

Vehicle crime at outdoor recreation and tourist destinations: prevalence, impact and solutions

Bronek J. Kazmierow, Gordon R. Cessford, Carla H. Wilson, Pat Mayhew
and Bronwyn L. Morrison

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Vehicle crime at outdoor recreation and tourist destinations: prevalence, impact and solutions

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ABSTRACT

Vehicle crime in car parks at outdoor recreation and tourist destinations poses an unwelcome problem for visitors and destination managers in New Zealand. Some tourists and recreationists may avoid some outdoor recreation sites and activities because of perceived threats. Currently, no public agencies are fully addressing the problem, and the impact of vehicle crime in these settings is poorly understood. We set out to identify the prevalence and impact of this problem and, where possible, solutions, using a collaborative multiple-method approach that involved quantitative data collection from crime records; surveys of the New Zealand population, and domestic and international tourists; and five targeted recreationist surveys. In addition, qualitative data were gathered through focus groups of recreation participants and non-participants; media content analysis; an assessment of victim accounts; interviews with 30 convicted vehicle crime offenders; and three regional case studies. We found that, in contrast to vehicle crime recorded elsewhere in New Zealand, the incidence of vehicle crime at car parks managed by the Department of Conservation is low and predominately focused at a small number of car parks. Recreationists and the public considered the problem to be somewhat larger than official records suggested it was and, correspondingly, their reported levels of concern were disproportionately large. International tourists, however, were less concerned. Vehicle crime was a significant issue for outdoor recreationists, as this group experienced the highest levels of victimisation. However, international tourists falling victim to this crime appear to suffer the most severe consequences. Solutions uncovered as part of this study are presented, along with a summary of a planning and evaluation framework constructed for destination managers and associated agencies grappling with vehicle crime.

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1. Introduction

There is concern that vehicle crime (used herein to refer to thefts of and from vehicles) in car parks at outdoor recreation and tourist destinations poses an unwelcome problem for car park visitors, both international and domestic. Anecdotal accounts and reports in the media suggest that some tourists and recreationists may avoid some outdoor recreation sites and activities because of perceived threats. In addition, the publicity given to vehicle crime at car parks and road ends associated with visitor attractions can be a problem for tourist industry businesses, destination managers, law enforcement agencies, international and domestic tourists, and local communities. The true extent to which international visitors are affected by vehicle break-ins is unknown, although anecdotal accounts indicate that they were perceived as prime targets for vehicle break-ins, often being naïve about the extent of the problem in New Zealand, not taking enough precautions, carrying high-value items and cash, and more often using easily identifiable rental vehicles (which are targeted by offenders). Vehicle crime appeared to have major ramifications for the reputation of New Zealand as a safe and friendly tourism destination, for the objectives of park management agencies to provide for quality visitor services and for the financial 'bottom-lines' of tourism-dependent businesses. This research project aims to find out how widespread this problem is, where the 'hotspots' are, how this problem affects recreation and tourism behaviour and what the best strategies and tools are to reduce it.

While primary responsibility for law enforcement is held by the New Zealand Police (hereafter, the Police), many other agencies and interest groups are directly involved through their respective management roles, business interests and geographical locations. No one organisation has overall responsibility or capacity to address the vehicle crime problem on its own. A coordinated joint-agency approach is required, both for the research programme and for implementing solutions. Like many other destination managers, the Department of Conservation's (DOC's) management mandate includes responsibilities to encourage participation in quality recreation experiences. Things that prevent or reduce such participation also compromise DOC's ability to meet its visitor management objectives. Vehicle crime incidents can add significant maintenance costs, reduce site safety, devalue the quality of the locations in the eyes of visitors and actively deter people from visiting some places. For these reasons, DOC led this research project on behalf of and in collaboration with many other stakeholders, as seen in the list of groups involved in Table 1.

The funding for this project was obtained from the Ministry of Research, Science and Technology (MORST) under their Cross Departmental Research Pool (CDRP). This fund supports research that is of strategic value to many government agencies, that involves significant research and information collaborations between such agencies and that also includes the interests and involvement of key non-governmental groups. In addition to the core funding, some of these groups will continue to contribute staff resources and time. Others will be providing information, facilitating, or be roles of other support 'in-kind', as requested and agreed.

The key research objectives of this project were to:

- Explore the nature and extent of vehicle crime at outdoor recreation sites
- Understand the impact and effect of that crime
- Document the responses and actions of victims of that crime
- Identify best practice solutions to reduce vehicle crime in those settings

TABLE 1. RESEARCH COLLABORATIONS* FORMED DURING THE COURSE OF THE VEHICLE SECURITY RESEARCH PROJECT.

LAND MANAGEMENT AGENCIES

DOC Policy, Conservancy and Area units

Auckland Regional Council

Local Government New Zealand

Local and regional authorities (various)

LAW ENFORCEMENT AGENCIES

DOC Conservation Law Enforcement (CLE) staff

New Zealand Police (Commissioner's Office and various Districts/Areas)

Ministry of Justice Crime Prevention Unit

TOURISM INDUSTRY PARTICIPANTS

DOC visitor/tourism management units and staff

Tourism Industry Association of New Zealand

Regional tourism organisations of New Zealand

Bus and Coach Association

Rental Vehicles Association

Motor Caravan Association

Ministry of Tourism

Tourism New Zealand

Inbound Tour Operators Council

Travel Agent Association of New Zealand

OTHER COMMUNITY SECTORS

DOC community awareness

New Zealand Automobile Association

New Zealand Insurance Council

Federated Farmers

Safer Community councils

Community interest groups

* Excludes contracted research providers.

2. Context and background to vehicle crime research

This report contains information summarised from several specific investigations that made up the primary sources of this project. However, before that information is presented, we will first summarise what is already known about vehicle crime in New Zealand and vehicle crime internationally. Sections 2.1–2.9 are drawn largely from a literature review (Mayhew 2008) commissioned as part of the project.

2.1 THE TERMINOLOGY OF VEHICLE CRIME

In New Zealand, the term ‘vehicle crime’ is used to encompass a diverse range of illegal activities involving a wide variety of motorised land transport vehicles, including cars, vans, trucks, motorcycles, scooters, quadbikes and tractors. Except that a vehicle¹ is involved, the illegal activities often do not have much in common in terms of their nature, impact or the offenders involved.

The term ‘vehicle crime’ is not only broad, but is also inconsistently used. It is often used to refer simply to thefts of vehicles (called ‘unlawful taking or conversion’ in legal terminology) and thefts from vehicles (Theft Ex Car; which includes theft of wheels, hubcaps, car radios, briefcases, wallets, etc.), although sometimes the term ‘vehicle theft’ is used for these. However, ‘vehicle crime’ sometimes includes criminal damage to vehicles as well, but it is often difficult to distinguish gratuitous damage (except for graffiti) from damage in the course of trying to gain entry to steal the car itself, or its contents.²

Attempted offences pose a problem in that it is often difficult to know whether the offender’s intention was to break into the vehicle to drive it away, or to steal contents. Many jurisdictions do not have a separate category of attempted offences, merely including attempts with the thefts of or theft from vehicles. In New Zealand, however, there is a separate offences category of ‘vehicle interference’ to cover offences where the vehicle is not driven away, but shows signs of being interfered with, albeit with no appreciable damage, and nothing stolen. This report generally uses the term ‘vehicle crime’ to mean thefts *of* and *from* vehicles. In the New Zealand context, vehicle interference is included in them.

¹ Note that in New Zealand data, ‘car conversion’ also includes conversion of bicycles.

² In New Zealand law, the target of criminal damage is not relevant as such, so Police data do not differentiate offences of criminal damage in terms of their target.

2.2 MEASURING VEHICLE CRIME

2.2.1 Police data

A substantial challenge to assessing the real volume of vehicle crime from police data is that the data reflect only those crimes that the Police know about. The proportion may be fairly high for thefts of vehicles, but is not so for thefts from vehicles. This point is returned to below.

It is also difficult to generalise about the extent of vehicle crime using police records across different jurisdictions. The data are not always easy to fathom. Most countries have a category of theft of vehicles, though the definition of ‘vehicle’ can differ (some countries include bicycles, for instance). Some countries also have a separate category of thefts from vehicles, but not all do; the data are often included in tallies for ‘theft’ in general.

Using police data to assess what proportion of ‘all crimes’ are vehicle crime is not helpful, since what constitutes ‘all crimes’ differs between countries. Nonetheless, by way of illustration, recent data from England and Wales indicate that vehicle crime was 14% of all police-recorded offences (Nicholas et al. 2007), while it was 18% in New Zealand (see section 2.3.1 below). Nothing should be read into the difference, however.

2.2.2 Victim survey data

Some countries—New Zealand included—have ‘bespoke’ victim surveys that provide an alternative measure of crime against householders, although not all crimes can reasonably be covered (Mayhew & Reilly 2007a). These surveys ask people directly about crimes that they have experienced, including those not reported to the police. They therefore provide a measure of the level of the crimes they cover (and trends in these) that is independent of police statistics, which can change because of changes in reporting levels and police recording practices.

‘Bespoke’ national victim surveys, however, are again not very useful for assessing differences in the level of vehicle crime across countries, since differences in survey administration, coverage, etc. compromise comparisons (e.g. Lynch 2006; Mayhew 2007). The International Crime Victimization Survey (ICVS) fills this gap. The ICVS uses the same questionnaire and analysis methods to overcome this issue.

Standardised ICVS household surveys have been conducted in a large number of countries over five rounds in 1989, 1992, 1996, 2000, and 2004–05 (see van Dijk et al. 2007a, b for latest results). Some countries have participated more than once: New Zealand has done so twice, in 1992 and 2004. Samples are fairly small—about 2000 each time in each country—although a few countries have increased the sample size to yield a more robust national measure.

2.3 THE EXTENT OF VEHICLE CRIME IN NEW ZEALAND

There are three sources of information on the current extent of vehicle crime in New Zealand:

- Offences recorded by the Police
- Figures for 2005 from the 2006 New Zealand Crime and Safety Survey (NZCASS)
- Results from the International Crime Victimization Survey (ICVS) (see section 2.4)

2.3.1 Police data

Bearing in mind that police data very largely reflect only offences *reported* to them by victims, the latest crime figures for 2007 show 20 300 recorded offences of thefts of vehicles, 9500 offences of unlawful interference and 45 600 offences of thefts from cars. Of these data, thefts of and from vehicles (including interference) accounted for 18% of all crime recorded by the Police in New Zealand.

Thefts of vehicles are well reported (at least, unless there is simply an attempt), since insurers require the Police to have been notified, and the Police are in the best position to trace stolen vehicles. Police data, then, give a fairly reliable guide to thefts of vehicles. However, thefts from vehicles and vehicle interference are less well reported. According to the NZCASS, only 52% of such offences that occurred in 2005 were notified (Mayhew & Reilly 2007a: 35) and only 20% of incidents of damage to vehicles were reported.

A point worth noting is that police data indicate that vehicle crime in New Zealand has been declining over recent years, in line with other jurisdictions (e.g. Tavares & Thomas 2007). Figure 2 shows vehicle offences for the last 10 years, indexed at 100 in 1998. Thefts of vehicles are 27% lower than they were in 1998, and thefts from vehicles, are 19% lower. Better general car security is likely to be the principal factor behind the falling number of offences (e.g. Clarke & Harris 2002).

2.3.2 New Zealand Crime and Safety Survey

Table 2 shows the number of offences recorded by Police in fiscal year 2006/07 and the number of offences estimated by the NZCASS that occurred in 2005. Two points of note are:

- The number of thefts from vehicles according to NZCASS estimates is roughly double the number in police data (which is consistent with only about half of offences being reported to the Police)
- The number of offences of criminal damage to vehicles estimated from the NZCASS approaches the total number of thefts of and from vehicles estimated from that survey

Figure 1. Vehicle offences recorded by the Police, 1988-2007 (source: Mayhew 2008).

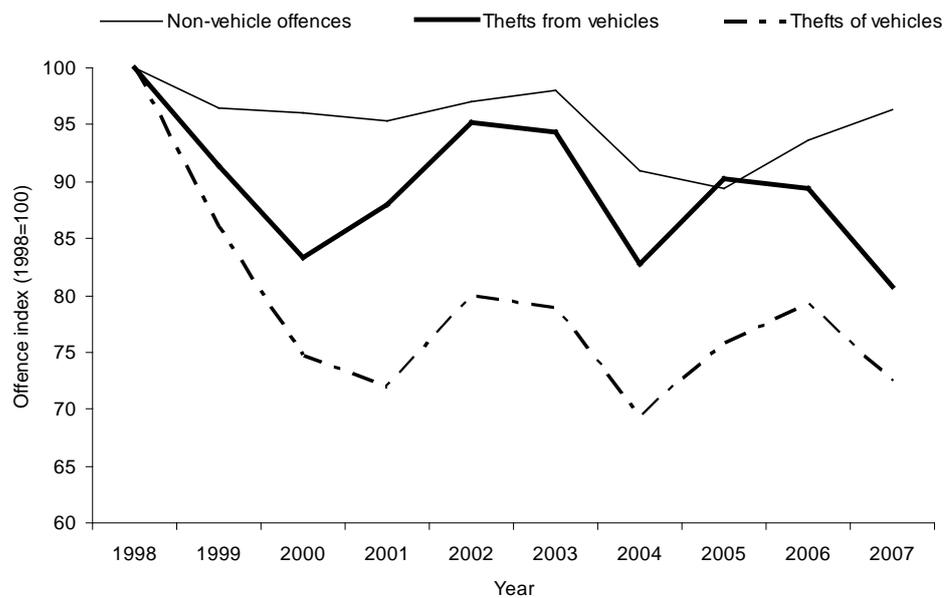


TABLE 2. VEHICLE CRIME OFFENCES ACCORDING TO POLICE DATA AND THE 2006 NEW ZEALAND CRIME AND SAFETY SURVEY (NZCASS; SOURCE: MAYHEW 2008).

Note: Totals do not necessarily add to sub-totals because of rounding.

	POLICE FIGURES 2006/07*		NZCASS 2006†	
	N	%	N	%
Theft of vehicles	20 800	26%	29 000	20%
Thefts from vehicle and vehicle(s) interference	57 800	74%	117 000	80%
Total	78 500	100%	146 000	100%
Criminal damage to vehicles			138 000	

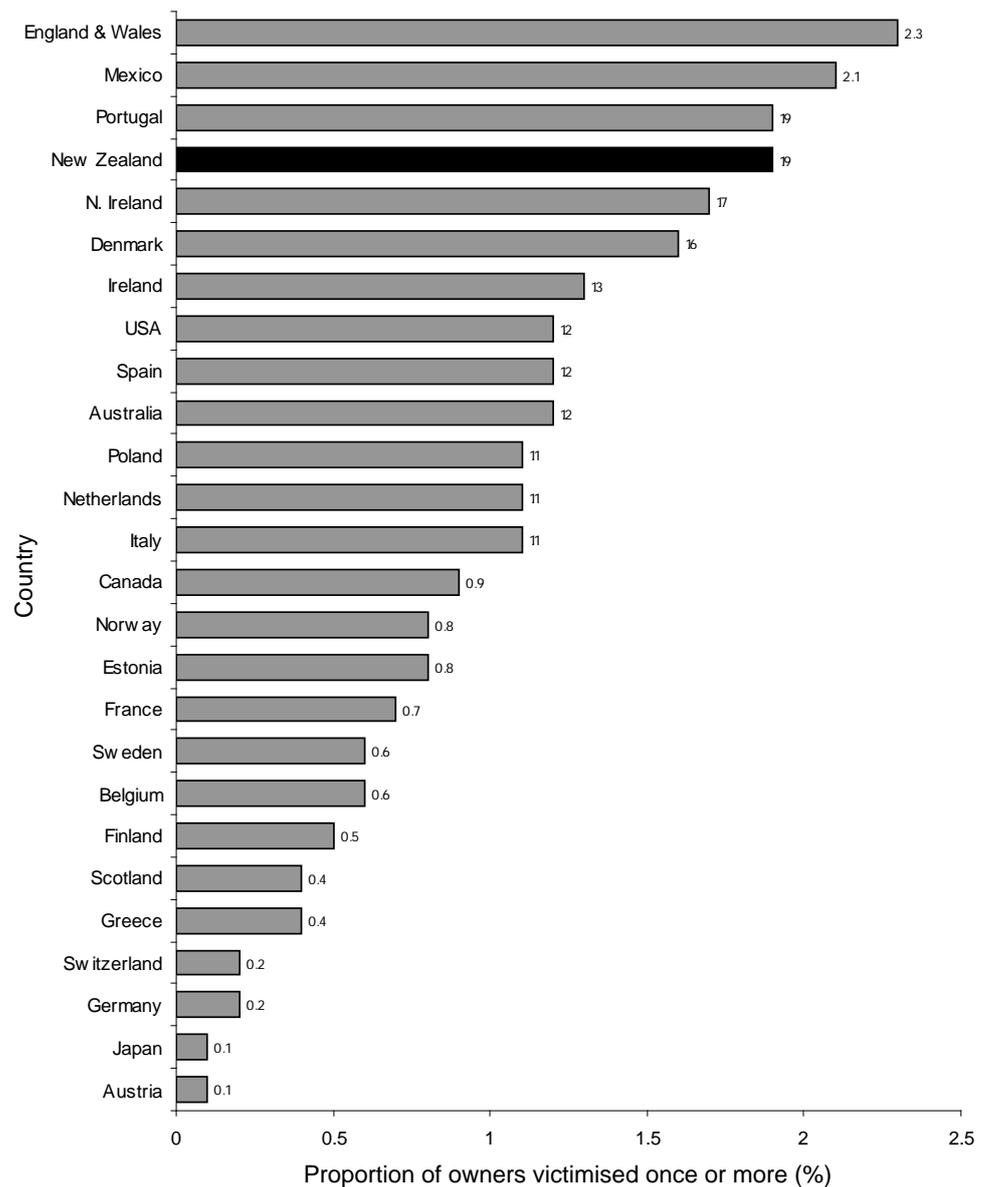
* Taking/conversion/interference of bicycles is excluded.

† Offences against those aged 15 or over living in private households.

2.4 VEHICLE CRIME IN NEW ZEALAND AND OTHER COUNTRIES

The ICVS provides the best data for comparing the level of vehicle crime in New Zealand with that in other countries. Figure 2 shows results from the 2004-05 survey, presenting the percentage of vehicle owners who had experienced the theft of a vehicle in the previous year. The results say nothing about thefts taking place in recreation car parks, although they show comparatively high levels of thefts in New Zealand. Of victims surveyed, 1.9% had a vehicle taken in the previous year, which is consistent with that from NZCASS (1.8%). Figure 3 shows the ICVS results for thefts from cars. Again, New Zealand had a comparatively high proportion, with 7.0% of owners having experienced one or more incidents (the percentages being the same in NZCASS).

Figure 2. Thefts of cars in the previous year, based on the International Crime Victimization Survey 2004–05 (source: Mayhew 2008).

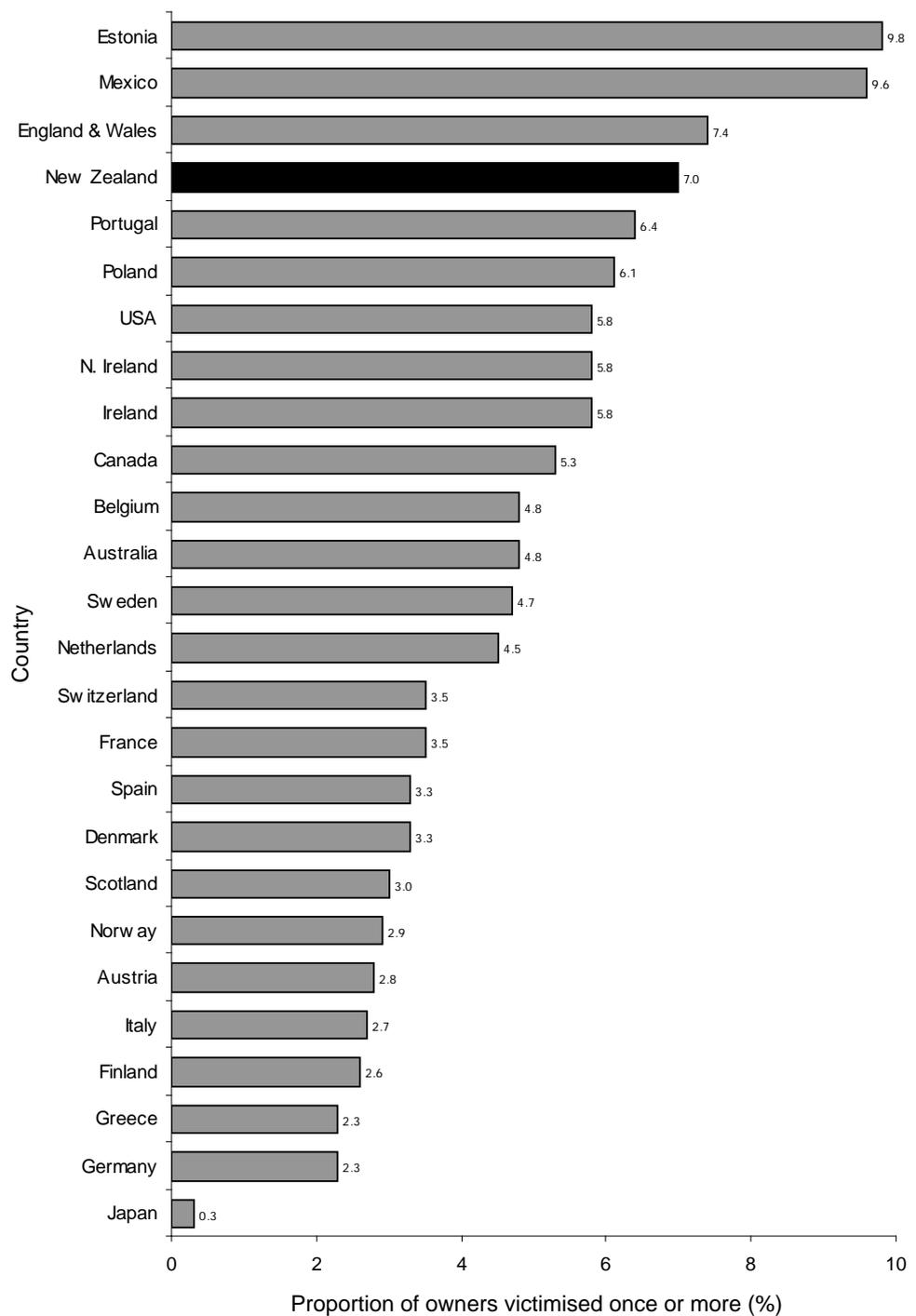


2.5 THE IMPACT OF VEHICLE CRIME

The costs of vehicle crime in New Zealand are considerable. On a per incident basis, thefts of vehicles are likely to incur the greatest law enforcement costs of all crime and—if offenders are caught—the greatest correctional costs. Costs to victims will also be higher. A recent Treasury analysis of the costs of different offences in New Zealand estimated that the average total cost of a theft of a vehicle was NZ\$13,000 at 2004/05 prices, compared with that for a theft from a vehicle of NZ\$2,000 (Roper & Thompson 2006). These costs took account of justice and other public sector costs, and private sector costs, including estimates of the intangible costs to victims. The cumulative cost of thefts of vehicles in 2003/04 was NZ\$270 million, as against NZ\$280 million for thefts from vehicles, which are larger in number but individually less costly (by Mayhew's (2008) computations).

