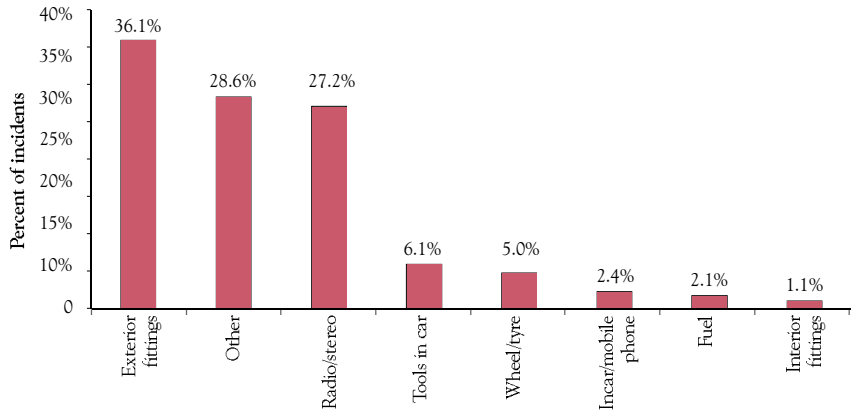
- The theft of cars tend to be concentrated disproportionately on the most disadvantaged in society. For example, those on the lowest incomes, those unemployed, one parent families and social renters are more likely to be the victim of car theft than are other groups.

5. Thefts from cars

According to the 1998 BCS estimates, there were almost 2.2 million thefts from vehicles in 1997 and these accounted for 62% of all vehicle crime. Recorded statistics alone indicate that given the significant size of the problem and its potential to contribute towards the 30% reduction target, a review of the research evidence on this issue was important.

Relatively little research has been undertaken in relation to the nature of theft from vehicles, and the BCS remains the most reliable source of information on this problem. According to the 1998 survey (Mirrlees-Black et al. 1998), the most frequently stolen items were external parts of the vehicle, such as wheel trims, hub caps, badges and number plates. As Figure 15 shows, this was closely followed by stereo equipment (such as radios, tapes, CDs and speakers etc.) and other items such as bags, briefcases, cameras etc. This phenomenon is not new; Parker's (1974) study of boys growing up on an estate in Liverpool provides an insight into how youths became involved in stealing car radios as a response to a local demand. Similarly, Spencer (1992) found there was an active market for such equipment on the estate she studied and reports a re-sale value of £15-£30 depending on the model. Sutton (1998) has suggested that car stereos are becoming increasingly sophisticated and new models are constantly in demand. However, the prohibitively expensive prices of these items mean those who cannot afford to buy

Figure 15: Items stolen from cars



Note: 'other' includes items such as bags or briefcases, cameras or clothes left in the car.
Source: The 1998 British Crime Survey (Home Office)

them legitimately will seek to purchase stolen versions at a fraction of the retail price. Scanning the horizons of future theft trends, it can be expected that the new Digital Audio Broadcasting car stereos, which currently retail at around £1,000, will become a popular theft target as car owners seek to upgrade to the new technology.

Location of thefts from cars

As well as providing information on the locations of car thefts, the 1998 BCS also provides details of where thefts from cars occurred. The following section therefore relies on these data to determine the high risk locations for thefts from vehicles.

Type of area

As with the theft of vehicles, inner city areas are more likely to suffer thefts from vehicles than are urban or rural areas. Unlike thefts of, however, there is relatively little difference between council estate areas or non-council estate areas (11.8% victimisation compared to 10% respectively).

Areas with a high level of physical disorder are slightly more likely to experience thefts from vehicles, with a victimisation rate of 12.5% compared to 10% in other areas.

In terms of the ACORN classification of neighbourhood types, thefts from cars appear to be more equally distributed than are thefts of cars. There is relatively little variation from the overall average rate of 11.2% for all households. However, the highest rates occur in similar types to those found for thefts of, with a focus on the poorest neighbourhoods:

- council estates with greatest hardship (14.8% victimisation);
- council estates with high unemployment (15% victimisation); and
- multi-ethnic, low income areas (18.4% victimisation).

Appendix 1 provides the full breakdown of thefts by neighbourhood type.

Victims of thefts from cars

Age

The age of victims of thefts from cars shows a slightly different pattern to that for thefts of vehicles. Those aged 25-44 are slightly more likely than 16-24 year olds to

be a victim of such thefts (13% victimisation compared to 12.5% respectively). Older age groups are, however, at less risk of experiencing a theft.

