MOTOR TELEPHONY:
The practices and problems of regulating mobile telephony and driving

Glenn Jessop

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Institute for Social Research
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Swinburne University of Technology

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Abstract

This thesis is about the uses of mobile phones while driving, the problems they create and the strategies which have been adopted in addressing the practice. Using a cross-disciplinary framework, I provide a rich description of the regulatory options that have been debated and implemented, highlighting the differences between Victorian, Australian and international jurisdictions. By focusing on the Victorian context, the practice of phoning and driving is used to explore the social and political implications of technological innovation and the emergence of a new regulatory domain.

In Chapter Two I provide a historical, technological and sociological account of the use of phones in cars, arguing that this has become an integral part of many people's lives. Chapter Three weighs up the empirical evidence concerning how phone use affects driving and how this information informs decisions about regulation. Having outlined this context, the thesis moves on to explore the strategies, or technologies of government, which have been adopted in order to modify people's use of mobile phones in vehicles. Chapters Four and Five consider the development and implementation of legislative measures (traffic regulations, police enforcement, financial penalties and criminal charges), while Chapter Six outlines methods which place the responsibility on individual drivers (such as education and appealing to social norms). Chapter Seven speculates upon the effects and limitations of these strategies.

I draw on three key concepts in describing the practices of motor telephony. First, it is about the *regulation* of an emerging technology in everyday life. The regulatory strategies can be split into two main approaches: institutional (rules developed and imposed by governments and police authorities) and social (measures which rely on appeals to personal responsibility). Second, I explain the regulatory context in terms of a *network of negotiation*. The social policy debates involve an array of opinions and groups, from government through to private industry, research organisations, media and the driving public. This network of actors supports and promotes regulatory options in different ways. Third, we see that developing and implementing public policy strategies is a complex, fluid and *non-linear process*. Accordingly, it is possible to see regulatory efforts surrounding the use of mobile phones in cars as an instance of the continuing complexity of various technologies of government as they intersect with the social use of technology.

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Declaration

This thesis contains no material which has been accepted for the award of any other degree or diploma, except where due reference is made in the text of the thesis. To the best of my knowledge, this thesis contains no material previously published or written by any other person except where due reference is made in the text of the thesis.

Mr David Hudson edited this thesis. The editing addressed only style and/or grammar and not its substantive content.

Signed……

Dated…….

Table of Contents

List of Figures

List of Tables

Abbreviations

AAMI	Australian Associated Motor Insurers
ABC	Australian Broadcasting Commission (Corporation since 1982)
ABS	Australian Bureau of Statistics
AMTA	Australian Mobile Telecommunications Association
MUARC	Monash University Accident Research Centre
NHTSA	National Highway Traffic Safety Administration
RACV	Royal Automobile Club of Victoria
TAC	Transport Accident Commission
TIN	traffic infringement notice

Chapter One

Introduction: The journey begins

On 30 December 2001, 22-year-old Silvia Ciach was driving home along a main arterial road near Geelong, a major rural city in Victoria. As she drove along she compiled a short text message to send to a friend, arranging to meet her at 1 p.m. ('CU1'). By doing this, her attention and concentration on the task of driving were seriously compromised. Eyewitnesses likened the car's movement as she drove along the highway to a 'Mexican wave' (*Geelong Advertiser*, 2003), and the vehicle allegedly drifted in and out of the bicycle lane three to four times (*R v. Ciach*, 2003). A few kilometres later she again veered into the bicycle lane and ran into the back of Anthony Marsh, a 36-year-old cyclist returning from a training ride. He died on impact. Ms Ciach was judged to have lost 'significant control over the steering or concentration on the whereabouts [of her car] as a result of using the mobile phone' (*R v. Ciach*, 2003, p. 2). A short time after arriving at the scene of the accident, Senior Constable Gray approached the driver who admitted that she had been distracted by her mobile (Tippet, 2003a). Their conversation went something like this:

> Police Officer: What happened?
> Ms Ciach: I was sending a text message
> Police Officer: What, on your phone?
> Ms Ciach: Yes, I wasn't looking at the road. (Tippet, 2003a; *R v. Ciach*, 2003)

This thesis explores the use of mobile phones while driving, the problems this creates and the strategies which have been adopted in regulating the practice. In many respects, mobile phones have fitted into the folds of everyday life with minimal fuss. Building on the developments and experiences of telegraphy and landline telephony, people's use of the device to communicate with others at a distance has mostly been a natural and taken-for-granted progression. Yet the emergence and widespread adoption of mobile telephony has also been accompanied by unforeseen consequences. As the above story illustrates, these can be severe and permanent. Within this context I ask three key questions: How and why are mobile phones used in cars? What problems are raised? What are the rationales, processes and deliberations of government in grappling with the regulation of motor telephony?