Results of the NZCASS showed that thefts of vehicles are particularly upsetting for victims, no doubt because of the high potential loss and the inconvenience caused: 71% of victims were 'very much' or 'quite a lot' affected by what

Figure 3. Thefts from cars in the previous year, based on the International Crime Victimization Survey 2004-05 (source: Mayhew 2008).



happened. This was a highest percentage of all the offences covered by the NZCASS (Mayhew & Reilly in press). In relation to thefts from vehicles, 43% of victims were ‘very’ or ‘quite a lot’ affected.

It is likely that tourists who are victimised would be more upset than resident victims. They would be more isolated from informal support, and be less knowledgeable about how to access help from formal agencies. One of the few studies that provides evidence for this is that of Jones & Mawby (2003), who found that a higher proportion of domestic tourists in the UK who were victims of vehicle crime were ‘very much’ or ‘quite a lot’ affected than was the case for equivalent victims in the British Crime Survey.

For tourists, vehicle crime in recreation car parks could well severely decrease their enjoyment of New Zealand. In a report on a vehicle crime reduction initiative at Bethells Beach car park (McCauley & Opie 2007: 73), it was noted that residents felt the high incidence of vehicle crime negatively impacted on visitors' perceptions of safety, a view reinforced by tourists who had had their cars broken into and their belongings taken.

2.6 VEHICLE CRIME IN CAR PARKS

Police data in New Zealand (as in many other countries) provide no specific indication of how many vehicle crime offences take place in car parks in general, let alone in recreation car parks. Current data recording formats used by the Police make it difficult to assess the characteristics of crime in specific locations. The NZCASS, however, provides some information on the proportion of vehicle crime that takes in public car parks—although it is not possible to distinguish between recreation car parks and those in city-centre shopping areas. Table 3 shows results for the 2006 NZCASS. The main features are:

- Nearly 18% of all vehicle crimes took place in public car parks, although the proportion of thefts of vehicles taking place in car parks was lower than for thefts from vehicles and vehicle damage.³
- The biggest proportion of vehicle crime offences took place just outside the home.
- Taking 'exposure' (i.e. the differing amounts of time that vehicles are parked in different places) into account, car parks are risky. Thus, while 18% of all vehicle crimes took place in car parks, vehicles would have been parked there

TABLE 3. WHERE VEHICLE CRIME TAKES PLACE (MODIFIED FROM THE 2006 NEW ZEALAND CRIME AND SAFETY SURVEY (NZCASS); SOURCE: MAYHEW 2008).

	THEFTS OF VEHICLES %	THEFTS FROM VEHICLES* %	DAMAGE TO VEHICLES %	ALL VEHICLE OFFENCES %
Car parks [†]	8	20	18	18
Streets	16	20	21	19
Places of entertainment	3	7	4	5
Other public places	3	6	2	4
All public places	30	52	45	45
Inside home (garages)	6	3	1	2
Outside home [‡]	47	36	46	42
Work [§]	12	8	7	8
Other private locations	7	3	5	4
All private locations	72	51	59	56

* Includes vehicle interference.

† Excludes car parks at work.

‡ In driveways etc., and on the street outside home.

§ Inside and outdoors at work, including work car parks or garages at work.

³ Police data for Australia indicate that 19% of thefts of vehicles took place in public car parks (Australian Bureau of Statistics 1995), higher than the NZCASS figure of 8%. However, the definition of 'public car parks' is unclear, and may include work car parks.

for relatively short periods, compared to home and street locations. Clarke & Mayhew (1998) made an estimate of 'time parked' in different locations and found that cars parked in car parks were nearly three times more vulnerable than cars parked on streets outside home, and 40% more vulnerable than cars parked on other streets.

2.6.1 Vehicle crime in recreational car parks

Police data provided no indication of how many vehicle crime offences took place in recreation car parks in New Zealand.

While national data from the NZCASS indicated that, overall, there are twice as many thefts from vehicles as were indicated in Police data, it is difficult to say whether this ratio applied to offences occurring at recreation car parks. Exploring that further, it seems that on the one hand, Police may have been notified of offences in recreation car parks more often than is generally the case for this type of offence at other locations. Tourists may have travel insurance that covers theft (and so reporting the offence is necessary) or, if a rented vehicle was involved, car rental operators may have reported thefts, especially if the vehicle had been damaged. On the other hand, visitors who had property stolen from their cars may have had little time to make a report, or may not have felt it worthwhile if they intended to move on shortly or if they had an insurance excess to pay.

2.6.2 Risk factors for car parks

There have been several studies of the types of car parks that are most at risk, although few studies have compared the risks associated with recreation car parks with those of other parking facilities. Mayhew & Braun (2004) summarised the risk factors, drawing from a large number of studies. Many of the risk factors apply to recreation car parks, although it is difficult to say whether recreation car parks are 'protected' by some other factors. Low usage might be one. This said, the main risk factors identified by Mayhew & Braun (2004) were:

- **City location** Central-city car parks tend to have higher risks than others; except, perhaps, car parks in out-of-town retail areas. The concentration of parked vehicles may make it easier for thieves to find an attractive target.
- **Lack of natural surveillance** Car parks not protected by natural surveillance (such as that provided by shoppers in local shopping centres) seem more vulnerable. Since most recreation car parks are relatively isolated, lack of surveillance will be a factor for them.
- **Long stay** Long stay, park-and-ride car parks seem especially vulnerable. Many motorists leave their cars in them for long periods, and there may be little surveillance outside peak parking times. Long absences by vehicle owners also apply to some recreation car parks.
- **24-hour facilities** Parking facilities used 24 hours a day tend to have higher theft rates. This is partly because there are always some targets available to offenders. Evening opening, too, will tend to coincide with low surveillance, darkness and young people being out and about (it is clear from the age profile of convicted vehicle crime offenders that this age group has a disproportionately high rate of offending—this is discussed further in section 2.7.3). Again, some recreation car parks might be vulnerable in this way.

- **Ground level rather than constructed multi-storey car parks** Ground-level car parks are more at risk of thefts of cars than constructed multi-storey car parks, where thefts of vehicles are more impeded by exit controls. Also, ground-level car parks often do not have attendants, and may lack adequate lighting and surveillance from passers-by or nearby buildings. Ground-level car parks also tend to be more at risk of thefts from cars, although the difference between the types of car parks is less pronounced for this type of crime. Recreation car parks will invariably be at ground level, thus heightening risks.
- **Car parks without closed-circuit television (CCTV) and/or adequate lighting** These car parks seem more vulnerable, especially if there is evening and night-time use. This risk factor will apply to most recreation car parks.
- **Car parks without security staff** Car parks without security staff seem at higher risk, especially when cars are parked in them for a long time and when they are ground level car parks. 'Pay and display' arrangements seem little impediment unless there are attendants on hand. Barriers in 'pay as you leave' car parks can also fail to operate or be vandalised, allowing theft of cars. Recreation car parks are vulnerable to this risk factor.

2.7 VEHICLE CRIME OFFENDERS

The literature on vehicle crime offenders is fairly extensive, but not easy to organise around the typology of vehicle crime outlined in section 2.7.1. Much of the literature focuses on offenders involved in thefts of vehicles, particularly young opportunist offenders who steal cars for 'joyriding'. The characteristics of those engaged in thefts from vehicles are less well researched.

2.7.1 Types of vehicle crime offenders

There is a plethora of typologies of vehicle crime offenders (e.g. Clarke 1991). However, the four types identified by New Zealand Police (2007a) are similar to those of many typologies, and are shown in Table 4. The first three types of offenders are involved in thefts of vehicles. The fourth is involved in thefts from vehicles.

TABLE 4. NEW ZEALAND POLICE'S TYPOLOGY OF DIFFERENT TYPES OF VEHICLE CRIME OFFENDER (SOURCE: MAYHEW 2008).

1. THE OPPORTUNIST CAR THIEF	2. THE SECONDARY THIEF	3. THE PROFESSIONAL CAR THIEF	4. THE PROPERTY THIEF
Looks for a vehicle as a means of temporary transport, or to go for a joyride. Vehicles that are easiest to break into are sought out, from locations providing cover. The stolen vehicle is normally soon abandoned. This leaves the victim with no permanent loss of the vehicle, though it may have been damaged, and items taken off or from it.	Steals a vehicle to commit another offence. The vehicle may be hidden for a few days, possibly fitted with false plates, and used in a robbery for instance. The vehicle is normally abandoned soon afterwards.	Intends to keep the vehicle or sell it for profit. The vehicle may be stripped, re-sprayed, modified and resold with changed identification numbers and registration plates.	Is interested in property that owners may have left inside the vehicle.

The typology is a guide only, and the types are not exclusive. For instance, a category 1 'opportunistic thief' may also be a category 4 'property thief', taking the chance to steal what might be attractive items on offer after a vehicle has been stolen.

A widely used rule-of-thumb for thefts of cars is that about 70% of thefts are opportunistic (covering categories 1 and 2), while professional car theft (category 3) is thought to account for the remaining 30% (e.g. Clarke & Harris 2002; Ministry of Justice 2005a).

2.7.2 Studies of vehicle crime offenders

There have been a number of studies that have involved interviewing vehicle crime offenders about their offending patterns, choice of targets and perceptions of the risks and rewards of vehicle crime (e.g. Briggs 1991; Spencer 1992; Light et al. 1993; Salmelainen 1995; Wiles & Costello 2000; Copes 2003; Hochstetler & Copes 2006). There have been no such studies in New Zealand. Most of these studies have focused on theft of vehicles (particularly for joyriding) rather than thefts from vehicles. Most have been concerned, too, with young offenders, saying less about the involvement of older offenders in vehicle crime. The studies have also focused on urban contexts. There has been no specific research undertaken on offenders operating in recreation car parks in New Zealand.

Observations drawn from offender interview studies and other studies of the characteristics of young vehicle crime offenders (e.g. Light et al. 1993; Farrington 1996; Slobodian & Browne 2001) are listed below:

- Vehicle crime offenders tend to start at an early age, often being 'coached' by more experienced offenders. Peer influence is important, but so too is excitement.
- For many offenders, early interest in stealing cars for excitement and as a symbol of power and status becomes less important, over time, than stealing for financial gain. The thefts are often structured and well organised.
- The risk of being caught does not seem to weigh much with young offenders, many of whom actually underestimate the chances of this as well as the likelihood of a custodial sentence (Light et al. 1993; Clarke 2002).
- Many offenders stop offending because of maturity and increased responsibility rather than threat of custodial sentence.
- Young vehicle crime offenders are typically socially and economically deprived, sometimes have poor access to leisure facilities, have low educational attainment and poor self-esteem. (These characteristics are found in other types of young offender.)

A few of the offender studies have looked at how far vehicle crime offenders travel to commit an offence, generally finding that it is not far. As well as drawing on offender accounts, Wiles & Costello (2000) also matched police data on where offences took place with the addresses of those arrested in the North Yorkshire force (which includes Sheffield). In Sheffield, those stealing cars travelled an average distance of 3.8 km, further than the 3.0 km for burglary. In the small city of York, the travel-to-crime distance was shorter still.

Of some pertinence to vehicle crime in recreational car parks, Wiles & Costello (2000) found that where longer journeys were made to steal cars, offenders tended to live near leisure and holiday locations. Moreover, those committing

offences in the small rural area of North Yorkshire (Hambleton) were often from neighbouring urban areas and had originally travelled to the rural area for leisure and recreational reasons. Some offenders seemed either to become familiar with the area for possible offending opportunities, or coincidentally offended while they were there.

2.7.3 Those arrested for vehicle crime in New Zealand

Arrest data provide some indication of the profile of those committing vehicle crimes, although of course it is difficult to say whether those who were arrested are typical of those who were not. Table 5 shows police tallies of those arrested for thefts of and from vehicles for 2005-07 in terms of gender and ethnicity. The main findings are:

- Males were predominantly involved, particularly in thefts from vehicles. Females were less involved in vehicle crime than in other offences where arrests were made
- Māori were involved in just over half the arrests for vehicle crime—a bigger proportion than for arrests for other offences.

The age profile of arrestees is shown in Figure 4. Sixty-two percent of those arrested for vehicle crime were aged between 14 and 20 years old—a higher proportion than for other types of arrests (38%). Those under age 14 were infrequently arrested, with the percentage for thefts from vehicles being the highest.

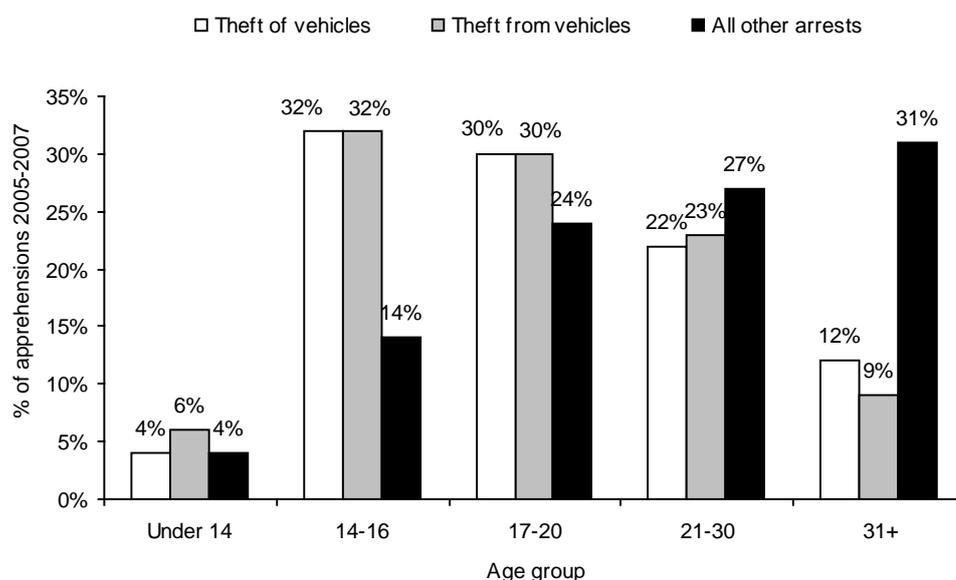
TABLE 5. ARRESTS IN NEW ZEALAND FOR VEHICLE CRIME IN 2005-07, GROUPED BY GENDER AND ETHNICITY (SOURCE: MAYHEW 2008).

Note: figures on ethnicity are based on arrests, excluding those where ethnicity was not recorded.

	THEFTS OF VEHICLES* %	THEFTS FROM VEHICLES %	ALL OTHER ARRESTS %
Male	88	94	80
Female	12	6	20
Caucasian	35	40	46
Māori	54	54	42
Pacific	9	5	9
Other	2	1	4

* Includes unlawful taking/conversion of motor vehicles, unlawful interference / getting into motor vehicles, and miscellaneous car conversion, etc.

Figure 4. Arrests in New Zealand for vehicle crime in 2005-07 by arrestee age (years) (source: Mayhew 2008).



2.8 VEHICLE CRIME VICTIMISATION AND TOURISM

2.8.1 The victims of vehicle crime

A recent report by Victoria University of Wellington's Crime and Justice Research Centre (CJRC) draws together, on the basis of 21 international multivariate analyses, the factors that make some people more at risk than others of being a victim of vehicle crime (Reilly & Mayhew in press).⁴ The risk factors relate to the characteristics of vehicle owners, the types of vehicles they own, the types of parking arrangements most usually available to them and the areas in which they live. The main risk factors that the CJRC identified are:

- **Age** Younger people or those living in households with a younger head of household emerged as more at risk. (Generally speaking, younger people were more at risk of all types of crime.) For vehicle crime, vehicle owner age may have been reflected in the particular types of vehicles owned, where it was parked and the vehicle's 'crime attractors'.
- **Level of affluence** Households that were more affluent were more at risk of vehicle crime, possibly because the owners' cars were more attractive to thieves.
- **Housing type** Vehicle owners living in terraced houses and flats were more at risk of vehicle crime, no doubt because they were less likely to have garages or private parking spaces.
- **Parking patterns** Those owners who had, or chose, to park on the streets at night were more vulnerable.
- **Type of area** Vehicle crime risks were higher in inner city and larger conurbations. In addition, risks were also higher in areas where there was a higher level of local social disadvantage.

⁴ Only those analyses that used multivariate methods were reviewed because multivariate analysis takes account of overlapping risk factors. Note that type of vehicle crime differed somewhat between studies, as did some of the risk factors, including those found to be important. Thus, the risk factors are not necessarily predictive.

Victimisation surveys are not well suited to assessing whether risks are influenced by the age of the vehicle, or the type of security it had. However, there is now sound evidence that older cars are at higher risk of being stolen and broken into than newer cars, which are better fitted with security devices such as alarms and immobilisers (e.g. Kinshott 2001).

2.8.2 Tourists as victims

Tourism and crime has received a fair amount of academic attention. This section is based on a large number of overviews (e.g. Barker 1999; Harper 2001; Glensor & Peak 2004), many of which draw on the same evidence base.

Researchers have considered the factors that make tourists vulnerable, as well as the impact tourists can have on local crime rates. The literature varies in the specificity with which the nature of crimes against tourists is documented. As will be seen, relatively few studies have looked at vehicle crime victimisation *per se*. However, theft in general seems to be the most common crime against tourists (other crimes they are vulnerable to include physical and sexual assault, credit card fraud and scams).

Tourists can simply be accidental victims—being in the wrong place at the wrong time. At the other end of the spectrum, they may be the target of terrorist groups who may specifically single out tourists for hostage-taking or even murder, or who take advantage of tourist clustering to commit acts against large numbers of people (de Albuquerque & McElroy 2001).

The main reasons why tourists may be at heightened risk are listed below. Some of these will be relevant to offending at recreation car parks in New Zealand:

- **Tourists may put themselves in proximity to crime** Tourists frequent locations that are conducive to crime. These can be areas characterised by anonymity and a high population turnover, allowing offenders to conceal themselves. There may be a vibrant nightlife in such areas, which may encourage heavy drinking and a sense of freedom from normal constraints (e.g. Prideaux 1996). Tourists may stay in older motels with dimly lit parking and no private security staff or CCTV. They may walk in isolated areas or dark alleys, especially at night. Alternatively, they may simply go more often to areas of high urbanisation, which are strongly associated with high crime risks (Pizam & Mansfield 1996; Ferreira & Harmse 2000). (Flynn (1998) found that the greatest number of tourist crimes occurred when tourists left airports and major highways, and became lost in inner-city neighbourhoods.) This risk is relevant only if recreational car parks are conducive to crime.
- **Tourists may frequent isolated locations** Many popular tourist locations are renowned for their scenic, isolated nature, inviting adventurous tourists to explore remote surroundings (Pizam & Mansfield 1996). The risks that these locations pose are particularly pertinent for vehicle crime in recreation car parks.
- **Tourists may be rewarding targets** Tourists typically carry large sums of money and other valuables (e.g. Chesney-Lind & Lind 1986). These are fairly easily disposed of once stolen. This, again, is likely to be a pertinent factor in relation to vehicle crime in recreation car parks.

- **Tourists may be easy targets** Tourists often give signs of being such, by driving a rental car, carrying a backpack, carrying a camera, consulting a map or appearing lost (World Tourism Organization 1996). Again, these behaviours will be pertinent factors in relation to vehicle crime in recreation car parks.
- **Tourists may take fewer precautions** Tourists may be more likely to be relaxed and off-guard while on holiday. Their behaviour is often different from that at home. They visit locales that are unfamiliar to them, and may engage in activities that they would not ordinarily consider (for instance, buying drugs or picking up strangers) (Chesney-Lind & Lind 1986). They may also be more careless about how and where they leave valuable items (e.g. Kelly 1993; Prideaux 1994).
- **Tourists may invite retaliatory crime** As tourist numbers increase, so too can local hostility towards them, increasing the chances of them being singled out as victims. In areas where poverty is the norm, for instance, the presence of seemingly wealthy tourists may make them tempting prey. This may be particularly so when tourists are foreigners (Milman & Pizam 1988; Prideaux 1994). Offenders may 'neutralise' what they do because tourists infiltrate and spoil the location and because tourists are 'able to afford it [i.e. the consequences of theft]'
- **Tourists may be less likely to invoke an official response** Compared to residents, tourists may often be less likely to report crimes or to testify against suspects, wishing to avoid problems or a return trip the country in which the offence occurred (Fujii & Mak 1980).

2.8.3 The empirical evidence

Crime levels in relation to tourist activity

One set of empirical studies looked at crime levels in relation to tourist activity. Researchers usually found that high seasons for tourists were linked to higher crime levels (for reviews, see Walmsley et al. (1983); Brunt & Hamby (1999)). They also—though not always—found that places with heavier tourist traffic were higher-crime locales, at least as regards property crime (e.g. Pelfrey 1998). In making these observations, the authors of those studies have made two assumptions. First, crime has seasonal patterns that broadly correspond to tourist seasons. Second, while crime might be higher in tourist destinations, it is difficult to say whether this was due to tourism or to other characteristics of tourist destinations (cf. Pizam (1982), who found that tourism expenditure was only weakly related to per capita rates of property crime, robbery, rape and aggravated assault across 50 states in the USA).⁵ Destinations are often larger cities or busier places, as in Prideaux's (1994) study of the Gold Coast. Consistent with the findings reported in section 2.8.2, tourist destinations, therefore, are typically environments where anonymity and the turnover of people make it easier for offenders to remain inconspicuous and it is these factors that may attract offenders.

⁵ See Garland (1984) for an early study in New Zealand that showed that violence, theft and burglary offences were higher in tourist destinations than in non-tourist destinations.

Tourists' victimisation levels

A smaller number of studies tried to assess the level of victimisation experienced by tourists (e.g. Hollinger & Schiebler 1995). A few studies attempted to compare the risks of crime against tourists with those of crime against the resident population. Most of the studies are described below. Of these, Barker's (1999) study is most pertinent to New Zealand:

- In an early study, Chesney-Lind & Lind (1986) looked at 1982 data from Hawaii to assess crime rates for tourist and resident sub-populations. The results showed that tourists in Hawaii had higher rates of theft, robbery and rape than residents, based on reports to the police. In Honolulu, tourists also had a higher rate of burglary. There was no information on vehicle crime.
- Using police data for Florida, Brayshaw (1995) showed that 3.2% of all crimes in the state were against non-residents, although 'non-residents' included military personnel and migrant workers as well as the 40 million visitors to Florida at the time.
- The Australian Bureau of Tourism Research carried out a study for the NSW Bureau of Crime Statistics and Research, using a one-off module of the regular International Visitors Survey (see Allen 1999). In the last quarter of 1997, 2480 tourists were questioned at Sydney airport. The median time they had stayed in NSW was four nights, although there was considerable variation in length of stay, with students staying longest. Of the tourists questioned, 97.7% said that they had experienced neither harassment nor any crime in NSW. Of all interviewees, 0.8% had experienced theft—making theft the most frequent category of victimisation after harassment (1%). There was no information gained on what sorts of thefts were committed. Of the 59 crime/harassment incidents mentioned, 21 were thefts, of which half were reported to the police. Three incidents (5%) took place in an outdoor recreation venue, whereas nearly 33% took place in accommodation. Those aged 15–24 were most common victims, often being students who were visiting Australia for educational purposes.
- Stangeland's (1995) study of tourists to Malaga found that tourists were victimised in general almost as much as residents were, in spite of tourists being there for only short periods of time. No data were given, though, of vehicle crime risks specifically.
- On the basis of crimes reported to the police, Schiebler et al. (1996) estimated a rate of crime against tourists in Dade County, Florida of 0.15% in 1993, although this was by far the highest county rate (some 3.5 times higher than in Orange County—the most popular tourist destination in that state). In Florida as a whole, property crimes against tourists were five times more common than violent crimes.
- For his PhD thesis, Michael Barker conducted a study of tourism crime in Christchurch and Queenstown. Some 995 domestic and international visitors were questioned, mainly by means of a postal mail-back questionnaire (Barker 1999). Of respondents, 2.7% had fallen victim of crime, and these were mainly younger travellers. Risks for those staying in camping grounds were higher than average (as were those for those in backpacker accommodation). Two-thirds of incidents were reported to the Police.