Income

In contrast to the figures for theft of vehicles, the risk of theft from vehicles tends to be positively related to income. While those earning less than £5,000 p.a. (the highest risk group for thefts of vehicles) have an 8.8% victimisation rate for theft from a vehicle, 13% of those earning over £30,000 pa have been victimised.

Employment status

Those who are unemployed have slightly higher risk of being the victim of theft from a vehicle (13.3%) compared to those in employment (12.1%). This difference is much smaller than that found for thefts of vehicles.

Family composition

There was little difference between the various types of family composition. For example, while those households with no children had a rate of theft from vehicles of 12.6%, households with a single adult and child(ren) had a rate of 11.2%, and households with two or more adults and child(ren) had a rate of 11.7% victimisation.

Tenure

Private renters appear to have the highest rate of theft from vehicles (11.4%), followed by social renters (10.8%) and owner occupiers (9.8%). However, it is clear that the differences between types of tenure are not great and none differ far from the overall average (10.2%).

The figures for thefts from vehicles would appear to be less clear-cut than those for thefts of vehicles. The highest income earners clearly face the highest risk of theft, but apart from this there are no discernible groups who are significantly more at risk than others.

6. Recommendations and concluding remarks

This report provides an overview of the nature and extent of vehicle crime in England and Wales. A number of areas are highlighted where possible action may be taken, targeted on vehicles, locations of theft, victims of theft and offenders. A combination of approaches will be necessary to effectively reduce vehicle crime and these should be grounded in sound analysis at the national, force and local level.

Designing effective vehicle crime reduction initiatives requires understanding what type of problem needs to be tackled. It is important to know, for example, the relative size of the key forms of vehicle crime – the number of thefts of vehicles and thefts from vehicles. It is also necessary to calculate the recovery rate of stolen vehicles as this will give an indication of how much vehicle crime is of a temporary as opposed to professional nature, with implications for the kind of action required. Even at this level of generality there is considerable variation between forces on the scale and nature of the problem. Once this basic information has been obtained, decisions can be made about what further, more detailed, analysis of the problem is required and what type of crime reduction approaches can be used to tackle these particular problems.

The following sections set out further analysis that may usefully be undertaken and highlight implications for action for policy makers and practitioners.

Vehicles

Some types of vehicles are clearly more at risk of theft compared to others.

- *Category of vehicle*: At the national level, about 80% of stolen vehicles are cars, suggesting that the majority of crime reduction effort needs to focus on reducing the risk of **car** theft. This is not to suggest that other types of vehicle should be ignored, it merely means that in relative terms, more effort should be devoted to cars because this is the area in which the major gains are going to be made.

- *Car make and model*: Analysis of the Car Theft Index has shown that nationally some makes and models of car are at more risk of theft than others. It follows that maximum gains will be made by focusing efforts on those models that are considered to be at high risk and which are stolen in high numbers. Local trends can be produced at force level using information on cars stolen in the area (make, model, year of registration of stolen vehicles) and comparing this to similar information on cars registered in the local area. This local parc data is available from organisations such as the Society of Motor Manufacturers and Traders, but may require some manipulation to fit it to police force boundaries.

- *Age of vehicles:* The Car Theft Index also shows that the risk of theft of vehicles appears to increase with age, which suggests that there are gains to be made by improving the security of older vehicles, either through action targeted directly at the car or through measures targeted on the parking location.

Implications for action

- Nationally, there is a need to evaluate the effectiveness of both manufacturer fitted and retro-fit security measures in vehicle crime reduction and to promote those forms of security found to be successful in preventing thefts.

- Older vehicles are likely to have poor levels of security, therefore, protection of these vehicles should be improved through the use of retro-fit devices and this should be promoted at both a national and local level. However, they are also more likely to be parked in more vulnerable, high crime areas and so further analysis of parking locations (see next section) should be carried out to determine the scope for preventive action of this kind.

- Improving security against thefts from vehicles is important, as it is the bulk of vehicle crime. Security measures taken will depend on what is being stolen, for example, laminated side glass will be useful for preventing thefts such as radios and handbags etc., but, will be of little use in preventing the theft of external vehicle parts. Pressure should be placed on manufacturers to improve perimeter security of vehicles. Although this requires some action at national level, local practitioners have an important role identifying the scale of the existing problem and providing early warning of emerging new problems and *modus operandi*. This will help strengthen the case for design change and guide the development of effective security measures.