The mobile phone's use in vehicles and the effect this has on road safety is not the first controversy to accompany its rapid spread (alleged links with cancer and brain tumours, use by terrorist groups, and even inappropriate use in public places), yet the issue has certainly managed to capture the public's interest. Tragedies like the one described above, media coverage and an increasing amount of research attention have created concern and pushed the practice onto the public policy agenda. A number of questions have been posed. How does phone use affect driving performance? Is it a serious road safety issue? What is the best way to manage the risks? Should phone use be legally banned? And, if so, should both hand-held and hands-free be prohibited? Or is self-regulation a more appropriate strategy? As this thesis unfolds, we will see that the answers are not straightforward.

This issue presents us with a valuable opportunity to observe some of the tensions and complexities that a new technology creates, and to study some of the particular and distinct connections between mobile phones and cars. I have termed this relationship *motor telephony*. Motor telephony presents new challenges, and new rules have been made and implemented as a result. In this sense, my work builds upon the growing scholarship looking into mobile phones. Rich Ling, who has written extensively about the adoption and use of mobiles, states that:

> the newness of the device means that to some degree we are making up the rules as we go along…Beyond providing insight into innovation, it affords us the chance to see how the innovation is accepted and how it causes the revision of existing values and practices. It allows us to see who is influencing the definition process and, in effect, whose toes get stepped on. (2004, p. 22-3)

An ever-growing academic interest in the sociological dimensions of mobile phones has centred on when, where, how, with whom and what communication and interaction they afford. Hot topics include their effect on social relationships, the blurring of public and private boundaries, changes in how time and space are experienced, the cultural and symbolic meanings of mobile telephony, and developing a typology of user groups.

My work contributes to this scholarship in a number of ways. First, in contrast to broader trends, patterns and classifications, this thesis tells a local story: the emergence of motor telephony and the particular issues that have arisen as a result of the unique connection between cars and phones. Cultural and media studies have typically focused on city-scapes such as Tokyo, London and Hong Kong; the focus here is on the urban context. Drawing on the experiences of North America, the United Kingdom and elsewhere, I specifically examine the rise of motor telephony in Victoria, tracking its development and accompanying debates. Victoria is a valuable site of interrogation: the state's motoring organisation, the Royal Automobile Club of Victoria (RACV), experimented with early models of mobile phones in its road safety fleet. Victoria was the first jurisdiction in the world to introduce legislation addressing the practice, and it has held some of the earliest court cases concerning road deaths as a result of mobile phone use while driving. Studying the relationship between cars and phones offers an opportunity to explore the intersections of government, technological innovation, public policy, private industry and the users of technology in a grounded and applied way.

Second, while the aforementioned literature offers important insights, there is a need to broaden the scope of inquiry in order to more thoroughly encompass the ethical, social, legal and political dimensions and to interrogate the 'relationship between "use" and "non-use"' (Goggin, 2006b, p. 39). Written predominantly within a sociological and psychological framework, contemporary work tends to emphasise the mobile's 'anytime, anywhere' characteristics and seamless use. Yet the wider political, economic and social factors that regulate, limit and control its use, as well the disruptions this technology causes, have not been fully probed. When areas of tension are discussed, the focus has typically been too narrow. Talking about the emergence of the device and its uses in everyday life, Fortunati's insights are instructive:

> The use of the mobile in public spaces has taken concepts, norms and laws by surprise, catching them on the completely wrong foot. If up to now the approach developed by sociologists has been to analyse how good manners in social relations had been changed so radically by the use of this communication instrument, the time has come to change direction. The problem in fact is much more complex: it is not only a question of aesthetics, of good behaviour, but also an ethical, legal and political problem. (2002, p. 522)

In turn, the complexities and specificities of government, regulation and politics, and their intersection with the technological, legal, ethical and social, are central to my analysis. This could be described as a 'sociology of technologies of government' (Barry et al., 1996, p. 2), which means a detailed study of the 'complex assemblage of diverse forces' (for example, legal, professional, administrative, financial, government, industry), 'techniques' (computation, examination, evaluation) and 'devices' (surveys and charts, scientific studies) 'that promise to regulate decisions and actions of individuals, groups, organisations' (Rose, 1996, p. 42). The following chapters are embedded in example, describing, via rich empirical analysis, the intellectual, technical and social practices and contestations that have arisen as a result of the use of mobile phones while driving. In providing these examples and setting them in context, I document the emergence of a new regulatory domain which has developed in response to the recent convergence of mobile phones and vehicles.