Levels of vehicle crime against tourists

There is not a great deal written about tourists' experience of vehicle crime. The small amount that is available is summarised below:

- The Schiebler et al. (1996) study (see above) showed that about 8% of property crimes against tourists reported to police involved motor vehicles. Of these, about 18% took place in parking lots and garages, and about 2% occurred in parks and woodlands.
- A survey of British holidaymakers showed that the risks of thefts of and from cars during a holiday period (at home and abroad) far exceeded those measured by a national victimisation survey, taking the short duration of tourist 'exposure' into account (Mawby et al. 2000).
- In Barker's (1999) study (see above), 0.1% of respondents had experienced a theft of a vehicle, and 0.5% had experienced a theft from a vehicle. In addition, 316 offences were recorded by Police in Christchurch that involved international tourists from mid-1995 to mid-1998. These offences were about 0.7% of all offences recorded in central Christchurch over the period (author's computation). Of offences against tourists, 20% involved thefts from vehicles and 1%, the theft of a vehicle. (There is no useful information on where the offences took place.)

2.9 CONCERN ABOUT VEHICLE CRIME

2.9.1 Concern about vehicle crime in context

The term 'concern' about crime is used here instead of the more commonly used 'fear', which is usually shorthand for perceptions about crime as well as emotional responses, such as worry and feelings of personal safety. Further, 'fear' is something of a misnomer, since survey questions tap feelings less intense than fear, which ethnographic and qualitative work suggests is a transitory reaction to the immediacy of a dangerous situation (Warr 2000).

Results from the 2006 NZCASS, reported by Mayhew & Reilly (2007b), are only of peripheral relevance here since they essentially focus on the concerns of the resident population, not visitors. That aside, 10% of New Zealanders felt that thefts of, and damage to, cars was a problem in their neighbourhood, putting concern about that type of crime below that of burglary (23%), and vandalism and graffiti (15%). Seven percent felt thefts of cars were a problem in their neighbourhood. When questioned about how much they worried about specific types of victimisation, people said that they most often worried about being in a traffic accident caused by a drunk driver or having their house burgled: 26% were very worried about each of these. Nearly as many people felt the same about having their car stolen (24%) or having their car damaged or broken into (23%).

As stated earlier, different surveys on concern about crime formulate questions differently, so it is difficult to make comparisons among countries. However, questions in the British Crime Survey (BCS) are similar to those used in the NZCASS. A comparison of the results of the 2006 NZCASS with those from the 2004/05 BCS showed appreciably higher levels of worry in New Zealand than in England and Wales about burglary, vehicle crime and attacks and robbery (Walker et al. 2006). For instance, while 24% of New Zealanders were 'very

worried' about having their car stolen, the proportion in England and Wales was 13%. The respective percentages for concern about having a car damaged or broken into were 23% and 11%. Interestingly, the BCS has registered a marked fall in worry about crime since the late 1990s.

New questions in the BCS provide information on how frequently people worry (Allen 2006). Of those who were 'very worried' or 'fairly worried' about having their car stolen, about 10% worried most of the time, but half worried just occasionally. These results may also be applicable to New Zealand residents and to tourists.

It should be acknowledged that asking people whether they worry about particular victimisations can prompt them into expressing a level of worry greater than they actually have experienced (Farrell et al. 1998; Farrell & Gadd 2004). Some people who admit to being very worried may be thinking of particular situations (e.g. having a car stolen just before international visitors are due), rather than describing a permanent state of anxiety. Concern about crime is usually seen as negative in social terms in that it can constrain people's lifestyle and undermine their sense of well-being. This said, it can be argued that a certain level of concern and wariness is actually beneficial: it can lead people to take sensible precautionary measures that then actually reduce their risks of victimisation. Certainly, the purpose of crime prevention publicity is to increase concern and wariness.

2.9.2 Tourists' concerns about victimisation

As Pizam & Mansfield (1996: 1) stated, 'Leisure tourism is a discretionary activity, and most tourists will not spend their hard earned money to go to a destination where their safety and well-being may be in jeopardy.' Perceptions of safety, therefore, will be one key factor in travellers' choices. For instance, attacks on German and British tourists in Florida in the early 1990s led to a 22% decline in holidaymakers from those countries (Brayshaw 1995). IRA terrorist activities also severely reduced tourist numbers to London in the late 1980s, and the problem of armed carjackers in South Africa had a similar effect (Bloom 1996).

While the risk of these serious crimes for an individual tourist may be low, the crimes nonetheless gain much media coverage. It is not surprising that the possibility of falling victim to terrorism, civil unrest, robbery or homicide weigh more heavily with travellers than the more likely chance of having a hotel room burgled, or property taken out of a car. So, one should not overstate the level of concern tourists in general, and those to Australasia in particular, have about the potential risk of victimisation. Mawby et al.'s study (2000), for instance, showed that safety was a consideration for only 15% of those choosing a holiday destination; other considerations such as weather and scenery were of wider concern. A survey of tourists in the UK in 1994 showed that only 2% of respondents were concerned about personal safety when travelling to Australia—a level likely to be close to that for New Zealand (cited in Allen 1999).

The reputation of New Zealand as a safe country to visit is attested to, in part, by its popularity as a tourist destination despite the high cost of travel for many tourists. Local media reports often stress how the scenic beauty of New Zealand is a considerable attractant for tourists. Also common are negative media reports about tourist safety.

There have been very few studies that have looked at tourist perceptions about crime in New Zealand. Results from Barker's aforementioned study (1999) of domestic and international visitors revealed the following:

- New Zealand was seen as the safest international tourist destination, ahead of a large number of other countries (the next-safest countries were considered to be Canada, Sweden and Australia).
- Sixty percent of respondents considered New Zealand to be 'very safe' (the highest rating for all countries), while 97% believed safety in New Zealand was 'average' or 'above average'. International tourists rated New Zealand's safety higher than domestic tourists did.
- Eighty percent of international tourists who took part felt that New Zealand was safer than their home country.
- Fifteen percent of international and 8% of domestic respondents experienced feeling unsafe at some time while travelling in New Zealand. This group comprised mainly younger travellers.
- The most important New Zealand attribute was seen to be 'nice scenery', but this was closely followed by 'safety and security', which were given most weight by older and less experienced tourists, and those travelling in groups. 'Safety and security' was seen as a function of several things, the most important being friendly people, 'good lighting', clean and well-kept facilities and the presence of other people.

2.9.3 Concern about vehicle crime in recreation car parks

This literature review uncovered little information on tourists' concern about crime in recreation car parks. In Barker's (1999) sample of tourists in New Zealand, however, a quarter were able to specify what they felt (in advance) might be an unsafe location. Of these, 4% mentioned track car parks (1% of the sample as a whole), as against 23% mentioning Auckland for instance). When asked about places in which they had actually felt unsafe, 8% mentioned remote areas. None mentioned track car parks.

2.10 THE NEED FOR FOCUSED RESEARCH ON VEHICLE CRIME IN OUTDOOR RECREATION AND TOURISM DESTINATIONS

Researchers on vehicle crime (and recreation and tourism) in New Zealand have not paid much attention to outdoor recreation and tourist destinations. As this topic is rarely addressed by any public agencies, a coordinated research approach is needed in order to determine the impact of the problem on the relevant agencies and their stakeholders. This study aims to establish the nature, extent and impact of vehicle crime in tourist and recreation areas, and to identify potential solutions.

2.1.1 SUMMARY

- Vehicle crime is defined as thefts of and from vehicles.
- Very little research has been undertaken on vehicle crime at outdoor recreation settings either internationally or in New Zealand. There are knowledge gaps spanning all levels of this project, including scope of the problem, perceptions about it, its impacts and solutions to it.
- Existing data sources are limited, although trends indicate that vehicle crime rates in New Zealand overall are declining in line with other regions (attributed mostly to improvements in car security).
- Overall, thefts of vehicles are approximately 18% of all vehicle crime in New Zealand; thefts from vehicles are more prevalent.
- Both forms of vehicle crime rates in New Zealand rank among the highest levels internationally, with approximately 1.9% of owners experiencing car theft, and 7% of owners experiencing at least one theft from a vehicle.
- This type of crime is costly for New Zealand. Estimates from 2003 data put the total cost of vehicle theft to be \$270 million and thefts from vehicles at \$280 million.
- Car parks are considered risky locations for vehicle crime. Several characteristics of risky car parks indicate that there are higher risks for car parks in tourist and outdoor recreation destinations.
- Tourists are considered to be vulnerable to theft and other crimes, with levels of offending estimated to involve 2.7% of tourists, c. 66% of which reported offences to the Police (resulting in 0.1% of reported vehicle theft and 0.5% of thefts from vehicles).
- The concern of the New Zealand public about vehicle crime is notable. Levels of concern are similar to levels of worry about being in a traffic accident with drunk drivers or about home burglary.
- International tourists generally consider New Zealand a safe destination. Despite low victimisation rates, international tourists gain much media coverage when they fall victim to vehicle crime.

3. Methodology

The stakeholders listed in Table 1 took various roles defining the research objectives, monitoring and reviewing progress and building collaborative multi-agency relationships to help to develop and implement best practice solutions.

In order to fulfil the objectives in section 1, a multi-method approach was adopted, using both qualitative and quantitative data collection techniques. Quantitative methods focused on providing a broad statistical measure of the nature, extent and impact of the problem using a large sample size. In-depth and complex qualitative information was collected on the perceptions, impact, effects and motivations of vehicle crime.

According to Tolich & Davidson (2003: 127):

The two approaches can provide complementary, rather than contrary, information and can be combined in fruitful ways. In short, the pragmatic view is that we should exploit the fact that the differing approaches enable researchers to look at the same phenomenon in quite different ways.

There is a wide range of stakeholders in the vehicle crime problem who all have different perspectives. Data and information were, therefore, collected from a range of sources:

- Police officers and police records
- Members of the Automobile Association
- Readers of Wilderness magazine and FMC Bulletin
- Members of the Federated Mountain Clubs
- DOC staff
- The general public
- International visitors
- Domestic tourists
- Current and past recreationists
- Budget backpackers
- Offenders
- Groups and individuals involved in case study initiatives to address the problem (e.g. local government, Safer Community councils, victim support agencies, community representatives)
- Media reports
- Victim accounts

3.1 ANALYSIS OF SECONDARY SOURCES

3.1.1 Official police statistics

This part of the project involved the retrieval and analysis of information already on police files about vehicle break-ins nationally and at sites of interest identified by DOC to better appreciate the nature and extent of vehicle crime at tourist destination and outdoor recreation car parks. The Police hold records about crimes in a number of different systems and files.

To start the project, DOC supplied the Police with a list of 1299 assets (located in 990 visitor sites) of interest (predominantly at road ends or in car parks or picnic areas) and the Police were able to match occurrence records for 97.7% of these sites and provide information for 2001–06 (Knight et al. 2006a). Further to this, 16 potential ‘hotspots’ were identified and more detailed information provided on crime patterns at these locations. Also referred to in this report are summary statistics from a nationally randomised sample of police files about vehicle break-ins throughout New Zealand. This control group was established in order to assess to what degree results from the 16 DOC sites of interest differed from those for elsewhere (Knight et al. 2007). It is important to note that there were limitations to the data analysis, as it was not possible to retrieve all relevant files and because information is not recorded in a universal and consistent way in police files.

3.1.2 Victim account analysis

A qualitative analysis of volunteered victim account data was undertaken using information that DOC solicited in an article published in the Summer 2006 issue of the New Zealand Automobile Association’s (NZAA’s) magazine AA Directions. The article summarised the research and invited readers to contact DOC:

If ... you have experienced a vehicle crime (including break-ins, stolen vehicles, stolen parts or vandalism) at a tourist destination, the research team would like to hear from you. Please include details of when and where the incident happened, how it affected you at the time and how it has subsequently affected you.

(New Zealand Automobile Association 2006).

There were also emails in response to an article written in Wilderness Magazine and to notices posted on websites of the Federated Mountain Clubs of NZ (Inc) (www.fmc.org.nz) and Arthur’s Pass Mountaineering (www.softrock.co.nz).

In total, 39 emails were supplied for analysis. Of these, five emails were found to be queries about the research results, not victim accounts, and were removed from the sample.

Each email was imported into a separate MSWord[®] document before being imported into NVivo (software developed specifically to analyse qualitative data) for analysis. The content of these documents were content analysed for themes of interest.

There were two main limitations to this research that need to be noted: the sample was a self-selected one, so those who chose to respond may have had more say than those who did not respond (the findings of this report cannot, therefore, be generalised to represent the views of the community); and there was no control over the quality, validity or content that respondents selected to include in their emails (Mossman 2008: 1–2).

3.1.3 Literature review

A literature review on vehicle crime, victimisation and fear with reference to outdoor recreation and tourist destinations was commissioned as part of this research (Mayhew 2008, from which much of section 2 of this report was derived). The literature review covered the following six themes: the contours of vehicle crime; vehicle crime offenders; vehicle crime victimisation and tourism; concern about crime; and preventing vehicle crime.

3.2 SURVEY RESEARCH

A number of quantitative surveys were undertaken as part of this work. According to Tolich & Davidson (2003: 133), surveys 'take a snapshot of a group's attitudes, values, or behaviour at one point in time'. Surveys can be a cost-effective way to gather broad information from a large, geographically dispersed population (Tolich & Davidson 2003).

Quantitative surveys are often carried out with the intention of being able to generalise the findings to a broader population base:

Most surveys are conducted with the intent of generalising the findings to the wider population, by presuming that the random selection of those in the sample is likely to produce a range of participants who closely approximate the whole group. (Bartley 2003: 198)

This presumption relies on having a high enough response rate and also a statistically representative sample. The methods and limitations of each survey are discussed below.

3.2.1 International visitors

Between January and March 2007, a set of eight questions was added to the International Visitor Survey (IVS). The IVS is a face-to-face survey (conducted at Auckland, Wellington and Christchurch airports) of international visitors departing New Zealand who have spent at least one night in the country and are aged 15 years and over. The extra questions were designed to enable researchers to determine the extent to which international visitors were victimised in New Zealand, and international visitors' concerns about victimisation. A particular emphasis was placed on vehicle crime. Specifically, the research aimed to look at: the incidence of vehicle crime in relation to other crime; the demographics of international visitors who have been victims of vehicle crime; and the perceptions of international visitors with regards to feeling safe while travelling in New Zealand and worrying about property being stolen from their vehicle. In total, 1327 respondents completed the IVS (Nielsen 2007b) with a response rate of 74% (Liz Stuart, Nielsen, pers. comm. 2008).

3.2.2 Domestic travellers

Similarly, between January and April 2007, a set of eight questions was added to the Domestic Travel Survey (DTS) to gain information about the extent to which domestic tourists were victimised in New Zealand, and domestic tourists' concerns about victimisation. As for the modified IVS, particular emphasis was placed on vehicle crime and the research had similar aims (see section 3.2.1). In total, 4881 respondents aged 15 and over completed the DTS through random selection telephone interviews (Nielsen 2007a), with a corresponding response rate of 11.5% (Liz Stuart, Nielsen, pers. comm. 2008).

3.2.3 General public

A telephone survey conducted by Thomas et al. (2006) aimed to examine the barriers and constraints to New Zealanders' participation in outdoor recreation. One of the specific objectives of the survey was to explore the relative importance of vehicle security as a constraint to recreation participation and/or enjoyment. A random nationwide sample of 1527 people aged 16 years and over yielded a

response rate of 62%. Of the respondents, 39% were men and 61% were women. The age groups closely matched those of the 2001 New Zealand census, with a slight under-representation of the 20–29 years age group.

3.2.4 Recreationists

The responses elicited by DOC's 2-page self-completion survey in *Wilderness Magazine* and the *FMC Bulletin* and *FMC newsletters* (see section 3.1.2) were analysed by Morrison & Kennedy (2007). The primary objectives for this research were to:

- Measure the extent of vehicle crime victimisation among a subsection of outdoor recreationists
- Measure the prevalence, and level, of concern about vehicle crime at outdoor recreation destinations among outdoor recreationists, and understand the relationship between personal characteristics and concern, e.g. gender, age, previous victimisation
- Determine what areas (specifically and generally) are considered risky by outdoor recreationists for vehicle crime problems
- Discover whether anxiety about vehicle crime impacts on choices about the location of outdoor recreation and visitation experiences

One of the issues respondents were asked to consider was how much of a problem each of the following issues had been across all the visits they had made to outdoor recreation sites in the last 12 months: rubbish or litter; graffiti and/or vandalism; broken glass in car parks; vehicle security; people you felt unsafe around. When interpreting the findings, it is important to note that these participants are likely to have considerably more experience of outdoor recreation sites than the general population and, consequently, more experience of vehicle crime at these sites. However, the findings from this research provided a valuable picture of the experiences and views of recreationists who were active users of DOC-managed recreation areas.

A total of 2214 questionnaires were returned, giving an overall response rate of around 10% (margin of error: $\pm 2\%$, 95% confidence level).

3.2.5 Members of the New Zealand Automobile Association (NZAA)

Two surveys of the NZAA membership were carried out to establish members' experience of car theft, burglary and vandalism, with particular attention to that occurring in national parks. The survey process used by the NZAA relied on an email survey of a random sample of its members with email addresses (around a quarter of the membership, 290 000). This is approximately 10% of the total number of New Zealand vehicle license holders. One skew introduced by the survey method was the use of email, meaning that about three-quarters of the Association's members were not surveyed. However, the NZAA considers that email surveys do provide a fairly reliable indication of members' views and experiences at a relatively low cost. The research findings provided a valuable insight into the experiences and views of motorists in New Zealand, many of whom would have visited DOC-managed car parks.

The first-stage survey was a broad-brush effort designed to determine a victimisation rate in national parks. This provided a guide to sample size for the second-stage survey, which was designed to provide more detailed information on victimisation experience in national parks.

The first survey, sent to 3000 members, netted 1932 responses (margin of error: $\pm 2.21\%$, 95% confidence interval). The second survey, sent to 15 000 members, netted 3349 responses (margin of errors: $\pm 2.4\%$ for those experiencing vehicle crime, and $\pm 3\%$ for those experiencing vehicle crime while making a pleasure trip; 95% confidence intervals) (NZAA n.d.).

3.2.6 Budget backpackers

This is an annual survey of people staying at more than 370 Budget Backpacker Hostels in New Zealand. Each February, a night is selected and 12 000 forms are distributed to people staying at the hostels. The survey is mainly focused on rating hostels, but includes additional questions on visitor profile and selected topics. During the 2006 and 2007 surveys, people were asked if they had experienced a vehicle break-in. In 2006, they were also asked if they had heard of anyone else who had experienced a break-in. In 2007, this second question was replaced by one asking if they were worried about this potential risk.

In 2006, 5393 people responded to the survey (response rate c. 44.9%), and in 2007, 5575 responded (response rate c. 46.5%). Data were combined for statistical analysis (Gordon Cessford, DOC, pers. comm. 2008).

3.2.7 DOC staff

As part of the scoping of the study, information was also collected from DOC staff on the perceived 'hotspots' in DOC-managed areas. Key DOC staff members in each conservancy were asked to submit a list of the most problematic areas. This information was then used to help identify the areas for further analysis of the police data. A full list of these sites is included in Appendix 1.

3.3 QUALITATIVE RESEARCH

3.3.1 Offender interviews

A number of offenders who had committed vehicle crime at outdoor recreation and tourist destination car parks were interviewed. The interviews explored six areas: why offenders commit vehicle crimes at recreation car parks; the decision-making processes that underpin vehicle crime offending at these locations; how offenders commit vehicle crimes at recreation car parks; the effect of crime prevention measures on offenders; what offenders felt about the 'life' of those measures; and possible displacement patterns due to crime prevention initiatives at recreation car parks.

According to (MacGibbon et al. 2008), offender interviews:

... provide useful information as background to crime prevention initiatives in showing what offenders feel about the 'rewards' of particular type of crime, how they make decisions to offend, what influences their choice of targets, and what they perceive (or do not perceive) to be risk factors.

Semi-structured interviews were undertaken with 30 male offenders recruited through consultation with the Police and community groups involved in crime prevention. The youngest offender was aged 15, the oldest, aged 50. Sixteen identified as Māori, 13 as European/Pakeha, and one person's ethnicity was unknown.

3.3.2 Recreationists' focus groups

Focus groups essentially involve a group discussion 'focused' around a particular topic. According to Tolich & Davidson (2003: 130):

Focus groups provide a powerful technique for gaining an insight into the opinions, beliefs, and values of a particular segment of the population. Their strength lies in the relative freedom that the group situation gives participants to discuss issues of concern.

Eight focus groups were set up, each consisting of either current outdoor recreationists, lapsed outdoor recreationists or non-visitors. Participants were recruited randomly by telephone. Five focus groups were held in Auckland, and the remaining three in Wellington. Each session was approximately 2 hours long. The research objectives for this project were to: identify perceptions of vehicle security/insecurity at tourist and recreation destinations; explore whether perceptions regarding vehicle crime impacted on experience and behaviour; assess the relative importance of vehicle crime as a barrier to visiting/participation in the outdoors; and identify solutions to vehicle crime preferred by tourists and outdoor recreationists (Jeffcoat & Irving 2006).

Further analysis of the data from the focus groups and the summary from Jeffcoat & Irving (2006) was carried out by MacGibbon (2008) in order to provide a fuller account of the experiences and perceptions of the focus group participants.

Although these focus groups explored many of the same issues as those in the outdoor recreationist quantitative survey, surveys can tell us how many people hold a certain view while focus groups help to explore 'how points of view are constructed and expressed' (Kitzinger & Barbour 1999: 5).

3.4 CASE STUDIES

In-depth case study research is useful for identifying what can be learnt from a particular initiative or local example that may be beneficial for future initiatives. Note that the findings from case study research cannot be generalised to represent the complete picture of the tourist vehicle crime problem across the country.

3.4.1 Auckland evaluation

When this project was initiated, Auckland Regional Council (ARC) was one of the few organisations to have developed a systematic approach to managing vehicle crime in outdoor recreation and tourist areas. In contrast to other organisations, ARC had conducted a comprehensive security audit across all its sites and was several years into a widespread vehicle crime reduction programme. Consequently, the ARC vehicle crime reduction programme offered a unique opportunity to review how this crime can be reduced by site managers in locations analogous to many sites managed by DOC (Jakob-Hoff & Postlethwaite 2007a).

The research aims of the ARC case study were to:

- Provide a programme overview of the ARC car park security audit establishing the background and content of the audit
- Quantitatively and qualitatively explore the history of vehicle crime problems at four selected sites/car parks

- Explore the process of implementing different vehicle crime reduction projects at four selected sites
- Evaluate the success of the projects implemented
- Assess the degree to which these projects are context-specific or may be generalised to other locations

A series of interviews were carried out in early 2007 with stakeholders and staff involved in four regional parks managed by ARC. Relevant documentation and datasets were also examined to inform the development of 'Guidelines for field assessment and management of car crime in natural area car parks' (Jakob-Hoff & Postlethwaite 2007b). Site visits were made to the parks with ARC staff. Further guidelines were developed for DOC managers (Jakob-Hoff & Postlethwaite 2007c).

A key finding from the investigations was that virtually no formal evaluations had been carried out of the various management initiatives that have been implemented. Basic data on visitor numbers and vehicle crime occurrences had not been collected in a systematic manner that readily enabled rigorous quantitative evaluation. In the absence of these types of performance measures, the guidelines were based on the best information available. This was provided by the recent ARC staff experience (Jakob-Hoff & Postlethwaite 2007b).