- Depending on what is discovered locally about professional theft and items stolen from vehicles, a market reduction approach could be used to reduce demand for these vehicles and goods, thereby reducing the incentive for theft and making it more risky for thieves to sell stolen goods.

- Thirty percent of vehicles were not recovered in 1997. Many of these will be given a new identity and re-sold as complete vehicles, while others will be dismantled for their components. A greater understanding of the "big picture" of how markets operate is required to help police stolen vehicle squads extend their expertise and to help identify the most effective point to disrupt offenders' activities.

Locations

The British Crime Survey has shown that some residential areas are more prone to theft than others (inner city areas, council estates and areas with a high level of physical disorder). These areas also often suffer from high levels of other types of crime. Certain types of parking location are also particularly high risk and there may be merit in focusing attention on these. Public car parks have a higher risk of theft of and from vehicles than parking on the street or on a drive / in a garage. Although the risk of theft is higher in car parks, many more vehicles are stolen from the street outside the owner's home (as they are often parked for a longer duration in these locations) than are stolen from car parks. In developing vehicle crime reduction strategies, therefore, local crime analysis is essential for identifying vehicle crime 'hot spots' and generating action targeted on the locations and areas from which cars are stolen.

Implications for action

- Where car parks prove to be 'hot spots' car park owners should be persuaded to achieve Secured Car Park status. Where car park owners and operators are reluctant to take action, the police and others should give some thought to how they might be persuaded. This might include doing no more than demonstrating the scale of the problem in their car park, to more direct action such as publicising the risk of parking in that location.

- Where residential street parking is the problem, those car owners with garages should be persuaded to use them more readily if they do not, as the risks of theft are so much less than if vehicles are left on the street. This could be achieved by publicising the differences in risk of theft between parking in a garage and on the street. House builders and designers also need to ensure they provide, where possible, in-curtilage parking in new developments.

- Where garages are not available, then attention will need to turn to measures focused on improving vehicle security or directly detecting / deterring offenders. In relation to vehicle security the use of 'silent' car alarms which only activate in the owner's home have been suggested as a security method that may be effective (Clarke and Mayhew, 1994). Such alarms would ensure that neighbours were not disturbed by the noise, while alerting the owner to the attack on the vehicle concerned.

Victim groups

Just as vehicle crime is not uniformly distributed across vehicle types or geographical areas, neither does it fall equally upon all members of society. The

BCS has shown that victims of thefts of and thefts from vehicles are located in specific socio-economic groups. It has also been shown that repeat victimisation occurs in relation to vehicle crime.

Implications for action

- Attention should be paid to tailoring and targeting crime prevention information to vulnerable victims. The use of direct mail is one such method and two possible approaches are:

The model specific approach: This involves identifying models most at risk through a local car theft index and then requesting the names and addresses of the keepers of these high risk models in the area from either commercially available databases or possibly DVLA. This would require a selection of cases based on model codes and postcodes. However, there may be data protection issues to consider in this case.

The area specific approach : This would first involve identifying the neighbourhoods within the force that have a high risk of theft (see BCS and Appendix 1). Vehicle crime prevention advice could then be sent to all households in these areas. Alternatively, a more targeted approach would involve posting leaflets on the windscreens of models known to be at high risk that are parked in the high risk areas.

- Focusing on repeat victims is a means of targeting those victims most vulnerable to further victimisation. Approaches to repeat victimisation could incorporate, for example, those used in Huddersfield where thefts from motor vehicles reduced by 20%[22]. The strategy involved a graded response from the police to victims depending on the number of prior offences suffered. Typical action included crime prevention advice and loan of security equipment.

[22]*See "Biting Back: Tackling repeat burglary and car crime" (Anderson et al, 1995) and "Biting Back II: Reducing Repeat Victimisation in Huddersfield" (Chenery et al, 1997).*

Offender groups

It may be possible to segment the vehicle offender population into a number of groups. Most notable is the distinction between those who steal vehicles for temporary use and those who steal them for professional gain, although recognising that the former may often be a pre-requisite to the latter in a criminal career. At the national level temporary theft is a greater problem in volume terms than professional theft. As the 30% reduction target is a volume target, an emphasis should therefore be placed on tackling those involved in temporary theft. However, the ratio between temporary theft and professional theft varies geographically and

so analysis is necessary at the local level to establish the type of offenders involved in vehicle crime.

Implications for action

- Tackling young offenders who steal cars for enjoyment rather than financial gain, is an important approach to meeting the target. The greatest reductions in vehicle theft are likely to be made by targeting the most prolific offenders.