By exploring this regulatory domain I synthesise diverse fields of enquiry. A number of disciplines have made disparate attempts at analysing the effects of mobile phone use while driving and speculating on the most effective ways of regulating the practice, but these accounts are often narrow in their focus and remain isolated from each other. In turn, this thesis assembles existing information from a range of sources in order to create an integrated explanation of the practices and problems of regulating mobile telephony and driving. In doing so, the complexity in introducing and implementing regulatory options is highlighted. In contrast to the majority of academic analysis, which tends to offer an unproblematic description of people's use of mobile communications, I provide a detailed exploration of regulatory options which emphasise the limited or restricted use of mobile phone technology.

Finally, I offer an in-depth study of politics and regulation. Unpacking the role of government is crucial to understanding motor telephony. The development and use of both cars and phones has been, and is, framed by governments at every level. They have supported, fostered and funded mobile telephony (for example, allocating frequency spectrum and providing financial incentives) and the car industry (for example, building roads and supporting manufacturers), in turn encouraging the widespread adoption and use of both of these technologies. At the same time, emerging empirical data, along with accidents associated with operating a mobile phone while driving, has raised concerns over the broader

impact on traffic safety. In this context, governments have a duty to protect citizens from harm. Goggin alludes to such a tension: 'governments have had to manage a number of conflicting roles and perspectives on technology, reflecting different views and interests of sections of the populace as well as different ministries' (2006b, p. 113). As this thesis demonstrates, there are distinct challenges involved in responding to this tension.

Conceptual roadmap

This thesis employs an eclectic range of conceptual resources in making sense of the empirical data that has emerged while exploring the intersections of politics, government, institutions and the social. In particular, I am influenced by the work of Andrew Barry, Nikolas Rose and others who emphasise the fluid and complex nature of government, seen as a network of people, groups and institutions, with connections on many levels. Burchell describes this well:

> there may be interconnections and continuities between…different forms of government, and, in particular, between local and diverse institutions dispersed through society on the one hand, and political government as the exercise of a central, unified form of State sovereignty on the other, or between forms of government existing within micro-settings like the family or school and the macro-political activities of government directed towards individual members of a population, society or nation. (1996, p. 19)

From this perspective, the mechanisms of government can be observed in mundane practices such as parliamentary debate, meetings, inquiries, policies, press releases and so on. As Rose contends:

> empirical studies of regulatory problematizations, ambitions, programmes, strategies and techniques require us to jettison the division between a logic that structures and territorializes 'from above' according to protocols that are now our own, and a more or less spontaneous anti-logic 'from below' that expresses our own needs, desires, aspirations. (1999, p. 275)

In turn, the focus is not on underlying political ideologies or philosophies, but on the conduct and tactics of politics and the specificities of social institutions. Barry puts it this way: 'politics does not circulate just through the flow of ideologies or rationalities of government, but through diagrams, instruments and practices' (2001, p. 151). This work, therefore, describes localised practices, debates, solutions and forms of political reasoning, remaining 'attentive to the contingency, specificity and rarity of political action' (Barry, 2001, p. 196).

Specifically, this means looking at the dilemmas of governance in relation to the disruptions, problems, contests and inconsistencies that have arisen as a result of motor telephony. I investigate the rationales, practices, solutions and styles of reasoning that have been adopted by social institutions in addressing the practice, and how this affects the everyday behaviour of the driving population. Governments and social institutions have grappled with numerous solutions and implemented a range of measures designed to get drivers to develop self-control.

It is also necessary, of course, to document how the processes of government affect people's use of technology (in Burchell's terms, this is the relationship between macro- and micro-settings). In this regard, Fischer's analysis of the adoption and use of landline telephones is an excellent example of describing how a technology is adapted and integrated into people's lives in a complex, and often messy, manner:

> While a material change as fundamental as the telephone alters the conditions of daily life, it does not determine the basic characteristics of life. Instead, people turn new devices to various purposes, even ones that producers could hardly have foreseen or desired. As much as people adapt their lives to the changed circumstances created by a new technology, they also adapt that technology to their lives. The telephone did not radically alter American ways of life; rather, Americans used it to more vigorously pursue their characteristic ways of life. (1992, p. 5)

In much the same way, the widespread use of mobile phones in cars (and the problems that this presented) was for the most part unanticipated by manufacturers and regulators. In pursuing their 'characteristic ways of life', people began to use their hand-held

phones while driving. As I describe in Chapter Two, this practice has become a part of life for many people. However, as evidence emerged that the behaviour was accompanied by negative consequences (car accidents and fatalities), and as the practice has gained widespread attention, there has been an impetus for governments and social institutions to encourage drivers to modify the ingrained habit of phoning and driving. This push comes from diverse groups with various vested interests.