3.4.2 Northland and Rotorua research

According to Tolich & Davidson (2003: 131):

Key informant interviews are interviews with the 'opinion leaders' and 'stakeholders' for particular communities of interest ... [and they] involve interviewing such people as representatives of their communities in order to gain insight into the structure of the cultures and groups under study. They provide a quick way of canvassing the views of a collection of communities of interest.

This case study research involved individual qualitative interviews with key informants involved in addressing the tourist vehicle crime problem in Rotorua and Northland.

The objectives of the research were to:

- Provide an overview of the scale and impact of vehicle crime in each area
- Document the various methods adopted to address vehicle crime
- Review the effectiveness of the adopted methods
- Identify barriers to effective solutions to the vehicle crime problem
- Highlight the key lessons learnt for any future initiatives

The people interviewed for this project all had been involved in addressing the tourist vehicle crime problem as part of their paid or voluntary work. Key stakeholders included victim support, local councils, police, community groups (Neighbourhood Support, Safer Community council), tourism organisations and DOC. In Rotorua, nine semi-structured interviews were conducted with ten key stakeholders. In Northland, interviews were conducted with a total of 17 key stakeholders.

4. Nature and extent of vehicle crime

4.1 SCALE OF VEHICLE CRIME

Police identified a total of 309 365 records nationally across the 5-year study period (2001–06) for offences of Theft Ex Car, conversion/unlawful taking of a motor vehicle or theft of a motor vehicle. Police identified that, of these records, less than 0.2% of unique occurrences (673) were likely to have occurred at or near the identified DOC sites of interest (Fig. 5), and nearly all, 94%, were for Theft Ex Car (Knight et al. 2006a). The distribution of offences was highly concentrated at a very small number of sites (1.5% of assets experienced 60% of occurrences). Specific parts of the country had a higher overall level of offending (such as the Central Volcanic Plateau). Interestingly, Northland sites did not have high levels of offending (despite the popular perception that Northland was a risky area for vehicle crime).

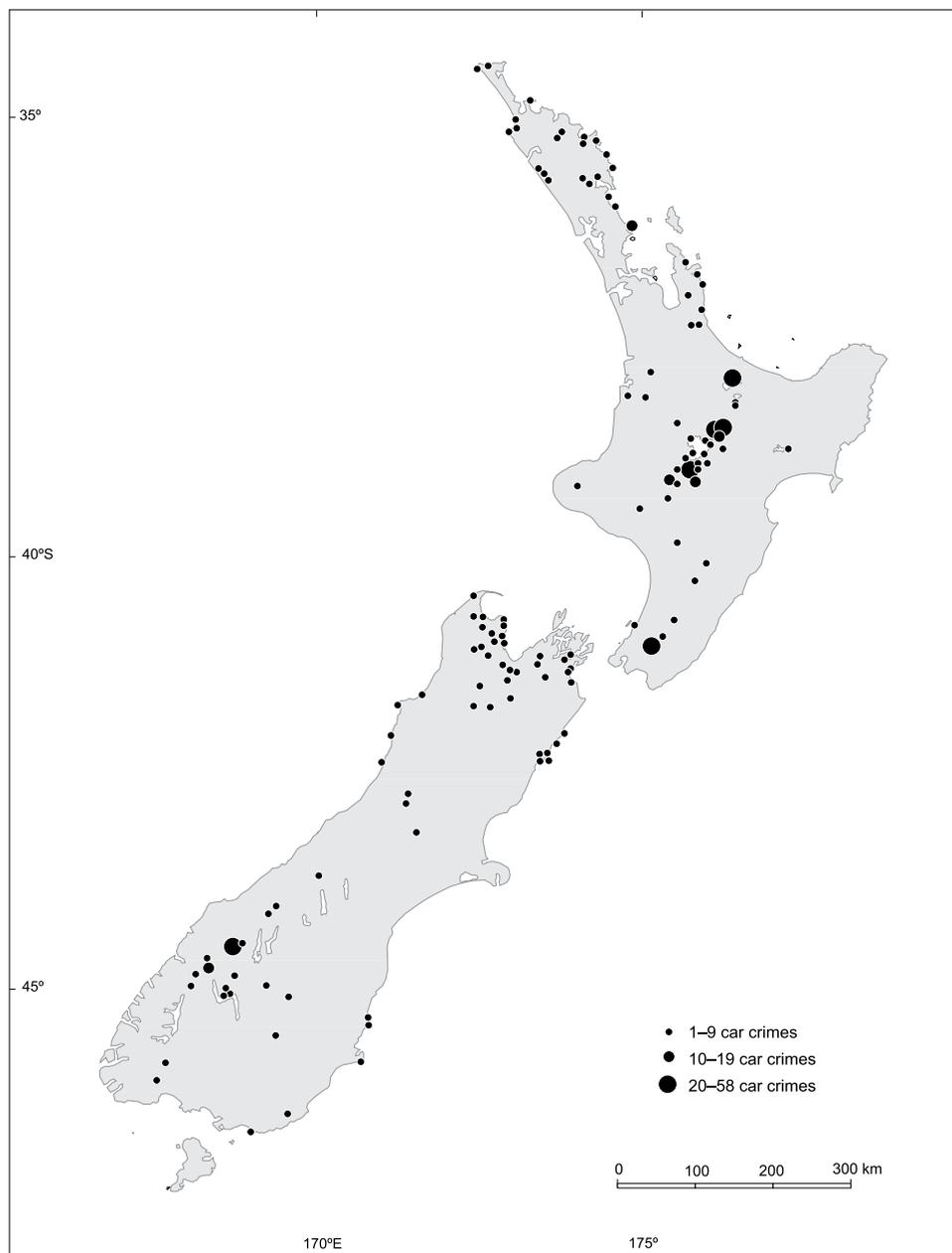
An important conclusion from this project was that the incidence of crime of any type known by Police to have occurred at the DOC sites studied was low. However, as stated in sections 2.3.1 and 2.3.2, police data reflect only offences reported to them by victims (recall that NZCASS estimates of the number of thefts from vehicles was roughly double the number from Police data, suggesting that only about half offences had been reported to the Police) (Mayhew & Reilly 2007a; MacGibbon et al. 2008).

The contention that vehicle crime is underreported was supported by the findings of several of the surveys. The survey of NZAA members suggested that 36% of vehicle crime went unreported, mostly because the costs involved were below vehicle or travel insurance excesses. More specifically, only 47% of respondents reported making an insurance claim as a result of an incident, with the most common reasons for not lodging a claim being because the value of the claim was below the policy excess or because the victims did not want to lose their no-claims bonus. Only 54% could recall reporting the crime to the Police (NZAA n.d.).

However, as noted earlier (section 2.6.1), the same level of underreporting may not necessarily apply to recreation car parks.

With respect to police involvement, there was a strong belief amongst participants in the focus groups of recreationists that reporting a vehicle break-in crime to the Police would be worthwhile only if the 'victim' intended to make an insurance claim. Police were not contacted because there was a perception that they (Police) would not have been able to do anything (such as apprehend the offenders or retrieve stolen belongings) both because of a lack of resources and because of an inability to identify possible suspects. There was also a perception that the Police, given limited resources, would not have considered vehicle break-in crime to be a priority (Jeffcoat & Irving 2006). Similarly, in Mossman's (2008) analysis of victim accounts, there were mixed views on the response of the Police to those who reported a vehicle crime. There were three examples given of what was considered to be a poor police response, with victims experiencing frustration over the lack of action, the apparent low priority given to the incident by Police and the logistics of making a report.

Figure 5. Geographic distribution of reported vehicle crime offences at DOC-managed sites, 2001-06.



Although vehicle crime may be underreported, the results from surveys of international and domestic travellers did not suggest that vehicle crime in outdoor recreation areas was a significant issue. Only 2% of respondents in the Domestic Travellers Survey (DTS) directly experienced a crime or attempted crime during a domestic recreational trip in the past year. Of that small group of respondents, 32% of them had experienced theft of property from a vehicle. Half of all crimes experienced were vehicle related (either theft of property from a vehicle, theft of a vehicle or deliberate/malicious damage to a vehicle).

Similarly, only 2.2% of respondents to the International Visitors Survey (IVS) had directly experienced a crime or attempted crime during their trip to New Zealand, and 17% of all crimes experienced were vehicle related (either theft of property from a vehicle, theft of a vehicle or deliberate/malicious damage to a vehicle). Likewise, only 2.64% of the 10 969 respondents to the backpackers survey reported a vehicle break-in.

The two NZAA surveys (n.d.) identified that 56% and 58% of responding members had experienced vehicle crime to a vehicle they owned or were responsible for in New Zealand. However, the research determined that very few members (6.6%) had ever experienced any kind of vehicle crime, including vandalism, break-ins, parts-theft or vehicle theft at an 'outdoor natural recreation area'. Of those who had experienced vehicle crime while on holiday (only 7.7% of those surveyed), only 10.3% (0.77% of the total) had experienced the crime while on holiday in a national or regional park.

Of the 1358 currently active recreationists interviewed as part of the 'barriers to participation' research, 117 (8.6%) had experienced a car or vehicle break-in or vandalism (Thomas et al. 2006).

The self-completion survey completed by outdoor recreationists (Morrison & Kennedy 2007) recorded higher crime rates when respondents were asked whether a vehicle they owned or were responsible for had ever been vandalised, had external parts stolen, been broken into, or stolen while parked at an outdoor recreation site in New Zealand. Thirty-four percent had a vehicle damaged while at an outdoor recreation site in New Zealand. However, it is important to remember that this survey was self-selecting and, therefore, proportionately more people who had been a victim of vehicle crime may have responded than would have had the general public been surveyed. Similarly, members of the population sampled would also probably have left a vehicle more frequently at outdoor recreation sites.

4.2 VICTIMS OF VEHICLE CRIME

Media and anecdotal reports suggest that international tourists are the group most likely to be victimised. However, of the 347 Theft Ex Car incidents at DOC sites studied, in 62% of cases, the victim was a New Zealander. Theft Ex Car in which international visitors were victims occurred most frequently amongst visitors from the UK (30%), USA (19%), Australia (16%) and Germany (16%). This contrasts with the nationwide police data of all recorded Theft Ex Car, where over 97% of victims were New Zealanders. The lower proportion of international tourist victims in the national dataset is consistent with the proportion of international drivers on New Zealand roads being, at any one point in time, smaller than the proportion of international visitors at DOC car parks (Knight et al. 2007).

In addition, of vehicles broken into at DOC sites, rental cars were broken into at higher rates than were found for vehicle break-ins nationally. These vehicles were frequently rented by international visitors. This result by itself does not indicate that international tourists and/or rental vehicles were targeted at DOC sites. Again, it may simply be that international tourists often rented vehicles and liked to visit DOC sites. Thus, while domestic travellers still experienced higher rates of victimisation, international visitors made up a higher proportion of the victims at DOC sites (Knight et al. 2007).

For the DOC sites, just over a third of victims normally resided within the province in which the offence took place, and only slightly fewer than this were international visitors. This contrasts with the findings from the randomised

national sample of all Theft Ex Car offences, where over 90% of victims lived in the same province. This may reflect a pattern of outside visitors being a greater proportion of visitors than residents to the DOC sites (Knight et al. 2007).

According to the analysis of police data, the age of the victim did not seem to be a large factor in the likelihood of being victimised. For data from both the national sample and the DOC sites, the frequency of victimisation gradually decreased with age although, with the DOC sites, there are fewer victimisations in the 16–25 age group than the 26–35 age group, possibly reflecting lower visitor numbers in this age group (Knight et al. 2007). The frequency of victimisation of males was approximately double that of females, and proportionately higher levels of male victimisation occur at DOC carparks than at other carparks throughout New Zealand (Knight et al. 2007).

The Budget Backpackers' survey yielded similar results to those from the analysis of the police data, with higher rates for New Zealanders (4.1%) than international visitors (2.5%). However, this survey recorded higher break-in rates for people travelling in private vehicles (6%) than in rental vehicles (1.7%) (Gordon Cessford, DOC, pers. comm. 2008).

When considering crime experienced by international tourists in general (as measured in the IVS of 2007), none of the international visitors that travelled in a tour group or on a package tour while in New Zealand indicated that they had experienced a crime or attempted crime during their trip in New Zealand. Three percent of those who travelled as fully independent travellers and 2% of those who travelled as semi-independent travellers experienced a crime or attempted crime during their trip in New Zealand (Nielsen 2007b).

In the survey of the general public, overall, younger people (16–29 years) reported experiencing more car break-ins or damage (11–14%) than older people (4–8%), which is consistent with the findings from the analysis of the police data (Thomas et al. 2006).

4.3 LOCATIONS AND TIME OF VEHICLE CRIME

Although a number of DOC 'hotspots' were identified, police records showed that there were very few offences committed at DOC sites, with less than 0.2% of all Theft Ex Car offences nationwide being committed at DOC sites, and other types of offences occurring at even lower rates. Theft Ex Car offending, which occurred much more frequently than any and all other types of offending at DOC sites, averaged less than two occurrences per year across the 5-year period for the identified sites. However, three sites averaged more than 14 occurrences per year (Knight et al. 2006b). In the last year of the study (2005/06), Police records showed that only three sites experienced more than ten occurrences of reported Theft Ex Car: Kaitoke (19), Okere Falls (16) and Raspberry Creek (16) (Knight et al. 2007).

In the survey of the general public, the experience of vehicle crime by region of residence indicated that residents in the upper North Island were more likely to report car break-ins (around 11%) than residents in the South Island (2–8%) (Thomas et al. 2006).

In the survey of recreationists, the sites where vehicle crime occurred most often were in Tongariro/Taupo (four sites in the top nine), Wellington (three sites in the top nine), and Auckland and the West Coast of the South Island (both have one site in the top nine). These findings reinforce respondents' perceptions that the central North Island was risky (Morrison & Kennedy 2007).

The NZAA survey (n.d.) revealed that those who reported experiencing vehicle crime while on holiday had been more likely to experience it when their vehicle was parked outside a residence or in town than in a remote location (65% of the vehicle crime experienced while on holiday occurred in town). The top crime locales were residential (13.4%), motel/hotel (11.9%) and national or regional park (10.3%).

Although the precise time at which a Theft Ex Car offence occurs is rarely known, Police records suggest that, at DOC sites, most were committed between 1200 h and 1800 h (Knight et al. 2007). In nearly 80% of the incidents at DOC sites, the break-in occurred within 3 hours of the vehicle being left by the victim. At the 16 DOC sites studied, there was a strong weekly cyclical pattern in the volume of offences each day, with more offences on Sundays and Mondays (daily variation: 18% each) and fewer on Thursdays and Fridays (9%). In contrast, the results from the random sample of national vehicle crime offences exhibited only slight variation from day to day, with Theft Ex Car offences being roughly equally likely to occur on any day of the week. Nationally, Theft Ex Car offences were roughly equally likely to occur at any time of the year, with a slight peak in the winter. However, Police records indicated that the highest frequency of occurrences occurred in January, followed by April then February. There was less vehicle crime in the late-winter months. These temporal patterns may reflect patterns in visitor numbers at DOC sites over the study period (Knight et al. 2007).

4.4 RISK FACTORS FOR CAR PARKS⁶

As noted earlier (section 2.6.2), there have been several studies of the types of car parks that are most at risk of vehicle crime, although few studies have calibrated the risks for recreation car parks against those for other parking facilities. Many of the risk factors identified by Mayhew & Braun (2004) apply to recreation car parks, including remote location, lack of natural surveillance, longer period of stay, 24-hour facilities, ground-level car parks (rather than multi-storey car parks), car parks without CCTV or adequate lighting, and car parks without security staff.

⁶ This section is based on Mayhew (2008: 8–9).

4.5 PROFILE AND MOTIVATIONS OF OFFENDERS

As noted in section 2.7.1, of the four types of vehicle crime offenders identified by Police (2007a) (Table 4), the first three types of offenders ('opportunistic car thief', 'secondary thief' and 'professional car thief') are involved in thefts of vehicles. The fourth, 'property thief', is involved in thefts from vehicles.

While the categories are not exclusive (individual offenders may cross categories), MacGibbon et al.'s (2008) research based on interviews with those who committed vehicle crime in recreation car parks found that the offenders usually fell into category 4 ('property thief') and category 2 ('professional car thief'). Some offenders were also both category 1 ('opportunistic car thief') and category 4 ('professional car thief') according to the typology (MacGibbon et al. 2008).

Findings from interviews with the 30 male offenders operating in recreation car parks are much in accord the findings from other studies of the characteristics of young vehicle crime offenders (e.g. Light et al. 1993; Farrington 1996; Slobodian & Browne 2001) (summarised in section 2.7.2). Offenders tended to start at an early age, often being 'coached' by more experienced offenders. Peer influence was important, but so too was excitement. Vehicle crime is often financially rewarding and, in time, this often became more of a key motivator than excitement (MacGibbon et al. 2008).

The offenders interviewed identified a number of felicitous factors that led them to commit vehicle crime offences in recreation car parks, which several offenders described as 'easy jobs'. There were five main factors, which were heavily interrelated: lack of security; tourists as productive targets; car park isolation and lengthy periods of uninterrupted access; and high vehicle turnover and offender anonymity.

Vehicle security was perceived as low mainly because of a lack of supervision of vehicles, poor lighting, and the geographic isolation of many popular outdoor recreation locations. Offenders were also aware that they were unlikely to be disturbed. In addition, tourist vehicles would be 'full of stuff', some of it deliberately left behind. Offenders also believed that tourists (in holiday mood) could also be careless, and some offenders felt that they were able to afford to lose their belongings. The constantly changing population in recreation car parks provided thieves with a good turnover of new vehicles as well as anonymity, as they were unlikely to be recognised.

About 75% of offenders planned their outings to recreation car parks, travelled to them specifically (often long distances during the course of their offending; one offender travelled an entire South Island circuit) and had regular routes planned. Some were working 'to order', with other people doing the planning. About 25% of offenders described their offending as being more spontaneous, sometimes arising during ordinary outings. Offenders who planned also seized opportunities when they arose.

Particular types of vehicles were chosen by offenders. The main ones were: tourist vehicles (likely to be the majority in recreation car parks, and seemingly identified the types of items in the car); unlocked vehicles (which were 'asking to be done over'); vehicles with property on display (although many offenders broke in regardless of the visibility of items); vehicles parked in more vulnerable

places (with those under lights at night or in view of passers-by less likely to be targeted); and campervans and rental cars (which were seen as having more valuable belongings). Rental cars were easy to identify by the distinctive location of the Warrant of Fitness sticker (at the centre of the top of the windscreen, as opposed to on the driver's side).

Offenders were able to break into cars and drive them away quickly and easily—or so they claimed. Just over 66% of the offenders claimed that it took them 10–30 seconds, including disarming an alarm. The remainder said that it took no longer than 5 minutes. Virtually all the offenders had taken some kind of tool with them. Many went in vehicles with stolen plates, or in ones where the registration numbers had been disguised. Just over 50% of the offenders said that they had been prepared to wait for an opportunity to break in, often for long periods if there was the need (often there was not). Some simply moved on.

Most of the offenders had established search routines once they had broken into a vehicle. Searches did not seem to take long. If a search was anticipated to take longer than 5 minutes, offenders often drove the car to a 'safer place' and searched it there. Those cars that were stolen (i.e. not just broken into) also tended to be searched off-site.

Offenders stealing from vehicles wanted items that they could sell. This appeared to be easy to do, although often with little financial reward. About 66% of offenders stole smaller items that were able to be carried unseen, and that were easily disposed of for cash. Electronic items were very frequently mentioned. Stereos and speakers also seemed popular, as were wheel rims for some offenders.

Offenders arriving at car parks in their own vehicles simply transferred stolen items to these. Offenders on foot sometimes hid the stolen goods and returned later by car to retrieve them. Beach car parks were the most frequent sites for this, with stolen goods hidden in the sand dunes. If offenders were not able to sell the stolen goods, they gave them away, or destroyed and/or dumped them.

Offenders were asked specifically about four things they did to avoid being caught. Seventy percent offended away from home. Just over 50% used stolen vehicles or put stolen plates on their vehicles when travelling to the car park. More than 33% changed their clothing—often dressing to look like tourists or (if young) like respectable schoolboys. Another 3% hid their face with caps, beanies or hoodies. Some offenders (about 25%) spontaneously mentioned avoiding being seen.

Many offenders stopped offending not because of the threat of custodial sentence, but because of maturity and increased responsibility. Offenders considered that detection rates of vehicle crime were low, and this was supported by analysis of the Police data (Knight et al. 2007), which showed that offenders had been apprehended for only 31 of the 347 Theft Ex Car cases at the DOC sites studied. Some of these cases involved more than one offender. A total of 45 alleged offenders had been apprehended, 25 of whom had been prosecuted.

The interviews with offenders showed some evidence of change in criminal behaviour after the introduction of crime prevention measures. This included offenders often postponing their attempts to break in if daytime patrols were operating, and coming back later when patrols had left and when cameras were less effective (i.e. in the dark). Some offenders moved to new sites after security at their local haunts had been improved. Sometimes, the target of vehicle crime was changed, with easier targets in recreation car parks substituted for more difficult ones.

4.6 TOURISTS AS VICTIMS

According to Police records (Knight et al. 2007), most victims resided outside of the province in which the offence took place; victims were mainly domestic but also international tourists. The main reasons for heightened risks for tourists were listed in section 2.8.2. However, for the reasons presented in section 2.8.3, offenders may have been attracted to the conditions that tourism destinations provide rather than to tourists themselves (Mayhew 2008).

4.7 SUMMARY

- The incidence of vehicle crime known to have occurred at DOC sites was low. However, it is estimated that only about half of vehicle crime offences are reported to the Police. Offences were unevenly spread geographically, and concentrated at a small number of 'hot spots'.
- Much vehicle crime went unreported because the costs involved were below insurance excess limits. There was also a perception that the Police force, given its limited resources, did not consider vehicle crime to be a priority.
- Surveys of international and domestic travellers did not suggest that vehicle crime in outdoor recreation areas was a significant issue.
- Outdoor recreationists recorded the highest rates of vehicle crime—34% had their vehicle damaged while at an outdoor recreation site in New Zealand.
- Domestic travellers experienced higher rates of vehicle crime victimisation than international travellers.
- Compared with resident visitors, international visitors and out-of-town visitors made up a higher proportion of the victims at DOC sites than across the national sample drawn from Police records. This may have reflected the prevalence of outsider visitors to DOC sites.
- The frequency of victimisation decreased with victim age, and the frequency of male victimisation was approximately double that of females.
- Residents in the upper North Island were more like to report car break-ins than residents in the South Island.
- Sites where vehicle crime had occurred most often for recreationists were in Tongariro/Taupo, Wellington, Auckland and the West Coast of the South Island.
- Most offences at DOC sites were committed between 1200 h and 1800 h, with break-ins occurring within 3 hours of vehicles being left by victims. More offences occurred on Sundays and Mondays. January experienced the highest frequency of offences and the late-winter months had less crime.
- The main risk factors for car parks were remote location, lack of natural surveillance, longer duration of stay, 24-hour facilities, ground-level rather than multi-storey car parks, car parks without CCTV and/or adequate lighting, and car parks without security staff.
- Vehicle crime offenders tended to start offending at an early age, with key motivators including financial reward, peer influence and excitement.