- Use of motor projects (an umbrella term for diversionary schemes aimed at vehicle crime offenders) could more readily divert young vehicle crime offenders away from crime. Motor projects show potential if they are "carefully targeted, managed and run professionally, according to exacting criteria" (Smith, 1999 p. 1).

- The use of forensics in detecting more vehicle thieves should be considered. An initiative in Merseyside police in 1992 to make more and better use of fingerprint evidence in relation to vehicle crime resulted in more positive identifications, more arrests and a reduction in vehicle crime of 10% (Chatterton and Frenz, 1993). Emerging findings from the Forensic Science Service show that a significant proportion of DNA and fingerprint samples collected from cars subject to thefts result in the positive identification of an offender. A potential problem, however, with this approach could be an increase in arson as offenders attempt to dispose of any evidence.

- It is important that police effort continues to focus on tackling professional vehicle thieves as the proportion of this type of theft has been increasing. However, concentrating reduction efforts solely on this group will not be sufficient to meet the target. VCRAT are investigating areas such as improvements in salvage regulations, DVLA data enhancements etc. which will help in making professional theft more difficult.

Turning the corner …

An effective vehicle crime reduction strategy needs a clear understanding of how and why crime reduction approaches tackle the problem. Further analysis, taking into account the implications for action described above will enable practitioners to begin to focus attention on the specific vehicle crime problems in their local area. Partnerships will play an important role in the development of strategies and the implementation of vehicle crime initiatives on both a local and national level.

There are a number of ways of thinking about vehicle crime – in terms of the vehicle itself, the place where it is parked, the victim and the offender. Often these will be related, for example older cars may be more vulnerable because they are less secure, but they are also more likely to be owned by people living in areas where in-curtilage or garaged parking is not available and where there is a supply of potential offenders living nearby. It is important to recognise that action on any one or more of these fronts may be necessary and that local analysis needs to explore each of these areas to consider the scope for effective action in any of these areas.

Constant monitoring of the devised strategy is essential so that it can be refined as required. This could be achieved through evaluation of specific initiatives and the strategy as a whole. A change in approach can therefore be taken if a chosen measure is found to be ineffective in a particular situation. Those found to incorporate effective crime reduction methods should be promoted as examples of good practice to other police forces and their partnerships.

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Appendix 1: Proportion of households victims of vehicle-related theft, by ACORN

Appendix 1: Proportion of households victims of vehicle-related theft, by ACORN % victims once or more				
ACORN	**All vehicle theft**	**Theft of vehicle**	**Theft from vehicle**	**Attempted theft**
Thriving	**14.2**	**1.7**	**9.4**	**4.1**
Wealthy achievers, suburban area	14.6	1.8	9.9	4.0
Affluent greys, rural communities	11.9	2.2	7.1	3.3
Expanding	**18.0**	**2.6**	**11.5**	**5.6**
Prosperous pensioners, retirement area	13.8	0.8	8.3	5.1
Affluent executives, family area	18.5	1.9	11.8	6.4
Well-off workers, family areas	17.7	3.0	11.3	5.0
Rising	**19.1**	**2.2**	**12.9**	**6.5**
Affluent urbanites, town and city	20.2	2.5	14.5	5.7
Prosperous professionals, metropolitan area	17.3	1.9	11.8	6.0
Better-off executives, inner city areas	20.1	2.3	12.9	7.7
Settling	**16.8**	**2.2**	**10.5**	**5.5**
Comfortable middle agers, mature home owning areas	14.0	1.8	9.0	4.3
Skilled workers, home owning areas	20.5	2.9	12.6	7.1
Aspiring	**18.2**	**3.2**	**11.1**	**5.9**
New home owners, mature communities	18.1	3.4	11.0	5.9
White collar workers, better off multi-ethnic areas	18.5	2.9	11.4	5.9
Striving	**22.9**	**3.7**	**14.4**	**7.7**
Older people, less prosperous areas	19.4	3.6	12.3	6.2
Council estates, better off homes	23.0	3.3	14.4	8.2
Council estates, high unemployment	24.6	4.8	15.0	8.9
Council estates, greatest hardship	24.3	3.8	14.8	7.0
Multi-ethnic, low income areas	26.9	4.3	18.4	6.5
All households	**17.6**	**2.5**	**11.2**	**5.6**

Notes:
1. Source combined 1996 and 1998 BCS to improve the reliability of estimates. Risks based on vehicle owning households.
2. ACORN is "A Classification of Residential Neighbourhoods"

Source:1998 British Crime Survey, Table A5.11

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