Methodology

In line with these conceptual influences, the methods employed in this thesis are designed to elicit a rich, grounded description of how mobile phone use in vehicles occurs, how it is regulated, and how different stakeholders affect the policy process. As Carey, in his insightful study of the effects of the telegraph, says:

> I think the best way to grasp the effects of the telegraph or any other technology is not through a frontal assault but, rather, through the detailed investigation in a couple of sites where those effects can be most clearly observed. (Carey, 1989, p. 211)

Approaching this topic in an inductive, bottom-up manner means that I have made use of a wide array of disciplines, industries, people and organisations to investigate one such specific site: people's use of mobile telephones in vehicles. In Barry et al.'s terms, I draw on 'a range of local conceptual devices' such as 'strategies, technologies, programmes [and] techniques' that serve as 'tools for understanding some of the contingencies of the systems of power that we inhabit…[and] these concepts are deployed to demonstrate the negotiations, tensions and accidents that have contributed to the fashioning of various aspects of our present' (1996, p. 4). The result is a diverse, cross-disciplinary exploration of the topic. I use government archives, laws and regulations, interviews, media coverage, survey data, scholarly articles, scientific research and company documents in order to analyse and describe the particularities and peculiarities of motor telephony. Each chapter presents empirical sources to describe what I have called the *network of negotiation*: stories of real-life accidents, court cases, how legislation works in practice, driver attitudes and behaviour, compliance with laws, media reporting, and industry and company policy. I also make use of opinion polls,

surveys and newspaper articles to gauge people's reactions to these policies and the role they have in advocating change in policy, and to speculate on motorists' adjustment to their in-vehicle behaviour.

While Victoria is the main focus, I contrast the state's approach with that of other Australian and international jurisdictions. I also compare mobile phone use with other road safety issues, in particular, drink-driving and the compulsory wearing of seatbelts.

The description and analysis in this thesis is tied together by several key concepts which weave their way through each chapter: *regulation*, the *network of negotiation*, and *non-linear processes*. These concepts are pivotal to answering the key questions which were posed at the start of this chapter.

Regulation

A major concern of this thesis is the *regulation* of motor telephony. In light of emerging empirical evidence which suggests the activity is dangerous and, therefore, a threat to traffic safety, I ask: how have various institutions (including government) gone about regulating, managing, controlling, containing and reconfiguring the use of mobile phones in vehicles? Broadly speaking, emerging technologies have a history of being associated with concerns of danger, and it can often take a long time for researchers, legislators, governments and observers to adequately understand the problems and complexities that are created. The car is a prime example. From the early 1900s, there has been consistent deliberation about how best to regulate its use. An array of engineering solutions, laws and regulations, school programs and education campaigns have been debated, introduced and subject to constant modification. It has even been suggested that driving may be the area of 'everyday activity [in] which we must internalize the broadest range of legally codified norms' (Ling, 2004, p. 51). We see the same patterns in the regulation of mobile phone use in cars.

After considering the impact of mobile phone use while driving on road safety in Chapter Three, I look at a number of regulatory measures that have been designed, debated and enforced. A range of technologies of government has been called upon in regulating motor telephony, including legislation, fines and penalties, as well as appeals

to personal, social, moral and ethical responsibility. In Foucault's conceptualisation, the role of government concerns the 'conduct of conduct', which includes both 'governing the self' and 'governing others' (Lemke, 2000, p. 2). Government, Foucault suggests, is 'a "contact point" where techniques of domination – or power – and techniques of the self "interact"' (Burchell, 1996, p. 20). This is a useful way of looking at the regulatory strategies covered in this thesis. Along the lines of Foucault, I classify regulatory strategies into two broad categories: *institutional* and *social*. *Institutional* regulation refers to the restrictions imposed and enforced by governments, police and state authorities (for example, legislation, traffic regulations, fines and penalties). I define *social* regulation as measures which have no legal imperative, but instead rely on personal responsibility (for example, courtesies to be observed while driving, moral expectations of others). This distinction serves as a useful tool in exploring the various methods which have been called upon to modify driving habits.