- Factors that led offenders to commit vehicle crime were lack of vehicle security, tourists as productive targets, isolation of car parks and lengthy periods of uninterrupted access, and vehicle turnover and offender anonymity.
- Many offenders stopped offending not because of the threat of a custodial sentence, but because of maturity and increased responsibility. Detection rates were considered to be low and this was supported by analysis of Police data.
- The main reasons for heightened risks for domestic and international tourists were that tourists may put themselves in proximity to crime, may frequent isolated locations, may be rewarding targets, may be easy targets, may take fewer precautions, may invite retaliatory crime, and may be less likely to invoke an official response.

5. Impact and effect of vehicle crime

This section explores the tangible and intangible impact and effects of vehicle crime and victimisation on users of DOC recreation car parks and the general public. Media and anecdotal reports as well as personal experiences will impact on how people perceive and experience a place.

5.1 PERCEPTIONS OF VEHICLE CRIME

Findings from a number of the surveys suggest that vehicle crime at outdoor recreation areas was perceived as a serious problem in New Zealand. In the NZAA (n.d.) survey, 93.6% of respondents thought that vehicle crime was a 'very serious' or 'fairly serious' problem in New Zealand, and 81.8% thought vehicle crime at natural outdoor recreation areas in New Zealand was a 'very serious' or 'fairly serious' problem. Fifty-three percent of respondents to the NZAA survey thought that the level of vehicle crime in general in New Zealand had increased 'a lot' in the past 5 years and 26% thought that it had gone up 'a little'. Thus, although almost 50% of the respondents had never experienced vehicle crime, most still believed that it was a significant and increasing problem.

In the survey of recreationists (Morrison & Kennedy 2007), 'vehicle security' was considered by the majority of those surveyed to be a problematic issue at outdoor recreation sites, being rated as either a 'very serious' or a 'fairly serious' problem by 61% of respondents. The next most important issues were 'broken glass in car parks' and 'rubbish or litter'; these issues being rated as 'very serious' or 'fairly serious' problems by 32% and 30% of respondents, respectively. Those who thought that vehicle security was a 'very serious' problem (19%) were significantly more likely to have visited sites in the upper or central North Island and have had their car interfered with. Those who thought that all these things were a problem were more likely to have visited sites in the upper or central North Island and/or have had their car interfered with.

The focus group research (Jeffcoat & Irving 2006) found that the majority of regular and frequent outdoor recreationists agreed that vehicle crime was a significant concern at outdoor recreation sites and that it occurred at the sites that they visited. Other than actually experiencing vehicle crime at these sites, recreationists based this response primarily on: seeing signage at outdoor recreation sites warning users not to leave valuables in vehicles; hearing about friends, friends of friends or family members who had had their vehicle broken into; seeing evidence of previous break-ins (for example, broken window glass in outdoor recreation site car parks); and reading about vehicle break-ins (mainly in local papers).

However, when asked to estimate the actual extent of reported vehicle break-in crime and stolen vehicles at these sites, all of the participants over-estimated this—most by a considerable amount (often five-fold or greater). When presented with the actual number of reported offences, most participants admitted to being surprised, but they also acknowledged that the extent of unreported vehicle

crime was likely to be far greater. In this respect, awareness of the actual number of reported crimes (and the fact that it was lower than they had expected) did not have any impact on their perception of risk (or the need to take precautions when leaving their vehicles). That is, the risk was still considered to be of concern (Jeffcoat & Irving 2006).

5.2 PERCEPTIONS OF WORRY AND SAFETY

The level of worry associated with potentially having a vehicle broken into varied considerably. Vehicle security was a concern to a large proportion of surveyed recreationists (Fig. 6): 91% reported having worried about it in the previous 12 months (Morrison & Kennedy 2007). Worry about having a car broken into while on a pleasure trip within New Zealand in the previous 12 months was of concern to a 66% of respondents to the NZAA survey (n.d.), to 35% of the respondents to the DTS (Nielsen 2007b) and to 18% of the respondents to the IVS (Nielsen 2007a). Similarly, 27% of surveyed backpackers were worried about break-ins, and in the same study, international visitors were found to be more likely to worry about break-ins (Gordon Cessford, DOC, pers. comm. 2008). Respondents to the IVS aged 25–44 years (23%), and visitors from China (33%) and Taiwan (38%), felt the most worried about property being stolen from their vehicle. German visitors were the least likely to be worried about property being stolen from their vehicle, with only 8% indicating that they were worried.

Some of these apparently inconsistent findings on the level of worry may be attributed to the different populations sampled (e.g. domestic v. international travellers) and the style and structure of research questions and methodology. However, it is clear that a large proportion of travellers worry about vehicle crime while on recreational trips.

In terms of how often users of recreation car parks experience feelings of worry (Fig. 7), the NZAA (n.d.) survey found that only 16% of respondents worried most or all of the time and 46% worried 'a fair bit' or 'only now and again'. Similarly, the IVS (Nielsen 2007a) also showed that most people did not worry all the time: 65% of respondents who worried about property being stolen from their vehicle were worried 'some of the time', while 27% were worried either 'most' or 'all of the time'. The survey of recreationists (Morrison & Kennedy 2007) found the highest levels of quite frequent worry (56%), with 18% of the respondents worrying 'all of the time' and 38% worrying 'most of the time'. A further 43% worried only 'sometimes'. The DTS (Nielsen 2007b) also found high levels of 'worry' with half of the respondents worried about property being stolen from their vehicle some of the time and 42% were worried either most or all of the time.

While all of these surveys showed that a sizeable proportion of respondents worried quite frequently about the safety of their vehicle, the findings from some of the surveys suggested that the intensity of the concern is relatively low for many people. The NZAA (n.d.) survey found that 29% worried 'quite a lot' or 'very much' and 32% worried 'only a little'. Even more striking, 80% of respondents to the IVS who were worried about property being stolen from their vehicle were not 'very worried' or 'a little bit worried' on the last occasion they could recall. However, the exception was recreationists—among those who worried, 44% reported being either 'very worried' or 'quite worried' (Morrison & Kennedy 2007).

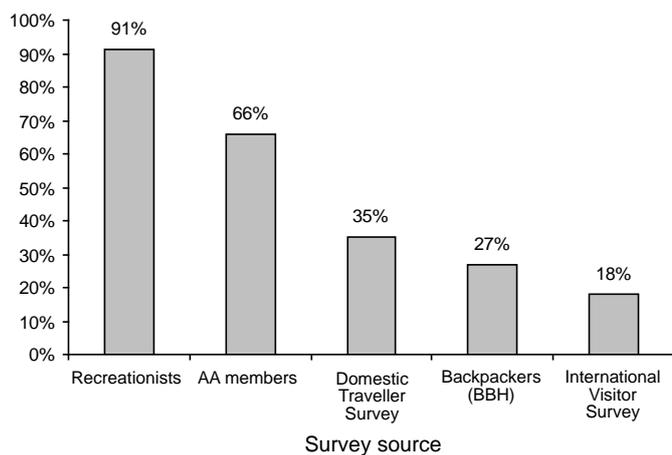


Figure 6. Percentage of participants reporting that they had worried about vehicle crime.

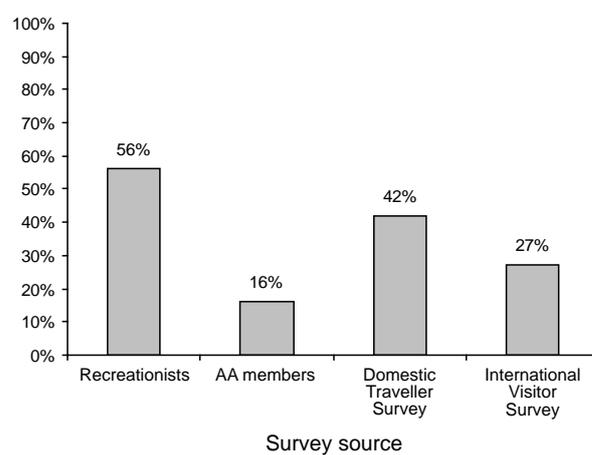


Figure 7. Percentage of respondents who were worried 'most of the time' or 'all of the time' about vehicle crime.

Thus, we can conclude that although many people who were concerned about property being stolen from their vehicle were frequently worried, their intensity of worry was often quite low. Recreationists appeared to be an exception, as they exhibited a higher intensity of concern, possibly because they were active users of these places and the potential risk felt more 'real' to them.

The focus group research (MacGibbon 2008) found that a key factor for people's anxiety about vehicle crime was how important their car was to them. Having children, family members with disabilities, and the need to move a family around increased the degree to which people were aware of the risk to their vehicles. Personal understanding of safety and security also shaped perceptions of risk. Some participants, particularly women and some families with young children, perceived vehicle crime as a threat to their personal safety. The focus groups found that very few people's perceptions about vehicle crime were shaped by the national media, which they believed were interested only in stories of international tourists and vehicle crime. However, some people said their views of vehicle crime were influenced by their local newspapers, which gave a weekly or monthly round-up of crimes in their area (MacGibbon 2008).

In terms of demographics, the NZAA (n.d.) survey found that those who worried more appeared to have experienced vehicle crime, were less likely to be insured, had a lower household income and were older. This differed from the DTS findings (Nielsen 2007b), which found male respondents, respondents aged 25–44 years and New Zealand Māori respondents were more likely to have felt worried about property being stolen from their vehicle. From the recreationists' survey (Morrison & Kennedy 2007), those who have been worried were significantly more likely to have been aged 50–59 years, male, visited sites in the upper or central North Island, and had their car interfered with.

The DTS (Nielsen 2007b) also asked about feelings of safety, and the majority of respondents (90%) felt safe while on domestic recreational trips in the previous year. However, those respondents who had directly experienced a crime or attempted crime during a recreational trip in the previous year were more likely to feel unsafe during recreational trips—8% of those respondents said that they had felt unsafe (either 'fairly unsafe' or 'very unsafe'). Only 3% of the respondents

who had not experienced a crime in the previous year said that they had felt unsafe. The survey found that older respondents (aged 65 years and over) felt less safe and were more likely than any other age group to feel unsafe (either 'very unsafe' or 'fairly unsafe'). The results from the DTS also indicated that females were more likely than males to feel unsafe, and Pacific Island people were more likely than people of any other ethnicity to feel unsafe.

New Zealand was considered to be a 'very safe' or 'fairly safe' tourist destination by 94% of respondents to the IVS (Nielsen 2007a). Only 1% of respondents felt that New Zealand was an unsafe ('very unsafe' or 'fairly unsafe') tourist destination. However, those respondents who had directly experienced a crime or attempted crime on their trip in New Zealand were more likely to feel that New Zealand was an unsafe tourist destination. There were no significant differences in feelings of safety between respondents of different gender, age group or country of permanent residence.

Thus, there appears to be some link between feelings of safety and experiences of crime across the surveys.

When analysing findings about the level of worry and perceptions of safety, it is important to be aware of the academic debate that levels of fear of crime have been exaggerated by the inappropriate use of the survey as a measurement tool and that, in fact, experiences of fear and anger are less common than reported (Farrall 2004). Thus, although people may feel fearful or angry, Farrall (2004) contends that the very act of being surveyed about the feelings concerning crime can make people exaggerate them and that people report on the most serious extent of their fears rather than the most common or typical. A similar argument could be constructed around questioning the level and nature of worry and feelings of safety and, in fact, some degree of wariness has a beneficial effect in encouraging people to take sensible precautions (as noted earlier in Mayhew 2008: 19). The benefits of having a certain level of concern and wariness are reinforced in Mossman's (2008) study of victim accounts. Mossman (2008) concluded that there were two groups of email respondents: those who were aware of the risk of vehicle crime and those who were taken by surprise. Those who were aware were more likely to feel a degree of personal responsibility for being a victim, apparently because they thought that they could or should have done more to protect themselves. International tourists were seen to be a group with the least awareness and one that typically perceived New Zealand as a safe place to visit. An individual working at a visitor information centre described them as having 'misplaced' trust in their safety in New Zealand (Mossman 2008).

Barker's (1999) study of domestic and international visitors to Christchurch and Queenstown also reinforces the notion that visitors have a high level of (potentially misplaced) trust in their safety in New Zealand. New Zealand was seen as the safest international tourist destination, ahead of a large number of other countries. Six out of ten travellers considered New Zealand to be 'very safe' (the highest rating for all countries), while 97% believed safety in New Zealand was average or above average. International tourists rated safety higher than domestic tourists did. The most important New Zealand attribute was seen to be 'nice scenery', but this was closely followed by 'safety and security', which was most important with older and less-experienced tourists, and those travelling in groups. 'Safety and security' was seen as a function of several things, the most important being friendly people, 'good lighting', clean and well-kept facilities and the presence of other people.

5.3 PERCEPTION OF LOCATION

The NZAA (n.d.) survey asked respondents if they avoided going to places because of the perceived risk and 80% of respondents said that they did. Of the suggested places where they avoided parking, 32% nominated walking tracks at remote national or regional parks. There was a high degree of anxiety about parking at the start of a walking/tramping track during the day, and especially if it involved leaving a vehicle there overnight. Respondents regarded the latter as especially high risk. More specifically, the highest risk was attributed to 'overnight at the start of a walking/tramping track' (82%), followed by 'during the day for several hours at the start of a walking/tramping track' (56%), during the day for several hours at a tourist attraction (44%), during the day for several hours at a local park (27%), and overnight on the street outside the home (23%). Thus, while those who had experienced a vehicle crime at a natural outdoor recreation area naturally classed this as a high risk area, so too did everyone else. It would be useful to further explore why national or regional park car parks have evoked such an anxiety.

In the focus group research (Jeffcoat & Irving 2006), it was acknowledged that there were certain clues that can alert visitors to the fact that some sites may be riskier than others, and that these clues can have an impact on enjoyment of that site. These included signs warning of the risk of vehicle crime (for all outdoor recreationists, signage of this nature sent a strong signal that a particular area was a high risk site) and visible evidence of previous break-ins (i.e. broken glass—the majority of people had seen broken vehicle window glass in the parking areas of the outdoor recreation sites that they visited regularly). Another high-risk site clue was how open and light the car parking area was. There was a perception that the more shaded the area (and the greater the number of overhanging trees), the more one's vehicle was at risk. Some participants said that they had been alerted by groups of people loitering or sitting in their cars. Similarly, some respondents in Mossman's (2008) analysis had taken note of certain cues as warning signs (e.g. DOC signs) and broken glass.

In terms of actual sites, few focus group participants were able to identify notoriously 'bad' sites for vehicle crime. Rather, people tended to talk in sweeping generalisations such as: 'the further South you travel, the less risk of vehicle crime'; 'Northland is a bad area for vehicle crime'; and 'Rotorua is a bad area for vehicle crime' (Jeffcoat & Irving 2006: 20).

In the recreation survey (Morrison & Kennedy 2007), respondents were asked which regions they believed to be most problematic for vehicle security at outdoor recreation sites. Thirty-six percent believed that the central North Island and Northland (30%) were risky, with 19% nominating Auckland. It is interesting to compare these responses to the percentages of respondents who visited each region for outdoor recreation. The number of respondents who considered Northland to be risky was greater than the number that had actually visited the region, while the opposite was true for many other regions, particularly in the South Island. While the central North Island was considered to be risky by more respondents, the percentage was proportional to the number who visited the region for outdoor recreation. The survey of DOC staff to identify key vehicle crime 'hot spots' revealed that they shared this perception, and staff identified proportionately more problem areas in the North compared with the South (refer to Appendix 1).

Thus, many people considered recreation car parks to be risky places in general—even if they did not visit these places. Northland, in particular, is a specific example of an area that featured as an unsafe place, even if respondents had not visited the region. Again, it would be useful to explore why DOC's car parks in general, and those in Northland in particular, evoked such strong feelings amongst respondents when, according to Police data, these places did not experience high levels of vehicle crime.

In the focus groups, there were mixed views on whether more- or less-isolated sites were more or less risky. Many people visiting particularly remote sites felt that their vehicles would have been safer, primarily because vehicle break-in crime at outdoor recreation sites was viewed as an opportunist activity (and, by many people, as a 'local' activity). In other words, there was a perception that the vehicle crime offenders simply would not visit more remote sites to commit their crimes (Jeffcoat & Irving 2006).

There were also mixed views from participants on whether more- or less-crowded sites were more or less risky. There was a perception that less busy sites may be higher risk sites for vehicle break-in crime (simply because there may not be a high turnover of visitors and, therefore, less surveillance and plenty of opportunity for the vehicle criminals). However, there was also the view that busy sites with a high turnover of visitors may also be high risk sites because vehicle crime offenders may be able to commit the crime undetected (i.e. they might gain anonymity amidst the visitors coming and going) (Jeffcoat & Irving 2006).

Mayhew's (2008) literature review refers to Barker's (1999) sample of tourists in New Zealand, in which 25% were able to specify what they had felt (in advance) was an unsafe location. Of these, 4% mentioned track car parks (1% of the sample as a whole), as against 23% mentioning Auckland. When asked about places in which they had actually felt unsafe, 8% mentioned a remote area.

5.4 IMPACT OF VEHICLE CRIME

It is also important to consider the financial and emotional impact of vehicle crime on those who experience it. In the NZAA survey (n.d.), for those who reported that crime had affected them, the most common impacts were: having to pay for some or all of the repair and/or replacement costs (65.2%), losing items of sentimental value that could not be replaced (24.9%), or the fact that it had ruined the rest of the trip (20.5%).

Likewise, focus group participants' (Jeffcoat & Irving 2006) attitudes about vehicle break-in crime ranged from the particular crime being an inconvenience or a hassle through to it being considered a personal violation. For most people, however, the major issue with vehicle break-in crime was the time required to deal with its consequences—for example, contacting the Police and/or insurance companies, cancelling and re-ordering credit cards and replacing stolen mobile phones. While most people acknowledged that there was an emotional impact of vehicle break-in crime, the emotional aspect tended to come third behind the inconvenience/time aspect and the financial aspect. The main emotion experienced by people who had been victims of vehicle break-in crime was anger—both with having to deal with the consequences and with the fact that some other person had cost the victim time and money and had taken something they may have worked hard to obtain.

Mossman's (2008) review of victim accounts indicated that handbags, wallets, cameras, binoculars and clothing were the most commonly reported items taken. The value of possessions taken from vehicles varied greatly. However, even in incidents in which nothing was taken, there were usually costs involved in repairing the vehicle (broken locks and windows). In one case, a car was so vandalised that it was considered a write-off by the insurance company. In other cases, it was not the monetary value of possessions that were the main concern but their sentimental value (e.g. photos and gifts).

Mossman's (2008) analysis of victim accounts highlighted a range of negative impacts, the majority of which fell into one of six categories: the inconvenience/hassle caused; financial loss; negative emotional impacts; damage to the reputation of New Zealand and its citizens; ceased or limited subsequent participation; and reduced enjoyment for those who continued to participate. The inconvenience and financial impacts identified were the same as those identified by the focus groups (see above). There were also indirect costs involved with taking preventative measures to avoid similar events in the future, such as buying crook locks, installing alarms. A fairly common measure was to use shuttles to avoid leaving the car in a recreation car park; but again, this came at cost. As for the focus groups, Mossman's respondents also noted negative emotional impacts, which included experiencing depression, anger, feelings of resentment, violation and disappointment. Some of these impacts were short term, other were more lasting. There were also several respondents who suggested that the experience of vehicle crime had resulted in the victims forming more of a negative view of New Zealand and/or its citizens.

There was general agreement among focus group participants that the extent of vehicle crime was considerably worse in urban areas than at outdoor recreation sites. However, the inconvenience was generally felt to be greater at outdoor recreation sites because the sites may be isolated and immediate assistance may be difficult to get (if required); being stranded (because the vehicle has been stolen) may be more problematic; and, related to these two points, there may be no cell phone coverage. People visiting outdoor recreation sites with children, and women on their own, considered the relative isolation to be a major potential problem if their car were to be broken into or stolen.

Mossman (2008) concluded that the most devastating effects appeared to be on tourists, partly because of their high dependency on items stolen (e.g. medication, money) and partly because they had greater difficulties, compared with resident victims, in replacing the stolen items. A worker in victim support commented on the 'hassle' tourists faced, particularly in replacing medications (with visits to doctors/hospitals often necessary) and travel documents (passports, tickets, pre-paid package deals etc.); and coping with having no clothes or toiletries, losing contact names and addresses, and irreplaceable items such as photos (Mossman 2008). When assisting tourists, a particular difficulty for the victim support worker was dealing with overseas bureaucracy and the time delays arising from victim's banks and insurance companies operating in different time zones. The tourists themselves resented the time taken to 'sort out' things, as it cut in to their valuable and limited vacation time (Mossman 2008).

Mayhew (2008) also suggests that victimised tourists are likely to be more upset than victimised residents. They will be more isolated from informal support, and be less knowledgeable about how to access help from formal agencies. Mayhew (2008) refers to a study by Jones & Mawby (2003), who found that a higher proportion of domestic tourists in the UK who were victims of vehicle crime were 'very much' or 'quite a lot' affected than was the case for equivalent victims in the British Crime Survey.

5.5 REACTIONS TO VEHICLE CRIME

The research considered whether fear and worry about specific places translated into respondents avoiding places or changing their behaviour when they visited those places.

NZAA members were asked whether they avoided parking at a particular type of place because of vehicle crime (NZAA n.d.) and 80% of respondents said that they avoided certain places. When asked to nominate places, those characterised as 'dark' were the most common. When specific options were suggested, walking tracks at remote national or regional parks were the most frequent places the respondents avoided. It is important to note that the places nominated by respondents were overwhelmingly urban, reflecting the day-to-day experience of most NZAA members. However, 63% of responding NZAA members said that they avoided walking tracks at remote national or regional parks because of concerns about parking security.

Respondents to the general public survey of barriers to participation (Thomas et al. 2006) were asked whether there were any particular outdoor places they would have liked to go, but avoided. A total of 348 (25.6%) of the 1358 currently active respondents said that there were places they avoided. Examples of the many types of places avoided included: beaches, parks, mountains, isolated places and crowded places. The most frequent reasons mentioned for avoiding such places included security concerns and undesirable people being there (18.4%), too many people (10.6%), a disability or health reason (9.8%) or risks of car thieves or vandals (5.5%). Participants engaged in scenic drives, swimming and fishing were most likely to avoid certain places. In contrast, those engaged in camping, walking or skiing were least likely to avoid places. Women were more likely to report personal security as a reason for avoiding places than were men. Men were more likely to report 'too many people' and 'environmental hazards' as reasons for avoiding places compared with women. Relatively more people in the 20–49 year age group reported personal security as a reason for avoiding places, while older people were more likely to report health or disability reasons and the risk of vehicle crime as reasons for avoiding places (Thomas et al. 2006).

More specifically, respondents to the recreationists' survey (Morrison & Kennedy 2007) were asked whether there were any recreation sites that they generally considered too risky to leave their vehicle at. Seventy-two percent believed that there were risky sites, and specific sites were typically found in the regions perceived as being risky in other studies (Central North Island, Northland, Auckland, Bay of Plenty). Tongariro/Taupo was noticeably prominent on the list.

Thus, although some people avoided specific places because of vehicle crime, many still continued to visit places after they had been victims of crime or even if they perceived a risk of crime. The general public survey (Thomas et al.

2006) found that 68% of active participants went back to an area where they had experienced crime (often commenting that they took extra precautions), 19% said that they did not go back to that location because of the break-in or vandalism, and 9% said that they did not go back for reasons other than the break-in.

Similarly, a key theme that was consistent throughout the focus group research was that many outdoor recreationists were unwilling to sacrifice their outdoor recreation experiences to the risk of vehicle crime (break-in or otherwise). This does not mean that participants placed less value on their vehicles or the items within them. Rather, there was an acceptance of the risk and that sensible people would do everything possible, at the site, to reduce that risk (Jeffcoat & Irving 2006). A key finding from the focus groups was that crime in general was accepted as a reality of modern day life in New Zealand, and there was an understanding among participants that individuals need to take as many precautions as they are able to reduce the risk of becoming victims of crime (Jeffcoat & Irving 2006).