In exploring these strategies we see that there is a difficulty for governments in reconciling the rights and responsibilities of their citizens. Institutional regulations play an important role in limiting phone use in cars, but how far can, or should, the government go? Australian – and in particular, Victorian – governments have a tradition of regulating drivers' behaviour via laws and their enforcement in the interests of the public good. Other countries have a stronger history of protecting privacy and individual liberty and, as a result, informal approaches which emphasise the self-governing capacities of individuals are favoured (such as education, media campaigns, appeals to morality, and changing habits and social norms).

Network of negotiation

I describe the debates about regulating the use of mobiles in cars in terms of a *network of negotiation*. By *network* I refer to the range of people and groups who facilitate and influence the use of mobile phones in vehicles. That is, who has a say in the debates about regulating the practice, what they say, what influence they have, what strategies are favoured, and how these strategies affect drivers' attitudes and behaviour. These people and groups include government, industry associations, media, private companies, the judicial system, individual drivers (the general public), road safety organisations, police and academic researchers. The network of negotiation also relates to the two

major technologies that are the focus of this project: vehicles and mobile phones. Neither operates in isolation: each is part of a much broader network which makes possible, as well as restricts, use in various ways. This broader network includes formal and informal regulations, economic and political factors, physical infrastructure and the interests of private industry.

Negotiation reflects the complexity in the debates about how best to modify drivers' use of mobiles. 'Technologies of government link a multitude of experts in distant sites', says Rose (1999, p. 50), and this is observed in the example of motor telephony. A range of groups and organisations emphasise the empirical data in different ways, and support policies and strategies in different ways. Negotiations centre on the various forms of regulation which have been adopted in attempting to change driver behaviour. I argue that the process of determining and putting into practice appropriate responses to mobile phone use while driving is influenced by stakeholders who have (at times competing) vested interests, motivations and rationales.

Davison (2004) provides an articulate empirical social history which illustrates the network of negotiation. His insightful book shows the involvement not just of individual actors, but the constellation of institutions, organisations and stakeholders that are part of the debates about how and in what contexts technology can or should be used. He writes that cars 'posed deep and still-unresolved conflicts between our competing desires for access and amenity, self-expression and personal safety, progress and continuity, individual rights and community cohesion' (Davison, 2004, p. xiii). Throughout the pages that follow we observe similar trends: the tension between individual rights and the greater public good, personal responsibility and government intervention, as well as the competing interests of stakeholders. I argue that these relationships are observed in the mundane and material mechanisms of government and social institutions.

Non-linear processes

Exploring the negotiations around the regulation of motor telephony leads us to another pivotal theme: the *non-linear* nature of decision making. 'Programmes and technologies of government', says Rose, 'are assemblages which may have a rationality, but this is

not one of a coherence of origin or singular essence' (1999, p. 276). Deliberations concerning motor telephony highlight the negotiable, inconsistent and disorganised nature of politics and government. A linear progression can be summarised as three stages: technology, research and response. A technology becomes available and is adopted by people, research is conducted in order to evaluate evidence of risk and the threat to safety (in this thesis, *road* safety), and then a response is developed. In theory this sounds logical, yet I argue that in reality the process is much more complex and fluid. In this thesis we see that the safety implications of mobile phone use while driving were obscured when they were first developed. Indeed, the effects are still being researched and debated, and the lack of accurate empirical data, along with the constantly evolving nature of mobile technology, makes it difficult to capture the device's use in cars via traditional regulatory means.

Chapter summary

In Chapter Two I set the scene by explaining both *how* and *why* people have come to use a phone in the car. Starting with the *how*, the chapter covers the technological history of the automobile and mobile telephony from the early 1900s, highlighting points of convergence and documenting the developments which helped them evolve and achieve widespread consumption. Aside from the broader implications for mobility, communication and distance, the localised technological connections between automobiles and telephony are outlined. But technological evolution is only part of the picture. The second section asks *why* both have become an integral part of many people's lives. I argue that road safety, work and social connectedness are three primary factors affecting the use of phones in cars.

However, this practice results in a problematic relationship. In Chapter Three, then, I consider what happens when people use a phone while driving. Drawing upon several streams of analysis which shed light on the prevalence of the phenomenon, the associated risk of accidents and the severity of the consequences, I critically evaluate the extent to which the activity may be considered a road safety problem. This is important in order to understand the kind of information which is used in formulating policy and developing regulatory strategies. After considering this data, we move on to place mobile phone use in the broader road safety debates taking place around driver

distraction. That is, how does mobile phone use compare in terms of overall fatalities, as well as amongst other distractions such as passengers, tuning the radio and smoking? This all serves to lay the foundation for what is to follow: an in-depth investigation of regulatory options.