According to the report (Jeffcoat & Irving 2006: 5):

Despite there being an 'acceptance' of risk however, vehicle crime is still the number one issue for people who visit outdoor recreation sites. This is clearly evident given peoples' behaviour at these sites—which includes where they park, hiding any valuables, 'thinking' about the possibility that their vehicle may have been broken into when walking away and back to their vehicle (and for some, during their entire outdoor recreation experience) and being aware of previous break-ins by noticing signage and broken glass.

Another key finding from the report (Jeffcoat & Irving 2006: 14) was that:

A minority of people did however confess to being concerned about their vehicle for much of the time they are at an outdoor recreation site—the rest admitted to being aware of the potential risk just after they leave their vehicle and also on the way back to their vehicle.

In terms of actual actions taken by visitors to prevent vehicle crime, in the NZAA survey (n.d.), 96% of respondents said that they always locked the doors and the boot and 81% said that they always hid all valuable items. However, 12% of respondents always left someone with the vehicle when it contained valuable items which could not have been hidden, 1% removed vehicle parts to prevent the vehicle being driven away, 4% arranged to be dropped off to avoid leaving the vehicle at certain places, 3% stayed for less time that they would have liked because they thought that their vehicle was not safe in the car park and 3% took a less-valuable vehicle so that any break-ins and thefts would not have mattered so much.

The most common action always undertaken by surveyed recreationists was using additional security (e.g. a steering wheel lock) (25%), followed by avoiding unsafe places (16%). Many respondents also indicated that they 'sometimes' were dropped off by friends, relatives or club members (67%) or commercial operators (60%), and 57% of respondents avoided leaving vehicles in unsafe places. Precautions least likely to be taken were changing or shortening plans (62% never did this), not staying overnight (55%) and using additional security (53%) (Morrison & Kennedy 2007).

Everyone taking part in the focus group research (Jeffcoat & Irving 2006) took the same key steps when visiting an outdoor recreation area: taking as little as possible with them on their journey from home; taking valuables/general belongings with them (where possible and convenient to do so); hiding valuables/belongings in the glove compartment of the vehicle; hiding valuables/belongings in the boot of the car (including vehicle stereos); covering valuables/belongings up; parking in a well-lit area (i.e. one with no overhanging trees); parking in an area visible to the road or to other outdoor recreationists. Doing these things was considered to be a normal aspect of visiting an outdoor recreation site. Other general measures taken to protect the vehicle included the use of steering locks, the use of car alarms, and dismantling certain parts of the car so that it could not be driven away (a minority of cases only).

Respondents in Mossman's (2008) analysis of victim reports offered their thoughts on how individuals could decrease the risk of being a victim of vehicle crime. These included: leaving the car empty, and the drawers and glove box open; having a car alarm fitted; hiding valuables in the bush away from the car; being aware of who else is in the car park and might be watching; and avoiding leaving the car unattended or, for longer trips, arranging to get dropped off and picked up.

Across all of the findings, it appears that the more extreme the precautions, the less likely they were to be adopted. Table 6 identifies the range of actions different types of visitors may take to prevent vehicle crime.

While the researchers found that their participants acknowledged the risks of vehicle break-in and took precautions, they were also quite committed to ensuring their recreation experience was enjoyable:

Outdoor recreationists say they do everything they can possibly do to mitigate the risk that their vehicle will be broken into or stolen, but they will not allow their enjoyment of outdoor recreation and specific sites to be impacted upon. Nor will frequent outdoor recreationists allow the risk of vehicle crime to prevent them from doing the things they enjoy. This does not necessarily mean that people are 'accepting' of the risk of vehicle crime, rather there is a perception that there is little that can be done to prevent it (they can only risk mitigate). While not visiting these sites because of the risk of vehicle crime is not considered an option, vehicle crime does however have a major impact on what people feel they have to do once they arrive. (Jeffcoat & Irving 2006: 14)

5.6 BARRIER TO PARTICIPATION?

A key concern for this research was whether the risk and fear associated with vehicle crime is a barrier to visiting outdoor recreation sites. The general public survey to explore vehicle crime as a barrier to enjoyment and participation at outdoor recreation destinations (Thomas et al. 2006) found that the most common constraints reported for starting or doing more outdoor activities were lack of time, weather conditions, the costs of doing the activity, having a disability or health problem, and the activity not being suitable for young children. When asked to identify barriers to visiting, safety of vehicle was not an issue. Safety of vehicle/belongings in vehicles was more a concern once participants were at the site (refer to previous section).

TABLE 6. VISITOR ACTIONS TO PREVENT VEHICLE CRIME.

TYPE	IS VEHICLE CRIME CONSIDERED A PROBLEM?	ANXIETY	BEHAVIOUR
Ignorant	No	Nil	No action
Oppositionist	No	Nil	No action
Pragmatist	Yes	Low	Common sense—'lock it or lose it'
Mitigator	Yes	Low	Adapt parking choices, glove box open, alarm
Innovator	Yes	Med-High	More extreme precautions, adapt vehicle choices, remove parts
Avoider	Yes	High	Avoid destinations reputed to be 'dodgy'

Thomas et al. (2006) found that, while vehicle break-in crime was a consideration for many people who chose to participate in the outdoors, it was not a barrier to that participation for the majority of people, including frequent outdoor recreationists who have experienced vehicle crime. Nor was it a barrier to participation to other outdoor recreationists (frequent or otherwise) who had only seen evidence of vehicle crime (including broken glass and signage warning of the risks).

The considerations for choosing to not visit sites were practical in nature (most people were able to answer this question only with respect to sites in general rather than for specific sites) and included the weather at the time, the distance to the outdoor site, the cost of petrol, suitability for children, and whether or not dogs are permitted. For most participants, the risk of a vehicle break-in or the general safety of their vehicle was mentioned as something that 'annoys' or 'can concern' them, not as something that would have prevented them from visiting an outdoor recreation site (Thomas et al. 2006).

However, as for safety concerns, concern about the risk of vehicle crime was identified as a major concern (or at the very least a major frustration) for people once they had arrived at outdoor recreation sites. The fact that respondents felt that they had to undertake certain behaviours (for example, hiding their belongings) indicated that vehicle crime was an important consideration for them once at the site (Thomas et al. 2006).

In the focus groups (MacGibbon 2008), approximately 10% of participants stated that the risk of vehicle crime while using outdoor recreation sites did not diminish their enjoyment in any way. Some seemed surprised that vehicle crime was something others worried about. However, for most participants, the possibility of vehicle crime at recreation sites was something that did detract from their experience, particularly when they viewed the outdoors as somewhere to get away from the stresses of everyday life.

Participants differed in the extent to which fear of vehicle crime impacted on their use of outdoor recreation sites. However, most who were currently actively using the sites said that their perceptions about vehicle crime would not prevent them continuing to use them. Frequent users of remote sites were the least likely to curtail their activities as a result of fear of vehicle crime. They needed to use their vehicles to get to the remote places, they took precautions such as

locking their vehicles, leaving them in as safe a place as possible, and not leaving valuables in their cars. Thus, the risk of vehicle crime was not a barrier to their planned activities (MacGibbon 2008).

Some focus group participants said that the risks of vehicle crime would not prevent their use of outdoor recreation sites, but might limit their activities. For example, they left their car for a short period, or during the day, but not overnight (MacGibbon 2008).

For active recreationists, fear of vehicle crime at a particular site could result in them choosing an alternative site. Active recreationists who had been victims of vehicle crime all said that they were more aware of the need to take appropriate precautions, but that their experiences of vehicle crime would not prevent them from taking part in outdoor recreation although, again, they might choose a different site (MacGibbon 2008).

The fear of vehicle crime had the greatest impact on former users and non-users of recreation sites, with 58% of relevant focus group participants perceiving vehicle crime as a barrier to them using outdoor recreation sites. This group included people who had not been victims of vehicle crime, as well as those who had. Fear of vehicle crime was also a barrier to participation for some people who used busy recreation sites. Some people who drove into a recreation site car park and saw broken glass on the ground were not prepared to take the risk of leaving their car (MacGibbon 2008: ii).

Mossman's (2008) analysis of victim accounts also found that, for many victims, the fear of vehicle crime limited their ongoing use of the outdoors. Many international tourists who responded signalled that they were reluctant to return to New Zealand, and many New Zealand recreationists indicated that they had ceased being active or had become selective in the location and type of outdoor recreation activities. Several of those who continued to participate mentioned that the fear of being a repeat victim of vehicle crime detracted from their enjoyment. However, there was a small group of individuals who appeared more resilient, determined not to let this type of crime impact on their use and passion for the outdoors. Of those who had chosen to continue to participate, their level of enjoyment was impacted by their fear of being re-victimised. There were a number of accounts of how the possibility of vehicle crime had clearly detracted from their level of enjoyment (Mossman 2008).

However, Mossman's (2008) analysis is focused on a small number of victim case studies and the fear of vehicle crime in recreation car parks did not severely impact on all international tourists' enjoyment of New Zealand and potential to participate in outdoor recreation, as the results of the IVS show (Nielsen 2007a). Ninety percent of the respondents to the IVS who experienced a crime or attempted crime while on their visit indicated that they would visit New Zealand in the future, but only 81% of those who did not experience a crime indicated that they would return to New Zealand. This indicates that, for many tourists, experiencing a crime or attempted crime was not a deterrent from visiting New Zealand again and potentially participating in the outdoors.

5.7 SUMMARY

- Many people still believe that vehicle crime is a serious and increasing problem, with most research participants over-estimating the actual extent of reported vehicle crime.
- A significant number of visitors worry about vehicle crime while on recreational trips. Although many people who were concerned about property being stolen from their vehicle may have been frequently worried, for many people, their intensity of worry was often quite low. Recreationists were the exception, as they exhibited higher levels of intensity of concern, possibly because they were active users of these places and the potential risk of victimisation felt more 'real'.
- There appeared to be some link between levels of perceived safety and previous experiences of crime.
- International tourists were seen to be the group with the lowest level and frequency of concern and worry, and they often appeared to have 'misplaced trust' in the safety of New Zealand.
- There was a high degree of anxiety about parking at the start of a track during the day, and especially overnight. Respondents considered national parks to be risky places in general, even those who did not visit these places.
- There are certain clues that can alert visitors to the fact that some sites may be riskier than others and these clues can have an impact on enjoyment of that site. These include signs warning of the risk of vehicle crime, visible evidence of previous break-ins, a 'closed' and/or poorly-lit car parking area and groups of people loitering.
- More respondents considered Northland to be risky to visit, while the opposite is true for many other regions, particularly those in the South island. While the central North Island was considered risky, the percentage of visitors feeling that way was proportional to the number who visited the region for outdoor recreation.
- The emotional impact of vehicle crime came third behind the inconvenience/time impact and financial impact. The inconvenience was generally felt to be greater at isolated outdoor recreation sites.
- Victims reported a wide range of impacts, some of which were relatively short term; others were longer lasting. Tourists seemed to suffer the most severe consequences, partly because of their high dependency on the items stolen and partly because of increased difficulties in replacing them when away from home.
- Some respondents said that they would avoid walking tracks at remote parks because of concerns about parking security. However, many people continued to visit places even if they perceived a risk of crime.
- Recreationists were unwilling to sacrifice their outdoor recreation experiences to the risk of vehicle crime. Rather, there was an acceptance of the risk and participants said that they did everything possible to reduce the risk.
- Common actions to prevent vehicle crime included locking the doors and the boot, hiding or taking valuable items, using additional security (e.g. car alarms, a steering wheel lock) and avoiding unsafe places. The more extreme the precautions, the less likely they were to be adopted.

- Concern about vehicle crime was not a barrier to participation for users of outdoor recreation sites, particularly users of remote sites. It was, in contrast, a significant barrier to participation for former and non-users of outdoor recreation sites and former victims of vehicle crime.
- Experience of and perceptions about vehicle crime restricted the places some people went to, and the type of activity they undertook.
- Vehicle crime was identified as a major issue or concern for people once they arrived at an outdoor recreation site. For some people, this had a significant negative impact on their overall experience at that site.
- Experiencing a crime or attempted crime did not appear to be a deterrent from visiting New Zealand again for most international visitors.

6. Best practice solutions to reduce vehicle crime

6.1 GENERIC CRIME PREVENTION STRATEGIES⁷

There is a plethora of classifications of crime prevention strategies. Linden (2007) provides a relatively simple classification that includes the following: social development programmes, community crime prevention, police programmes, and situational crime prevention.

Essentially, the social development approach to crime prevention tries to tackle the risk factors that are predictive of individual involvement in delinquency and criminality. Examples are programmes that teach parenting skills, provide educational programmes for at-risk youth, and employment programmes for adult offenders.

Community crime prevention is a somewhat loose term for a wide variety of programmes. Some initiatives use communities to bring about change; some are simply based in communities. Hope (1998) sees community crime prevention as action that tries to change the social conditions that sustain crime in residential areas, concentrating on the activities of local social institutions that bring together people within communities to transmit guidance and regulation of behaviour. The focus of action has typically been on high-crime, multi-problem communities, characterised by either concentrated poverty, or pockets of inequality within otherwise 'gentrified' areas. However, this is not the only thrust. Community crime prevention also encompasses initiatives that have typically taken better hold in more stable communities—Neighbourhood Watch, for example, or residents' patrols.

The Police mount several proactive initiatives to prevent crime. Examples are visible Police patrols in high-crime areas, targeting crime 'hot spots' and known persistent offenders, and community policing (to improve Police-public relationships and the information flow from the community to the Police).

The situational crime prevention approach focuses on the criminal event, aiming to reduce crime by increasing the risks of detection and decreasing the rewards of committing crime. It can broadly be described as a way of making crime more difficult, more risky, less rewarding or less executable (see, for instance, Clarke & Homel 1997).

6.2 STRATEGIES TO REDUCE VEHICLE CRIME

The main strategies for reducing vehicle crime focus on increasing vehicle security, reducing the attraction for offenders, raising the awareness of potential victims, and improving the safety of parking locations. This section reviews the nature and effectiveness of various approaches to reduce vehicle crime.

⁷ This section is taken from Mayhew (2008: 8-9).

6.2.1 Vehicle security⁸

Manufacturers have been building-in better vehicle security to improve their competitive advantage. Getting vehicle owners to improve the security of older, existing vehicles, in contrast, has been less successful, with owners seemingly unenthusiastic about incurring the costs of installing preventative devices (e.g. Mayhew 1990).

In New Zealand, one thrust of the Vehicle Crime Reduction Programme (VCRP; released in January 2005) is to increase the security of cars through compulsory 'whole of vehicle marking' (WOVM)⁹ and compulsory immobilisers¹⁰. This is a vehicle-focused approach to make vehicles harder to modify and resell (WOVM) and harder to drive away (immobilisers). Although there were plans to implement WOVM and the compulsory fitting of immobilisers (at the time this report was drafted), these initiatives are not yet in place.

Another thrust of the VCRP in New Zealand—the Enhanced Vehicle Deregistration System—can also be seen as a vehicle-focused measure, aiming to make it more difficult for criminals to use registration plates and vehicle identification numbers (VINs) from deregistered cars.

Yet another vehicle-focused approach is advertising the different risks that various makes and models have of being broken into or being stolen. Joyriders, for instance, prefer fast, 'racy' cars, while professional thieves look for expensive cars that can be exported, or older ones that they can convert. The USA, UK and Australia each have a Car Theft Index. Australia bases its Index on statistics compiled by the National Roads and Motorists' Association (NRMA). The main preventative gains that publicising the risks of particular vehicle makes and models offers is that people buying new vehicles are inclined towards models less vulnerable to vehicle crime, and that manufacturers take heed of this when designing new vehicles.

According to Mayhew (2008), there is now sound evidence that older cars are at higher risk of being stolen and broken into than newer cars, which are better fitted with security devices such as alarms and immobilisers (e.g. Kinshott 2001). The interviews with offenders also indicated that newer cars with increased security features posed more of a challenge (MacGibbon et al. 2008).

6.2.2 Offenders¹¹

The thrust of offender-focused initiatives is to reduce the motivation to offend through increasing penalties or the certainty of arrest. Initiatives that appreciably increase the risks of apprehension and conviction might well be beneficial but, in practice, they are difficult to deliver. Increasing the severity of sentences for vehicle crime, for instance, compromises general sentencing tariffs. Substantially increasing the risk of detection also clearly requires a great deal of additional

⁸ This section is based on MacGibbon et al. (2008) and Mayhew (2008).

⁹ WOVM involves spraying a unique identity number in thousands of places throughout the vehicle. It aims to reduce opportunities for car thieves to conceal the true identity of a stolen vehicle, and to limit the market for stolen vehicle parts.

¹⁰ Electronic immobilisers deactivate a vehicle's engine, making it difficult to start without a key. The Compulsory Vehicle Immobiliser programme is currently being developed by the Ministry of Transport.

¹¹ This section is based on MacGibbon et al. (2008) and Mayhew (2008).

effort, given the currently low detection rates. Marginal increases in the risks of detection might well go unnoticed, or ignored by offenders. Much research suggests that offenders tend to think that they are largely immune from being caught (e.g. Light et al. 1993; Clarke 2002), and the interviews with offenders referred to in this study do not contradict this perception.

6.2.3 Potential victims¹²

The main strategy here is to get vehicle users to take better precautions, by locking their vehicles, hiding valuables from view or removing valuables altogether. This is a comparatively easy approach to deliver, but has not been subject to much careful evaluation. This said, two evaluated publicity initiatives focused on car owners in the UK were not shown to have had any effect (Riley & Mayhew 1980), although a campaign in New South Wales by the NRMA was seen as having at least a temporary positive effect (Monaghan 1989). One limitation of initiatives that aim to increase the vigilance of vehicle owners is that vehicles are generally easy to break into and, even if offenders find nothing to steal, the vehicle may still be damaged.

6.2.4 Parking locations

There are a number of initiatives involving modification of parking environments to make vehicle crime more difficult to commit and to heighten the risks of detection. Building on the information in section 2.6.2, each car park has a number of characteristics that make it more vulnerable to incidents of vehicle crime. These include the accessibility of the car park, the number of routes to the car park, the number of vehicle crime incidents as a proportion of the number of vehicles parking there, and public perception of the car park's safety (Jakob-Hoff & Postlethwaite 2007b).

Improvements to the design and management of car parks have tended to be based on the principles of Crime Prevention through Environmental Design (CPTED). This is a situational crime prevention strategy that seeks not to remedy underlying causes of crime, but simply to modify the criminal environment to make it harder and riskier to commit crime. It is based on assumptions about offender decision-making, and what is known about the factors that lead particular places and situations to be high risk. National guidelines on CPTED released by the Ministry of Justice in 2005 outline seven qualities that characterise well-designed safer places, embodying the key principles of CPTED. The principles are:

- Access—safe movement and connections
- Surveillance and sight lines—see and be seen
- Layout—clear and logical orientation
- Activity mix—increased use of public spaces, more eyes on in the area
- Sense of ownership—showing a place is cared for
- Quality environment—well designed and managed and maintained
- Physical environment—using active security measures (e.g. CCTV, lighting, vandal-resistant structures) (Ministry of Justice 2005b).

¹² This section is based on MacGibbon et al. (2008) and Mayhew (2008).

CPTED can also help to increase the perception that offenders can be detected and to increase the perceived difficulty of committing the crime. While the opportunities for crime can be reduced, it should be noted that during the course of this study, many people questioned the wisdom of carte-blanche application of CPTED at DOC car parks. They were concerned that managers might, in their enthusiasm to reduce crime, negatively impact on the natural values present at these locations (e.g. by removing native vegetation and unsympathetically modifying sites).

6.2.5 The best options for preventing vehicle crime

Table 7 summarises some of the most effective initiatives for preventing vehicle crime identified in Mayhew’s literature review (2008). The ‘what might work’ category covers initiatives for which there is some evidence of effectiveness, but it is mixed. Table 7 takes no account of the cost-benefit of particular approaches. Nor does it consider issues of whether successful or promising approaches can be implemented on a larger scale, or whether the interventions are sustainable in the longer term. According to Mayhew (2008), these issues have been infrequently addressed.

TABLE 7. ‘WHAT WORKS’ AND ‘WHAT MIGHT WORK’ IN PREVENTING VEHICLE CRIME (SOURCE: MAYHEW 2008: 29).

WHAT WORKS	WHAT MIGHT WORK
<p>Security improvements by manufacturers for new cars There is a clear link between the security ‘spec’ of new cars and their risks of being stolen. Compulsory fitting of electronic immobilisers to all new cars has been a key improvement, although other security improvements could be also expected to work.</p> <p>Automatic number plate recognition This scans number plates and matches them against information in databases to identify vehicles of interest such as stolen cars or those involved in crime.</p> <p>Police use of decoy vehicles In high crime areas, decoy vehicles fitted with tracking devices, fuel cut-off switches, etc. to make it possible to trap an intruder inside, have been shown to be effective, although they are resource intensive.</p> <p>Mandatory immobilisers fitted to old cars An initiative in Western Australia has produced reduced levels of car crime.</p> <p>Targeting of prolific vehicle crime offenders Evaluated practice shows this to be effective in reducing vehicle crime.</p> <p>Secured car park schemes These encourage better management and design of public car parks. Evaluations show they can help reduce crime (and fear) when targeted at high-crime car parks, and act as a driver for car park improvements. CCTV seems particularly helpful for reducing theft of cars. However, the impact of secured car park schemes can be limited by relatively low take-up rates.</p>	<p>Enhanced vehicle deregistration systems</p> <p>High-risk make and model advertising</p> <p>‘Naming and shaming’ of high-crime car parks There is evidence that this could be an effective way of raising standards. However, it requires the relevant data to be collected for local car parks.</p> <p>Publicity to improve owners’ security habits Intensive campaigning can work, although effects may be short term.</p> <p>Motor projects These aim to use cognitive behavioural techniques to challenge attitudes and behaviour. This is sometimes combined with car maintenance workshops and opportunities to drive fast legally. There is some (but limited) evidence that motor projects may help offenders move away from car crime.</p> <p>Silent car alarms These sound in owners’ homes. The impact of these is unclear because of low take-up rates.</p> <p>Prison releases Monitoring prison releases and targeting local drug addicts on release from prison—helping them to rehabilitate or returning them to custody—has been shown to achieve reductions in both burglary and vehicle crime.</p>

6.3 ASSESSMENTS OF EFFECTIVE RESPONSES TO VEHICLE CRIME IN CAR PARKS

6.3.1 Previous studies¹³

According to Mayhew (2008), there have been plenty of preventative initiatives focused on car parks. This is because car parks are not only risky as regards vehicle crime, but also attract crimes other than thefts of and from vehicles (see Mayhew & Braun 2004).

There are two fairly recent comprehensive assessments of useful responses to vehicle crime in car parks in general. The first is a report from the US Center for Problem-Oriented Policing ('Theft of and from cars in parking facilities', Clarke (2002)). The other is by Mayhew & Braun (2004).

Clarke (2002) categorises responses to vehicle crime in car parks into those which research has shown to be more effective, and those that are less effective (Table 8). Many of the responses are relevant to recreation car parks. Many CPTED approaches feature in Clarke's recommended responses.

Mayhew & Braun (2004) built on Clarke's (2002) review. They incorporated a few more-recent studies and restricted themselves only to initiatives that appeared to be effective (albeit possibly costly). Their material is adapted to recreation car parks and presented in Table 9 in terms of surveillance and design, access, and security presence.

Few of the above responses have been implemented at DOC car parks, typically because these sites are non-urban and the interventions would either look out of place (e.g. high chain fences), contravene the 'freedom of access' philosophy that underpins much of the management of these sites, or would be impractical or cost-prohibitive given the level of use that the car parks receive (e.g. they would require the hiring of attendants). Few of these interventions suit low-use remote car parks (other than, perhaps, eliminating blind spots), whereas some would suit high-use hot-spots (e.g. patrolling security, CCTV, and those strategies that aim to increase the visibility of the site).

TABLE 8. EFFECTIVE AND LESS-EFFECTIVE INITIATIVES TO PREVENT VEHICLE CRIME IN CAR PARKS (SOURCE: CLARKE 2002).

RECOMMENDED RESPONSES	LESS EFFECTIVE
<ul style="list-style-type: none"> • Hiring parking attendants • Improving surveillance at entrances and exits • Hiring dedicated security patrols • Installing and monitoring CCTV • Securing perimeters • Improving lighting • Installing entrance barriers and electronic access • Adopting rating systems for car parks—promoting those most safe • Arresting and prosecuting persistent offenders. 	<ul style="list-style-type: none"> • 'Lock your car' campaigns • Warning offenders • Promoting car alarms and other 'bolt-on' security devices • Using decoy vehicles to apprehend offenders • Redirecting joyriders' car interests into programmes

¹³ This section is based on MacGibbon et al. (2008) and Mayhew (2008).

TABLE 9. RESPONSES TO THEFT OF AND FROM CARS IN CAR PARKS (ADAPTED FROM MAYHEW & BRAUN 2004).

RESPONSE	CONSIDERATIONS	EFFECTIVENESS FOR THEFTS OF AND FROM CARS
Surveillance and design		
CCTV	Needs sensible siting and adequate staffing. Effectiveness increased if CCTV use advertised. Can aid investigators. Popular with car park users, and may reduce fear. Capital and maintenance costs can be high. Staffing costs a factor.	May be most effective for thefts <i>of</i> cars
Better lighting	Especially important if car parks attract evening and night-time use. Popular with car park users, and may reduce fear. Adds to running costs.	Equally effective
'See through' fencing	Increases natural surveillance. Should not have gaps wide enough to allow a person to enter. May be costly, though not overly so.	Equally effective
Restricting dead end areas and nooks and crannies	Increases surveillance, and reduces areas where offenders can hide. Harder to deal with in existing car parks.	Equally effective
Removal of high 'green barriers'	Increases natural surveillance. Unlikely to be expensive (even with maintenance).	Equally effective
Siting near shops or businesses	Useful for long-stay car parks to improve surveillance by 'responsible guardians' whose customer base may be increased.	Equally effective
Access		
Restricting pedestrian access	Could reduce opportunist thefts or thieves arriving on foot and hoping to drive away in a stolen vehicle. Often difficult to achieve.	Probably better for thefts <i>from</i> cars
Securing the perimeter	Stops thieves from entering on foot, and prevents those driving cars out of car parks. Fences need to be high enough so that they cannot be scaled. Works best if entrances/exits are staffed. Initial costs may be high, though some improvements may result just from perimeter maintenance (e.g. blocking holes).	Equally effective
Reducing entrance and exit points	Easier to concentrate surveillance.	Equally effective
Entrance barriers and electronic access	Prevents thieves from entering with one car and leaving with a stolen one. Best with good surveillance of entrances and exits.	Better for thefts <i>of</i> cars
Security		
Monitored Pay & Display	Pay & display without parking attendants will be less effective. Cash machines can attract thieves.	Equally effective
Hiring attendants to cover entrances and exits	Works best with perimeter security so users have to pass attendants. Attendant booths should be designed to facilitate surveillance. Expensive for smaller parking areas.	Less effective for thefts <i>from</i> cars since some thieves may be legitimate users Some attendants may not leave their booths
Patrolling security guards	Useful when cars parked for a long time. Patrols need to be sufficiently frequent and random. Some training needed to deal with thieves. Radio communication with control centres helpful. Expensive for operators.	Equally effective

Table 10 is an adaptation of Glensor & Peak's (2004, in Mayhew 2008) Box 6.8. Some of their recommended responses to tourist crime are not relevant to vehicle crime in recreation car parks, and have been omitted. Others might be relevant, but are unlikely to be seriously considered in the New Zealand environment (particularly those listed towards the bottom of Table 10). Some of the possible responses shown in this table do not fare particularly well in Clarke's (2002) assessment of the most effective responses.

6.3.2 Views of site users

As part of this research, recreationists and victims were asked to comment on the effectiveness of the various crime prevention measures discussed above. One key finding from the focus groups of recreationists was that many of the strategies to reduce crime were perceived to be either not effective in reducing crime or intrusive and negatively impacting on the outdoors experience. Focus group participants were generally of the opinion that little could be done to prevent vehicle break-in crime at outdoor recreation sites and in urban areas, and there were mixed reactions overall to the potential use of security cameras or security personnel. There was a perception that cameras would be ineffective in reducing vehicle break-in crime because of the ease with which a vehicle 'criminal' could hide his or her face, and that full-time security staff would not be a feasible, cost-effective option (Jeffcoat & Irving 2006). However, approximately 50% of participants felt that security cameras may be a deterrent to would-be vehicle criminals, and they provided an approach that was worth trying, particularly at vulnerable sites. Others were concerned about the surveillance aspect of security cameras (MacGibbon 2008).

Vehicle crime was regarded by focus groups participants as part of a wider 'social problem' that participants felt needed to be addressed on a larger scale. In general, there was a perception that there was no simple solution to reducing vehicle crime at recreation car parks. Options that were discussed included security cameras, security staff, car park design, signs, voluntary ambassadors, commercial activities in car parks and strategies to encourage reporting of vehicle crime. In most groups, the discussion focused on reducing vehicle crime, rather than stopping it completely (MacGibbon 2008).

There was also mixed reaction to having staff on site. Most participants considered that the costs of having staff on site could outweigh the benefits (Jeffcoat & Irving 2006), but that this might be a possible solution at busy sites with a particular problem. Huka Falls, for example, was identified as a site with high vehicle crime where security staff could have an impact. People who had experienced commercial activity (e.g. food kiosks) in car parks believed it could be a deterrent to vehicle crimes (if it was well developed). However, other participants rejected the idea as 'bringing the city into the wilderness' (MacGibbon 2008).

Participants in the focus groups also came up with ideas for improving the design of recreation car parks that were closely aligned with the principles of CPTED. These included improved visibility and lighting, and effective maintenance of the car parks (MacGibbon 2008).

There was uncertainty among focus group participants about who was or should be responsible for addressing the problem of vehicle break-in crime at outdoor recreation sites. This is primarily because participants did not believe that the

TABLE 10. SUGGESTED RESPONSES TO VEHICLE CRIME AGAINST TOURISTS (ADAPTED FROM GLENSOR & PEAK 2004, IN MAYHEW 2008).

RESPONSE	HOW IT WORKS	WORKS BEST IF...	CONSIDERATIONS
Changing the physical environment to reduce opportunities for tourist crimes	Increases the difficulty of committing offenses	... changes are tailored to the environment's particular risks	Requires sophisticated understanding of the principles and methods of CPTED
Conducting surveillance at high-risk locations	Enhances ability of security personnel to identify offenders, and may deter offenders	... cameras and/or officers cover high-risk areas	Labour-intensive and costly Electronic surveillance equipment must be vigilantly monitored
Working with the tourism industry to identify and address crime-related concerns	Increases the chance of tourist crime being prevented by combining police and industry efforts	... the police know and can inform others about good safety practices used locally and elsewhere	Needs to promote good practice by police, tourism officials and private business owners. Should not be limited to extra police patrols
Increasing uniformed officer patrols in tourist areas	May deter offenders, and increases the likelihood that tourist crimes will be interrupted	... officers patrol high-risk locations	Requires a substantial commitment of personnel and other justice system resources
Training police and private security staff to recognise and address tourist-related safety concerns	Enhances the ability, and the confidence, of personnel to address the problem	... high-quality training programmes are used, based on established, successful curricula	Costs to police agencies or local governments to develop/ administer safety-related training
Encouraging hotels and motels to adopt practices that will reduce guest victimisation	Reduces opportunities for tourists to be victimised in the first instance	... hotels/motels are motivated to prevent crime, and use knowledgeable personnel	Implementation costs can be high; hotel/motel managers may be reluctant to raise concerns among guests about the potential for crime victimisation
Educating tourists to reduce their risk of victimisation	Promotes safe practices among tourists	... tourist information is available in different languages	Costs of producing and disseminating the information
Offering rewards for information leading to the arrest and conviction of those who commit serious crimes against tourists	Increases the likelihood of convicting offenders, and thus may deter potential offenders	... offers of reward money are well publicised and high enough to encourage those with information to come forward	Costs to fund the programme (reward money, administrative costs, etc.)
Deploying citizen patrols to supplement police patrols	Potentially deters offenders, and increases the likelihood that tourist crimes will be interrupted	... volunteers are properly trained, have instant access to police, and are conspicuously dressed	Costs of employing, training, and equipping citizen patrols
Imposing additional taxes in tourist areas to support special security measures*	Provides funding for enhanced security measures in tourist areas	... local government leaders and business owners are willing to pay the cost to improve the area and reduce tourist risks	Taxpayers may be reluctant to pay extra taxes if they believe police should assume the sole responsibility for safeguarding tourists
Facilitating tourist victims' testimony in criminal cases*	Increases likelihood of convicting offenders, and may deter potential offenders	... legislation provides funding for victims' travel, or for equipment to testify via teleconferencing	Increases costs to the local jurisdiction, and may or may not result in conviction

* Responses less likely to get support in the New Zealand context.

Police had sufficient resources to address this issue and there was a perception that there was little else that local government or DOC could do at their sites—other than ensuring that car parking areas were well lit (had plenty of natural light and were free from over-hanging trees) (Jeffcoat & Irving 2006).

Focus group participants commented that the signage at some recreation car parks plays a key role in alerting people to the fact that their vehicle may be at risk. There was general agreement that this signage (while considered to be conveying an unpleasant or negative message about a site) did remind people to be cautious when parking and leaving their vehicle, particularly in terms of leaving visible valuables in the vehicle (Jeffcoat & Irving 2006).

As previously mentioned, focus group participants overestimated the Police-recorded risk of becoming a victim of vehicle crime at outdoor recreation areas, but they also argued that few people actually reported these crimes. Those in the focus groups discussed the possibility of having a telephone number displayed or some other form of communication available which would encourage people to report vehicle crime (MacGibbon 2008). The Police have trialed a Single Non-Emergency Number (SNEN) system that aims to provide a phone number for public reports of non-urgent crimes and to reduce overuse of the emergency 111 system (Minister of Police 2008). Improvements such as these would no doubt help improve crime reporting rates for vehicle break-ins. They were seen as addressing the issue raised earlier—that participants were unsure about who to call—and were also seen as a means of providing more reliable information about the risks at particular sites (Jeffcoat & Irving 2006).

Some of the strategies identified in focus groups would not, in themselves, reduce vehicle crime, but could directly address the fear of crime. For example, maintaining the car parks in a tidy condition could reduce fear of crime and make people feel more comfortable in outdoor spaces. The ‘worst case scenario’ for users of outdoor recreation sites was that their vehicles would be stolen or immobilised through vandalism, stranding them in isolated locations. Participants said that they would feel much safer if there was cell-phone coverage, preferably across all tracks and outdoor sites, but particularly at car parks at the end of tracks (MacGibbon 2008).

The victims in Mossman’s (2008) study also identified a number of ways to increase the security of car parks:

- (DOC to) set up and make available a database of safe recreation car parks, including details of farmers and other land owners who wouldn’t mind trampers leaving their vehicles near their buildings.
- (DOC to) provide trampers with names of reliable people who, for a small fee, would be happy to drop people off and pick them up.
- Ensure that international tourists are properly informed that credit cards can be used in New Zealand, so that they do not carry large quantities of cash. Also, educate them to leave their cars empty.
- Install hidden motion-activated, thief-proof cameras to take snap shots, or use satellite instant updated pictures, of recreation car parks.
- Install more signs to warn users to be careful and to watch their cars.
- Allow food kiosks in the more popular car parks, to increase surveillance.
- (Police to) carry out sting operations in areas that appear to have a predictable pattern of robbery.

Table 11 identifies the different ways that victims portray offenders.

TABLE 11. HOW VICTIMS PORTRAY OFFENDERS.

NATURE OF OFFENDER	MOTIVE	TARGET	TYPE OF OFFENDER	SOLUTION	ANXIETY
Rational	Acquisitory	Opportunistic	Youth/pros Predictable	Reduce opportunity and rewards	Low
Rational	Malice	Predatory non-locals/ outsiders	Youth Predictable	As above, but crime inevitable	Medium
Irrational	Unknown 'for hell of it'	Random	Desperate/ addicts/youth	Nothing can be done to prevent it	High

6.3.3 Views of offenders¹⁴

The majority of offenders interviewed had been aware of cameras, security staff, warning signs and Police or ranger patrols as initiatives to prevent vehicle crime in recreation car parks. Rather fewer were aware of other measures such as cutting back foliage to improve sight lines. About 66% of offenders felt that crime prevention measures were 'not very' or 'not at all' effective, although their answers here conflicted somewhat with those in other parts of the interview. About 30% thought that crime prevention measures (or some of them) were reasonably effective, especially for younger offenders. Twelve percent of offenders were of the view that crime prevention measures acted as effective deterrents.

The current study did not do well in answering the question about the 'life' of crime prevention measures. The answers of some offenders indicated that they 'learned new tricks', or got others to 'case the joint' to see how risks at a particular site might have been altered. Other answers indicated that offenders could be put off for a short time (by patrols, for instance), but then assumed security would be decreased later, and 75% of the offenders said that they would go back to a site after some kind of crime prevention measure had been put in place. While it depended on the type of prevention used, most would go back within a 2-week period. This, therefore, brings into question the usefulness of any site-based initiative that aims to reduce offending, and suggests that offender-focused initiatives are also needed to reduce the motivation to offend (see section 6.2.2).

Offenders were asked what they themselves felt could be done to prevent vehicle crime in recreation car parks. From this question and material from other answers, the most promising solutions were:

- Security guards and patrols—though these would be effective only at 'heavy-weight' levels, which offenders acknowledged to be costly and thus impractical. Normal levels and patterns of security presence were not seen as much of a deterrent.
- Car alarms—especially for rental vehicles.
- Better lighting.

¹⁴ This section is based on MacGibbon et al. (2008).

- More visibility—either through improved sight lines, or steadier turnover of vehicles and visitors.
- Improving vehicle owner behaviour—in a way that reflected the risk their vehicle was at. Lack of awareness of risks was a fairly constant theme.
- Cameras—which had caught some offenders. Their presence was a clear deterrent for most, but dummy cameras were unlikely to work for this set of offenders.
- Signage—to alert tourists.
- Luggage storage facilities—were seen as useful, at either recreation car parks or the nearest town. The offenders were astute enough to recognise that the facilities would need to be constantly accessible and well-protected.
- Shuttle service to take tourists to the beginning of tracks.
- Warrant of Fitness (WOF) stickers on rental cars—need to be moved from their current display position (top centre of the windscreen) to where private vehicles display theirs (top right/drivers' side), thus making rental cars (a target for offenders) more difficult to identify.

Many of the suggestions made by offenders were consistent with current thinking about how to reduce vehicle crime in recreation car parks based on CPTED principles. Tourist awareness could be increased in a number of different ways, including posting signs at hotels, motels and airports, as well as at the car parks. The value of increasing awareness, however, needs to be set against the danger of inducing unnecessary fear, and undermining the image of New Zealand as a safe place (MacGibbon et al. 2008).

6.3.4 Case study findings¹⁵

CPTED principles have been trialed in New Zealand in a range of urban and rural locations, including some recreation car parks. One example reviewed as part of this project was Project Papawaka in Rotorua. This 2-year vehicle crime reduction initiative aimed at reducing vehicle crime in the Rotorua District. Key stakeholders involved in the project were the Rotorua District Council, the Police, Neighbourhood Support, Victim Support, DOC and Destination Rotorua Tourism Marketing. The objectives of Project Papawaka were as follows: foster community safety, support initiatives that reduce tourism-related crime, reduce vehicle crime, decrease the level of fear that residents have of vehicle crime, and reduce the number of visitors as victims of vehicle crime. The project focused on a small number of known problem areas after an examination of recorded crime data on car parking areas. Several of these were public car parks at tourist destinations; others were suburban or city streets.

Project initiatives that were applied included the following: establishing an inter-agency network; erecting new signage to raise visitor awareness around vehicle crime and how to minimise the chances of being targeted; carrying out CPTED assessments at some key sites; distributing information brochures highlighting strategies for reducing likelihood of theft; sending press releases to local media and giving live radio interviews to raise awareness of the Project; installing CCTV at two key sites (notably central city and Okere Falls); and installing better lighting at some central-city locations (Wilson 2007).

¹⁵ This section is based on Wilson (2007).

A different approach reviewed was the Ambassadors Programme in Northland, which is a community-orientated collaborative initiative using on-site guardians at key locations. Key stakeholders involved in the Programme included the Police, iwi/hapū, Work and Income New Zealand, DOC and Strengthening Families. The Programme had a social focus on developing community-wide inter-agency responses to vehicle crime. The mission of the Northland Ambassadors Programme was:

To provide work experience for registered clients with Work and Income while attending to tourists through providing local information and reducing the incidences of theft from vehicles, unlawful takings of motor vehicles in high-risk areas by having Ambassadors located in said car parks over a specified period, with the intention of re-establishing Northland as a safe place for tourists, locals and their property

(Hobson n.d., in Wilson 2007: 2)

Ambassadors were employed over the tourist season to patrol key car parks and to offer advice, information and assistance to visitors, as required. Tourists were provided with information about accommodation, places to visit, shellfish, and sun-smart messages (Hobson n.d., in Wilson 2007). Ambassadors received 2 weeks' training on safe intervention (how to recognise and approach suspicious activity), personal safety, patrolling, health, kiwi host and local information (accommodation, attractions and history). They were also provided with transport and on-site communication equipment, where necessary.

Both Rotorua and Northland introduced initiatives that attempted to encourage shared ownership of the problem by key agencies and stakeholders. While the different methods employed on the initiatives have all recorded some successful outcomes, interviewees were quick to point out that the methods that will be the most effective depend on the geography and social and cultural dynamics of each site.

The final report on changes in the level of vehicle crime over the course of Project Papawaka was not available at the time of writing this report. However, early indications showed a downward trend overall in vehicle crime at the sites targeted by the project. It is important to note that variables outside the scope of Project Papawaka also influenced changes in the level of vehicle crime. These included Police pressure on key, known offenders; 'hot' vehicle crime offenders receiving custodial sentences during the reporting period; and higher awareness about keeping belongings safe, etc., through media stories and other communications about general crime prevention (Rotorua District Council n.d.).

While those involved were generally positive about Project Papawaka, they were also cautious about claiming a direct correlation between the reduction in offending and the project.

A number of interviewees commented that the joint-agency approach adopted for Project Papawaka had helped to strengthen relationships between agencies that would be beneficial for future work. One interviewee commented that this approach helped groups to recognise that the crime problem could best be addressed through a multi-agency approach, and that responsibility for addressing the problem did not lie with just one agency (e.g. the Police).

The signage erected to make people aware of the potential for crime in particular Rotorua locations elicited mixed responses from interviewees. At one end of the spectrum, some interviewees identified the signage as one of the key successes

of Project Papawaka, as it was an actual physical product and showed something visible and tangible. However, some interviewees were critical of the signage and felt that the signs had not been integrated with the existing environment. Thus, while signage can be a tangible output, there was a concern that signage might have detracted from the existing values of some areas.

A number of Project Papawaka interviewees mentioned positive changes at particular sites that had followed the CPTED reports. Initiatives to improve natural surveillance—such as clearing vegetation, developing picnic areas and playgrounds, and condensing parking areas—were all identified as contributing to more user-friendly, safe areas for visitors. Some interviewees were critical of CCTV as a useful tool in isolated locations because of the expense and the limited effectiveness of the outcomes.

In general, CPTED has found limited empirical support to date. CPTED principles are often implemented as part of a wider crime prevention strategy, making it difficult to isolate the effect of CPTED from other prevention measures. CPTED research has also been overwhelmingly focused on the urban environment, and little is known about its effectiveness in a rural or semi-rural context, where opportunities for natural surveillance from pedestrian traffic and other ‘guardians’ may not be as readily available.

Aside from the tangible outputs from CPTED, a key success of the CPTED approach is that it provided a tool for greater collaboration between the key stakeholders. This reinforces the earlier point that the collaborative approach taken in Project Papawaka allowed for greater shared ownership of the problem and potential solutions.

In terms of the Ambassadors Programme, all interviewees were very positive about the outcomes in terms of its dual goals of providing employment and reducing crime. Interviewees all agreed that the Ambassadors Programme had reduced vehicle crime. These views were based on anecdotal evidence from the car parks as well as some general crime statistics for the area. This reduction in crime rates was often attributed to having a guardian on site who was able to observe all suspicious activity and record details of vehicle registration numbers.

The key lessons learnt from these two projects that would need to be considered in any future initiatives are considered next.

Interviewees in both Rotorua and Northland stressed the importance of developing relevant local solutions to the tourist vehicle crime problem. For example, the CPTED recommendations for one part of the country may not be relevant to another. Similarly, what works in one part of Northland may not work in another part. Instead, participants considered that it was important to consider the make up of the local community, the cultural, social and historic values associated with a place, and the way in which an area was used by the local community. Involving communities in car park design work, in stakeholder groups and as on-site guardians are all ways of developing local solutions. It was difficult to say whether natural surveillance, technical surveillance or on-site guardians was the most effective method, as the effectiveness of each will vary depending on the nature of the different locations. However, it was argued by some interviewees that on-site surveillance—such as that provided by the Ambassadors Programme—allows for greater community ownership of the problem compared with technical surveillance such as CCTV.

The importance of creating shared ownership of the tourist vehicle crime problem and involving local stakeholders in advisory groups and assisting with funding was a common theme across this research. However, encouraging stakeholders to see the issue not just as a Police problem and, instead, to commit time and resources to initiatives, was seen as one of the greatest challenges for this work.

Both these initiatives received an initial injection of funding. Although this funding was useful for getting the projects started and some initiatives underway, once this funding ceased, the projects either stopped or carried on at a much reduced scale. The continuation of the Ambassadors Programme, for example, has relied on the goodwill and enthusiasm of the coordinators and some of the Ambassadors. While there have been tenuous attempts to make this Programme economically sustainable, a number of interviewees argued that addressing the tourist vehicle crime problem is a public service and should, therefore, receive long-term public funding.

In order to maintain the projects' momentum and keep stakeholders engaged, it was identified as being important to produce some tangible outcomes or identify signs of success early in each project. In both locations, the reduction in the tourist vehicle crime rate was a key motivator for continued engagement in the project. In Rotorua, the actual physical construction of signs and picnic tables was another tangible outcome.

It is evident that solutions to the tourist vehicle crime problem cannot be considered in isolation from the wider social and economic environment. Addressing problems at the locale of crime does not address the motivators of crime and, therefore, may just shift the problem to another locale. The rural and isolated nature of some recreation car parks means that the perceived rewards gained from any vehicle crime committed in them may have far outweighed the perceived level of effort and risk.

6.4 PRINCIPLES FOR ADDRESSING VEHICLE CRIME

The following general principles for addressing vehicle crime demonstrate the key lessons from the ARC case study (Jakob-Hoff & Postlethwaite 2007a). Note that, before setting up a programme to address the problem, it is important to first establish the level and nature of the vehicle crime problem and whether it warrants an investment of time and resources.