The deliberations around different types of regulations are many and varied. Some argue that legal regulation is a vital part of restricting phone use, whereas others strongly advocate personal or social regulation. It is these two broad categories – institutional and social regulation – which guide the remainder of the thesis. In terms of the former, Chapter Four describes the history of laws and regulations relating to mobile phones. First, the example of seatbelts is used to highlight the tension between protecting individual choice and protecting citizens for the sake of public safety, one that persists with phoning and driving laws. The debates around increasing fines and penalties are also outlined. Here I use international comparisons with Victoria to show how the state has handled the mobile phone issue in a distinctive manner.

Chapter Five continues this theme by detailing the enforcement of laws. A discussion of the application of regulations in real life shows how concrete legislation is struggling to capture a fluid and dynamic technology. I then pick up on two main concerns of the law: the enforcement of traffic infringement notices by the police, as well as more serious types of charges which have gone to court. While most resources have been employed in detecting and fining motorists, two landmark incidents have seen Victorian drivers charged with culpable driving causing death. These offer a valuable insight into the practical application of formal regulatory strategies.

In Chapter Six our attention then turns to personal, or social, regulation. The focus here is not on achieving behavioural change via instruments of law, but through personal, social or cultural means. These non-regulatory methods operate on two levels: individual and social. On the one hand, drivers are encouraged to take personal responsibility for their actions. Traffic safety education, the promotion of courtesy and manners via the motoring lobby, appeals to change driving habits, as well as media campaigns highlighting the risks involved, all focus on the agency of motorists in modifying their own behaviour. There are also approaches pitched at a societal level

which seek to alter social norms. The aim here is to make phoning and driving a socially unacceptable practice, much like drink-driving.

For the purposes of analysis, these policy measures are discussed separately: in reality, they do not operate in isolation. With this in mind, Chapter Seven covers the relationships between laws and regulations, police enforcement, education and social norms, exploring how they work together in achieving compliance amongst the driving public. Here I frame the problem of motor telephony by describing the effects of prohibition and self-regulation. I draw upon several sets of data, as well as the precedents set by seatbelt use and drink-driving, in speculating on the influence of the methods employed on motorists' phoning and driving behaviour. The limitations of these approaches are also canvassed. I argue that the most effective results are, or will be, achieved when institutional and social regulation are used in combination.

This work exemplifies a new way of describing and analysing the social impact of communications technologies. Cars, and transport systems more generally, are becoming increasingly 'informationalised', and this thesis points to significant public policy questions concerning the regulation of mobile phones and vehicles. The advent of motor telephony has been accompanied by the emergence of a new domain of regulation and intervention, one which highlights the transitional nature of communications technology. What follows is an example of the specific and localised problems which emerge along with technological innovation. The everyday uses of mobile telephony are restricted and controlled in different ways, and drivers' own behaviour creates particular challenges for governments and social institutions. In investigating this area, we see there is a network of negotiation involved in policy decisions about regulatory options. These deliberations illustrate the various roles, responsibilities and conflicting interests and motivations of a range of stakeholders in developing and implementing various solutions. By detailing these negotiations via rich empirical analysis, this project offers a substantial study of the complex interactions between politics, government, technologies and the social.

Chapter Two

A look in the rear view mirror: Mapping the connections between cars and phones

Over the last ten to fifteen years there has been much debate on the dangers of using a mobile phone while driving, but these discussions often fail to engage with historical, sociological and political perspectives. Understanding and articulating such perspectives is important because they shed light on the influences on current behaviour. This chapter explores some of the major factors which help explain how a significant minority of motorists have come to use a phone while driving. It gives an account of the interweaving trajectories and points of convergence for the car and telephone, explaining how and why they have both become an integral part of people's lives. I start by exploring some of the complementary effects that telephony and vehicles have had on communication, travel and mobility. I then consider the technological, social, political, economic, functional and conceptual features that have driven the development and use of mobile telephony in vehicles. Mapping this territory is important in terms of setting the scene for contemporary debates.