The opportunities for crime can be reduced by using environmental design and good management. Visitor use characteristics of spaces can be managed in the following ways:

- Increase the likelihood of detection (improve surveillance of car parks, improve lines of sight and eliminate non-visible space)
- Increase the effort needed to offend by increasing the time, energy and resources needed by potential offenders to commit the crime (control access of cars, create legitimate places for visitors to be near the cars, manage visitor behaviour by advising them to lock their cars and close their windows)
- Decrease the actual or perceived crime rewards (minimising, concealing or removing the benefits of offending by getting visitors to hide their belongings or to leave them at home)
- Remove the excuses for non-legitimate presence in the car park by being clear about the rules of the site

Any programme will work better with the fostering of a collaborative approach between the management staff and relevant experts who can advise about vehicle crime issues and solutions. It is also important to involve interested people with good networking skills to increase the sense of 'ownership' of sites.

Interventions are most likely to be easier to manage and be more effective if they target a specific site. Potentially relevant interventions that are site specific can be roughly categorised as follows:

- Environmental change—soft, inexpensive and easily merged into operational budgets and timeframes. It includes pruning for line of sight, landscaping and planting.
- Harder infrastructure—can impact both operational and capital budgets and include landscaping changes like altering lighting, controlling access and traffic, erecting signage and fencing.
- Soft security—quite an expensive intervention. It includes ranger and volunteer staff patrols.
- Hard security—the 'hardest' and most expensive type of intervention that can be applied to a car park. It includes installation and monitoring of CCTV, erection of steel fencing and use of (expensive) security firms.

Promoting general background prevention is another valuable tool. Providing consistent off-site information to visitors can help to prevent victimisation behaviours, such as leaving valuable items in cars. This behaviour change would be associated with general 'common-sense' safety and security actions. Promoting these behaviours is likely to be effective if it is done in collaboration with partner agencies and strategic interest groups.

Interventions must match the level of risk, and be proportional to the number of incidents or perception of incident numbers in a car park. However, it is important to remember that subtlety is the key. If the intervention can be seen, it has probably failed. If the intervention is indiscernible from the rest of the park, and its layout, then it is successful.

Furthermore, interventions should be done in packages and incrementally. According to the Crime Prevention Through Environmental Design (CPTED) training course, packages of responses or strategies are more successful than single strategies (NSW Police 2004). The reasons for recommending an incremental approach to implementing these packages include:

- Large, unnecessary capital outlay may be avoided if less-costly interventions are shown to be effective
- Work can be carried out on an 'as-needed' basis
- The effectiveness of interventions can be determined in a more systematic way if only one package of interventions is implemented at a time
- Packages of intervention can be more easily refined and improved

Another key lesson is that it is important to make visitors aware that their cars could be targeted by thieves without reducing their perception that their cars are actually safe. Visitor research carried out by Auckland Regional Council (ARC) indicated that over 25% of ARC visitors perceived that security was an issue for them, although it was not foremost in their thoughts. The same research indicated that security was perceived as an issue for 86% of track users (Jeffcoat & Irving 2003). Some visitors will appreciate being warned of potential danger, whilst others may become unnecessarily afraid and may even refrain from visiting sites.

Encouraging guardianship of sites has also proven to be a useful intervention. Guardianship can be encouraged by including volunteers, visitors, user groups, concessionaires and local community members to enhance community participation and the use and availability of local resources through community development strategies. This involves the identification and engagement of these stakeholders, who can report on issues as they arise, but also be a source of natural surveillance. The training and use of volunteers to implement changes may also be useful for interventions such as replanting or landscaping, and regular patrols.

One of the biggest problems faced in developing these guidelines is the lack of robust evidence that particular strategies are better than others in reducing vehicle crime in car parks. There are a number of reasons for this lack of evidence:

- Visitors who have their cars broken into do not necessarily report the incidents to park management staff or police. Therefore, the exact number of incidents is unknown, but likely to be under-reported.
- Local Police may be informed by victims about vehicle crime incidents, but may not share this information with recreation managers. This means Ranger records may under-report the number of incidents.
- Recreation management staff sometimes use proxy information (like broken glass in a car park) to identify that a vehicle crime has taken place. However, professional car thieves have ways to enter cars without breaking windows. Therefore, this proxy is likely to lead to the under-reporting of incidents.
- Published police statistics on vehicle crimes are reported regionally only. They are also reported as part of the 'theft' category that includes all theft. This means they are unlikely to be a useful indicator of changes relating to vehicle crime in DOC-managed sites (New Zealand Police 2007b).
- ARC interventions have been implemented as and when park management staff have been able to fit them into their daily work schedules. In some instances, several interventions have been implemented at the same time. It is not possible, therefore, to find evidence of what intervention made a difference to the number of vehicle crime incidents.

When making changes, managers must ensure that today's solutions are not tomorrow's problems. It is important to consider any and all site improvements or interventions in terms of the kinds of problems they might cause in the future. For example, many visitors in the Waitakere Ranges did not know where the car park nearest a particular walking track was. As a result, ARC built an earth mound with a track/car park identifier sign on top. This helped visitors find the car park and track, but also created a blind spot behind which thieves could operate without fear of being seen.

The safety of visitors' cars needs to be balanced with the conservation of the natural environment. Management staff must balance the inherent tension between providing facilities and amenities for visitors, helping to keep visitors and their property safe and ensuring that the environment remains as natural as possible. Any intervention or recommendation aimed at reducing the incidence of, or creating awareness about, Theft Ex Car must be considered in terms of the impact that intervention may have on the naturalness of the environment and the unique context of each individual site.

Lastly, offenders need to be made to feel that vehicle crime is not worth the risk. The premise of the CPTED approach is that the higher the perceived risk of getting caught and the greater the effort needed to complete a crime, the less attractive the crime is for a potential offender. The fewer number of excuses (like not knowing the rules) an offender has for committing the crime, the less attractive the crime will appear to be. Therefore, it is important to increase the perception or reality that offenders can be detected and to increase the perceived difficulty of committing the crime. This includes efforts that lead to greater levels of apprehension, prosecution and convictions for this type of crime.

6.5 CAPACITY AND IMPLEMENTATION LESSONS¹⁶

One clear message with regard to crime prevention responses and strategies is that identifying effective initiatives is quite separate to setting in place mechanisms for their delivery. The consensus is that implementation failure is a persistent problem in crime prevention effort, and potentially promising approaches fail because of inadequate resourcing and poor follow-through (e.g. Sherman et al. 2002; Homel et al. 2004). This point applies to initiatives focused on vehicle crime. Some of the main lessons are:

- Working in partnership is difficult. The need for government and other agencies to work together to deliver effective crime prevention is the mantra in New Zealand, as in other countries. Yet commitment to a partnership approach is undermined by the difficulties in achieving it that result from ‘capacity’ problems, diffusion of responsibility, ‘territoriality’, silo working, lack of agency commitment and problems of data sharing.
- There is usually insufficient intensity of action. Many programmes fail because of programme ‘drift’, the endemic difficulties of providing coordinated services to specific targeted groups, or starting with insufficient resources. Time-limited funding also often causes problems with staff recruitment and retention.
- There is a skills deficit centrally and regionally with respect to analysing problems and selecting relevant intervention mechanisms. Knowledge management within crime prevention needs to be sufficiently sophisticated to reflect the importance of context in tailoring specific initiatives and the more general challenges around replication of successful initiatives within new settings.

6.6 SUMMARY

- Generic crime prevention strategies include social development programmes, community crime prevention, police programmes and situational crime prevention.
- The main strategies to reduce vehicle crime focus on increasing vehicle security, reducing the attraction for offenders, raising the awareness of potential victims and improving the safety of car parks.

¹⁶ This section is based on Mayhew (2008).

- Each car park has a number of characteristics that make it more vulnerable to incidents of vehicle crime. They include: accessibility of the car park; the number of routes to get to the car park; number of vehicle crime incidents as a proportion of the number of vehicles parked there; and public perception of the car park's safety.
- Improvements to the design and management of car parks have tended to be based on the principles of Crime Prevention through Environmental Design (CPTED). CPTED can help to increase the perception that offenders can be detected and the perceived difficulty of committing the crime, as well as making detection easier and committing the crime more difficult. The principles of CPTED relate to: access, surveillance and sight lines, layout, activity mix, sense of ownership, quality environment and physical environment.
- Many of the strategies to reduce crime were perceived by the public to be either not effective in reducing crime or intrusive and negatively impacting on the outdoors experience.
- Offenders identified the following approaches to preventing vehicle crime: security guards and patrols, car alarms, better lighting, more visibility, cameras, signage, off-site luggage storage, shuttle services, and WOF stickers moved on rental cars. Many of the suggestions made by offenders were consistent with CPTED principles.
- Project Papawaka and the Ambassadors Programme were two vehicle crime prevention initiatives trialled in New Zealand. Project Papawaka focused on technical and natural surveillance techniques and the Ambassadors Programme appointed on-site guardians to monitor car parks. Both methods recorded successful outcomes and highlighted the fact that the approach that is most effective depends on the make up of the local community, the cultural, social and historic values associated with a place, and the way in which an area is used by the local community.
- The following general principles apply to anyone trying to address the problem of vehicle crime in car parks: good design and management in natural area car parks can reduce the opportunities for vehicle crime; a collaborative approach works best; interventions should be site specific; general background prevention needs to be promoted; subtlety is key; interventions must match the level of risk; interventions should be carried out in packages and incrementally; visitors need to be informed about ways to keep their cars safe without making them feel unsafe; guardianship of the site should be encouraged; the effectiveness of changes must be monitored; when making changes, today's solutions should not become tomorrow's problems; the safety of visitors' cars needs to be balanced against conservation of the natural environment; offenders need to be made to feel that the vehicle crime will not be worth the risk.
- Identifying effective initiatives is quite separate from setting in place mechanisms for their delivery. Partnership work between government and other agencies is difficult—there is usually insufficient intensity of action, and there is a skills deficit for analysing problems and selecting relevant interventions.

7. Conclusions

The objectives of this research project were to:

- Explore the nature and extent of vehicle crime at outdoor recreation sites
- Understand the impact and effect of that crime
- Document the responses and actions of victims of that crime
- Identify best practice solutions to reduce vehicle crime in those settings

It was evident from this research that the incidence of vehicle crime at outdoor recreation sites was low. Although it has been estimated that only half of vehicle crime offences are reported to the Police, surveys of international and domestic travellers did not suggest that vehicle crime in outdoor recreation areas was a significant problem overall. However, vehicle crime was considered a significant issue for outdoor recreationists, who experienced the highest levels of victimisation. Tourists seemed to suffer the most severe consequences, partly because of their high dependency on the items stolen, and partly because of the difficulties they had in replacing them when away from home.

Although the incidence of vehicle crime at outdoor recreation locations was low, many people still believed that it was a serious and increasing problem. A significant number of visitors worried about vehicle crime while on recreational trips and there was a high degree of anxiety about parking at the start of tracks. Survey participants considered national parks to be risky places in general, even people who had not visited them. Participants considered Northland to be a particularly risky region.

Some people avoided walking tracks at remote parks because of concerns about parking security. However, many people still continued to visit places even when they perceived a risk of crime. While recreationists exhibited the highest levels of intensity of concern about vehicle crime (possibly because they are active users of these places and the potential risk feels more 'real'), they were unwilling to sacrifice their outdoor recreation experiences—rather, there was an acceptance of the risk and they did everything possible to reduce it. In contrast, international tourists were seen to be the group with the lowest level and frequency of concern and worry and they often appeared to have 'misplaced trust' in the safety of New Zealand.

Common actions to prevent vehicle crime included locking the doors and boot, hiding or taking away valuable items, using additional security (e.g. car alarms, a steering wheel lock) and avoiding unsafe places. The more extreme the precautions, the less likely they were to be adopted.

While vehicle crime was a consideration for many respondents who chose to participate in the outdoors, particularly for those who have experienced it, vehicle crime was not a barrier for the majority of them. It was, however, identified as a major concern or issue for people once they had arrived at an outdoor recreation site. For some survey participants, this had a significant negative impact on their overall experience at that site.

In terms of solutions to the problem, the factors that led offenders to commit vehicle crime were a lack of vehicle security, tourists as productive targets, car park isolation and lengthy periods of uninterrupted access, and high vehicle turnover and offender anonymity. It was clear that the crime 'attractions' of

recreation car parks in New Zealand would not change a great deal. Recreation car parks are, by their nature, often isolated, yet visited by a constantly changing vehicle pool. Offenders, then, are likely to persist. This adds to the case for better preventative measures.

The main strategies to reduce vehicle crime have focused on increasing vehicle security, reducing the attraction for offenders, raising the awareness of potential victims and improving the safety of parking locations. Offenders identified the following solutions to prevent vehicle crime: security guards and patrols, car alarms, better lighting, more visibility, cameras, signage, luggage storage, shuttle services, and WOF stickers moved on rental cars. The case studies from Northland and Rotorua were examples of multi-agency initiatives to increase the safety of locations using natural and technical surveillance and techniques, and on-site guardians. General principles from the ARC case study also provided a useful framework for addressing the problem of vehicle crime.

However, implementing crime prevention mechanisms has often failed because of inadequate resourcing and poor follow-through. The need for government and other agencies to work together to deliver effective crime prevention is undermined by the difficulties of achieving this, through ‘capacity’ problems, diffusion of responsibility, ‘territoriality’, silo working, lack of agency commitment and problems of data sharing. In addition, many programmes have failed because of insufficient resources and time, and limited funding. There has also often been a lack of skills available to analyse problems and select relevant intervention mechanisms.

We anticipate a particularly fruitful line of future research on what influences recreationists’ choice of destinations and, in particular, any link between this and known high-risk car parks. The locational data generated from the Police offence records provide an opportunity for future research of this type.

In conclusion, the following points should be considered when methods for reducing vehicle crime are being identified:

- Before setting up a programme to address the problem, it is important to first establish the level and nature of the problem and whether it warrants an investment of time and resources. Some areas are perceived as high risk even though there is often no evidence to back up this perception. However, one factor in this decision may certainly be that tourists—especially from other countries—are a ‘special case’ whose interests deserve extra attention.
- Interventions should be proportional to the number of incidents or perception of number of incidents in a car park.
- Subtlety is key. Many of the strategies for reducing crime are perceived to be intrusive or negatively impacting on the outdoors experience.
- Aspects that visibly distinguish rental vehicles from other vehicles (such as the unusual positioning of Warrant of Fitness stickers, barcodes and ‘keep left’ stickers on the dashboard) are some things that could be changed in order to make rental cars less of an ‘easy target’ for offenders.
- Most offenders stated that they would return to a site after a crime prevention measure had been put in place, which suggests that there needs to be more offender-focused initiatives (targeted Police strategies) to reduce the motivation to offend.

- The ease with which offenders were able to commit vehicle crime, and the lengths they went to do so, add to the case for better car security. However, this is most likely to come about through the natural effect of better security being built into vehicles when they are made.
- Vehicle crime appears to have a greater impact on international tourists, who often assume that New Zealand is safe and, therefore, do not worry about the possibility of crime. Tourist awareness could be increased in a number of ways, including erecting signs at hotels, motels and airports, as well as at car parks. The value of increasing awareness, however, needs to be balanced against the danger of inducing unnecessary fear, and undermining the image of New Zealand as a safe place.
- Multi-agency local crime prevention strategies between government agencies (e.g. Police and local authorities), private businesses, iwi/hapū, community groups and individuals need to be encouraged and appropriately resourced (e.g. funds and expertise) to encourage local ownership of and solutions to the problem. It is a community problem, not just a Police problem. However, this research has identified that there is a certain amount of 'patch protection' and a lack of long-term funding and commitment that needs to be addressed.

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Appendix 1

CONSERVANCY VEHICLE CRIME ‘HOT SPOTS’

As perceived by DOC staff in December 2005.

Note: Locations are grouped by Conservancy (north to south); otherwise locations are listed in no particular order.

CONSERVANCY	‘HOT SPOT’ LOCATIONS
Northland	<ul style="list-style-type: none">• Cape Reinga car park (medium all year round).• Te Paki Stream car park, Te Paki Reserves.• Taputaputa campground, Te Paki Reserves (medium in summer).• Spirits Bay campground, Te Paki Reserves (low all year).• Rarawa campground, Far North (high in summer).• Pawarenga, anywhere, Hokianga (high in summer).• Waipapakauri car park, Ninety Mile beach (high in summer).• Maitai Bay, campground, Karikari Peninsula (high in summer).• Manginangina Walkway car park, Puketi Forest (high all year round).• Puketi Forest campground, Puketi forest (low).• Rainbow Falls Reserve, walkway car park, Kerikeri.• Haruru Falls, Walkway car park, Bay of Islands.• Mt Bledislow, Walkway car park, Bay of Islands (medium all year).• Forest Pools, picnic area, Omahuta Forest.• Trounson Kauri Park car park (break-ins after attendant’s work hours).• Tane Mahuta car park, Waipoua Forest (break-ins after food kiosk’s working hours).• Te Matau Ngahere car park, Waipoua Forest (low after hours).• Arai Te Uru Reserve, Hokianga Harbour South Head (high all year).• Uretiti campground, Bream Bay Coast (medium in summer).• Whangamumu.• Ahipara.• Mangonui.• Kaipara bush area car park.• Rawhiti.• Henderson Bay.
Auckland	<ul style="list-style-type: none">• Goat Island Road, Leigh, Rodney in Warkworth Area, road to marine reserve (especially in summer) (VAMS 203010).• Constable Road end / Horseman Road, Bethells Beach, West Auckland, Goldie Bush Scenic Reserve.• State Highway 1, Warkworth, Pohuehue Scenic Reserve (VAMS 201023).• Takaranga Road, Devonport, North Head Historic Reserve: site of Auckland Area Office (VAMS 201001).• SH1 end of Moirs Hill Walkway (VAMS 203024)—SH16 end of Mt Auckland Walkway (VAMS 203021).
Waikato	<ul style="list-style-type: none">• Cathedral Cove car park, a short distance north of Hahei and accessing Te Whanganui-a-Hei Marine Reserve.• Bridal Veil Falls car park, Kawhia Road off SH 23 near Raglan (worst site in the area).• Kauaeranga Valley Road, a short distance from Thames, leading to Kauaeranga Visitors’ Centre, major entrance to Coromandel Forest Park.• Waitomo Glow Worm Cave car park, Off SH3 between Otorohanga and Te Kuiti (CCTV installed, but still problematic).

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CONSERVANCY	'HOT SPOT' LOCATION
Bay of Plenty	<p>Tauranga Area</p> <ul style="list-style-type: none"> • Karangahake Reserve car park, Karangahake Gorge between Paeroa and Waihi. Hauraki District Council-administered car park used by visitors to Kaimai Mamaku and Coromandel Forest Parks. • Hot Springs road ends, off SH 2, short distance south of Katikati, road-end car park on road reserve near a major entrance to the Kaimai Mamaku Forest Park. • Dickeys Flat campground, informal area of DOC-administered land adjacent to Kaimai Mamaku Forest Park (Police signs in place). • Most road ends in to Kaimai Mamaku Forest Park: Wairere Falls car park, Goodwin Road off Old Te Aroha Road; Waiorongomai Loop Road, off Old Te Aroha Road; Whakamarama Road car park, off SH2 North of Tauranga; Kaimai Summit car park, SH 29; Old Kaimai Road car park, off SH 29 on Old Kaimai Road; Lindemann Road, off SH2 North of Katikati; Ngamuwahine Road, off SH29 (problematic, with ongoing issues). <p>Rororua Lakes Area</p> <ul style="list-style-type: none"> • Okere Falls car park, SH33 Northeast of Rotorua. • Rainbow Mountain car park, SH 38 South of Rotorua. • Tarawera Falls car park, near Lake Tarawera. <p>Rangitaiki Area</p> <ul style="list-style-type: none"> • Plateau Road car park • River Road car park, main car park at the bottom end of the Whirinaki Track near Minginui, providing access to other end of Whirinaki Track.
Tongariro/Taupo	<ul style="list-style-type: none"> • Mangatepopo Road car park, Tongariro Crossing. • Whakapapa Village Campground. • Rotopounamu car park. • Ketetahi car park. • Huka Falls. • Craters of the Moon car park. <p>Tongariro/Taupo Fishery Area</p> <ul style="list-style-type: none"> • All anglers' car parks along the Tauranga Taupo River (Oruataua). • Tongariro River (Major Jones Bridge, Red Hut Bridge). • Waiotaka. • Waimarino River. • Tongariro River. • Hinemaiaia River. • National Trout Centre. • Tokaanu boat ramps. • Lake Otaurangakau launching ramp. • Kiko Road car park. • Waihohonu car park, Tongariro National Park.
East Coast / Hawke's Bay	<ul style="list-style-type: none"> • Waimana Valley. • Waikaremoana. • Whitepine Bush. • Tongio Falls Scenic Reserve. • Any remote road ends across Conservancy.
Wanganui	<ul style="list-style-type: none"> • Stratford Plateau/Manganui Skifield car park, Egmont National Park. • Dawson Falls road end, Egmont National Park. • North Egmont road end, Egmont National Park. • Atene Northern Track entrance, Whanganui National Park.

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CONSERVANCY	'HOTSPOT' LOCATION
Wellington	<ul style="list-style-type: none"> • Tararua Forest Park, Kaitoke road end car park (local school camp currently allows parking for a fee as it is unsafe to leave a vehicle unattended over night). • Tararua Forest Park (most road ends are not patrolled and vehicles parked there are subject to occasional vandalism). • Papaitonga road end (piles of glass). • Ohau road end (piles of glass). • Otaki Forks (caretaker at this location has reduced the frequency of break-ins, but only in the car park at the caretaker's). • Catchpool.
Nelson/Marlborough	<ul style="list-style-type: none"> • Flora car park. • Kahurangi National Park. • Marahau car park • Abel Tasman National Park. • Mt Robert car park. • Nelson Lakes National Park.
West Coast <i>Tai Poutini</i>	<ul style="list-style-type: none"> • Lake Mahinapua car park, road end. • Lyell car park. • Lewis Pass, SH7. • Otira/Arthur's Pass, SH 73. • Other places on West Coast: Greymouth and Franz Josef Area Offices. <p>Other problems included are smashed signs, graffiti, 1080 slogans on road signs, windows broken in toilets, cars dumped, lawns spun up, money box removed/contents stolen. Recreational Planner, however, considered that this is not a major social problem for this Conservancy.</p>
Canterbury	<ul style="list-style-type: none"> • Car parks along Lewis Pass Highway: Boyle Base, Lewis Pass at the Lagoon car park (signs and brochures warn about this now). • Arthur's Pass Highway, Lagoon/Cass Saddle, access to Lagoon Saddle Track (not an issue lately due to Police catching offenders; warnings provided in brochures and on signs). • Mt Somers Walkway, entry points at Sharplin Falls and Woolshed Creek (Police activity has halted this problem at the latter).
Otago	<p>No particular hotspots.</p> <p>Exception is Catlins Forest Park (not so much break-ins but burn outs, drive-by shootings at signs and dumping of stolen vehicles).</p>
Southland	<ul style="list-style-type: none"> • Fiordland National Park public car parks. • The Divide car park, start of Routeburn Track, Milford Highway. • Rainbow Reach, Waiau River near Manapouri. • Lake Hauroko. • Mavora Lakes. • Te Anau control gates, at other end of Kepler Track, Te Anau. • Kepler Track car park. • Deer Flat car park. • Hollyford road end. • Long-term car park opposite Te Anau Area Office.