Cars and phones: A complementary relationship

Automobiles and telephony both emerged around the beginning of the twentieth century. At first two distinct technologies, the car and phone became linked, in limited ways, in an active and complementary relationship, forming social and technological connections that have helped shape current forms of mobile phone technology and its uses. Offering 'some of the same space-transcending functions' (Fischer, 1992, p. 24), vehicles and telephony have combined to have a significant impact on the everyday practice of communication and mobility.

Up until the late nineteenth century, the transmission of information was generally tied to the speed of physical transport (for example, by foot or horse), yet with the advent of telegraphy, telephony and radio communication, the message became detached from the speed of travel. Radio waves and electrical wires replaced correspondence via land – 'the message [did] not need a messenger' (Huurdeman, 2003, p. 3) – and communication between two fixed points became effectively instantaneous. The next

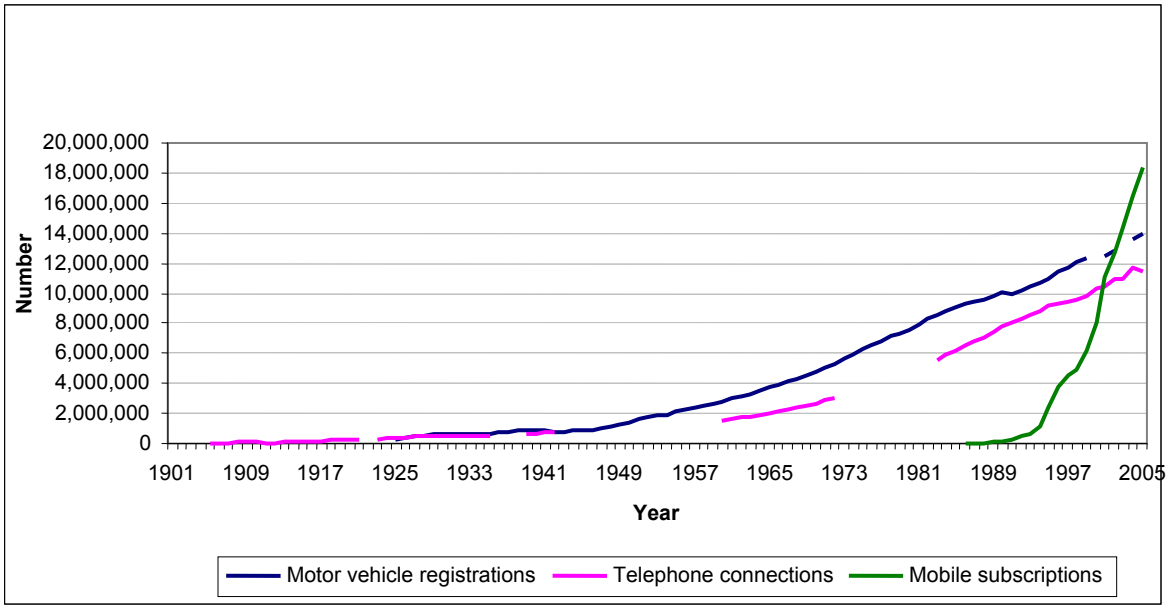
step was the erosion of the role of geographic location. Communication via landline phones initially depended upon access to a sending device at a fixed site and knowledge of the recipient's location. Mobile telephony facilitated a fundamental shift: communication between two *mobile persons* was made possible. In Wellman's terms, 'mobile phones afford a fundamental liberation from place…[shifting] the dynamics of connectivity from places…to individuals' (2001, p. 238; see also Truch & Hulme, 2004). Rendering 'geography less coercive' (Brown & Duguid, 2002, p. xix), wireless communication moves interaction from place-to-place to person-to-person: 'the person has become the portal' (Haythornthwaite & Wellman, 2002, p. 34).

While motor vehicles did not provide instantaneous connection or 'collapse distance' in the same way as telephony (Cooper et al., 2002, p. 295), they did introduce a more individualised form of transport, making point-to-point travel progressively faster and, significantly, more accessible. Mobile telephony, then, can be seen as a response to, or product of, a more mobile society where the value of wireless communication increases as transport systems expand. As Ling points out:

> It is possible to say that the mobile telephone has completed the automobile revolution. Where the automobile allows flexible transportation, up until the rise of mobile telephony there has been no similar improvement in the real-time ability to coordinate movements. When you were en route, you were incommunicado. The mobile telephone completes the circle. (2004, p. 69)

Given these areas of overlap, it is no surprise that their trajectory of dissemination is similar. It is notable that Fischer's book on the social history of the telephone up until 1940 adopted automobiles as a comparative technology. During this time, he states, the two objects became 'staples of American life', where people came to 'know, adopt, use, and adapt to the innovations' (1992, p. 29). In the United States, the geographical patterns of telephone and automobile diffusion were very similar, responding in particular to urban commercial development and farm conditions. Vehicle ownership and telephone connections in Australia followed a similar trajectory (see Figure 2.1).

Figure 2.1: Motor vehicle registrations, landline telephone connections and mobile phone subscription in Australia, 1901-2005



Note: The gaps in this graph are due to the difficulty in accessing the required data.
Sources: ABS (1983, 1991, 2005b); Australian Communications and Media Authority (2005); AMTA (2003c); Australian Telecommunications Commission (1991); Australian Transport Safety Bureau (2003); Commonwealth of Australia (1960, 1972, 1996); International Telecommunication Union (2001, 2002, 2003b, 2004); Paul Budde Communication (1998)

Perhaps because of their overlapping qualities, phones and cars have been regarded at times as competing technologies, at least in terms of consumption. Fischer, for example, suggests that automobile ownership in the United States may have undercut telephone subscription from 1920 to 1940. A mid-1950s article in the *RoyalAuto* (the official magazine of the RACV) is also telling. It trumpets:

> Americans boast that they are so automobile conscious that they have more motor vehicles than telephones. Well, Australia can easily make the same claim. At September 30 last the figures were: Motor vehicles, 1,863,300; telephones, 1,504,000. Back in mid-1947 the figures were much alike, with 926,000 motor vehicles, and 920,000 telephones, but in the last seven years vehicles have jumped well ahead. Victoria at September 30 last had 550,500 motor vehicles and 479,300 telephones. The PMG's Department reports that at the same date the waiting list for telephones in Australia was 97,933. Judging by the time lag in deliveries on some popular makes, the figure for automobiles should not be any lower. (*RoyalAuto*, 1955, p. 10)

This statement highlights how two innovative technologies had taken a dominant place in the public's daily life, indicating widespread appeal and revealing their emergence as symbolic objects of consumption. I will elaborate on the role of car phones in people's lives later in this chapter.

At this point it is useful to pause and consider the concept of mobility. Given that the term is central to wireless technology – evident most obviously in the common usage of the term 'mobile phone'[1] – it compels closer analysis. It may be obvious that cars and phones are technologies of mobility, but what does this mean? The *Oxford dictionary of English* (2005) defines mobility as 'the ability to move or be moved freely and easily'. While telephony is often presented as a technology that transcends the 'limitations of geography and distance' (Cooper et al., 2002, p. 296), there are real-world factors which both facilitate and limit its use. For example, the hand-held phone only becomes mobile when the *user* becomes mobile. Its utility is therefore driven by broader developments that enable people to move physically and have freedom of movement, the most prominent example being the car (and including trains and planes). This form of personal transport has made possible a faster and more efficient means for people to *become* mobile and, in turn, has helped spawn significant changes, such as the spatial dispersal of social networks, urban sprawl and, more generally, longer commuting distances and more time spent in transit. Without talking too generally or exaggerating the effects, the point is that people are spending a large amount of time travelling, often in cars.

This trend is more pronounced in countries such as Australia and the United States. Compared to European and Asian cities, which are more compact and densely populated (and where people are more reliant on public transport), the cities in these countries are less densely populated and have greater urban sprawl. For example, Australia's capital cities are among the world's lowest density cities (measured as persons per square kilometre). This heightens reliance on motor vehicles. In this context, a portable phone becomes an important tool for people who want to

[1] In this thesis, the terms *cell phone* and *mobile phone* are used interchangeably. These are used differently in various countries, for example, in the United States they are referred to as cell phones, whereas in Australia the popular term is mobile phone.

communicate while on the move, and allows a greater degree of accessibility than is offered by landline services. As James (2004, p. 204) put it:

> mobility is seen as one of the crucial affordances of the technology [that is, mobiles], even though strictly speaking it is trains, cars and feet that afford mobility…the mobile phone only affords communication and portability in and to a wider range of places.

It is also worth remembering that, although they are often conceptualised as technologies of freedom, cars and phones operate within a large, fixed network. For a start, they are reliant upon substantial systems of physical infrastructure. As Agar explains:

> For the whole cellular [mobile phone] idea to work, a whole *fixed* infrastructure needed to be in place: base stations, a MSC [mobile switching centre] constantly interrogating a database of personal and geographical information, and connections to the old Public Switched Telephone Network (PSTN)…a massive fixed infrastructure of wires, switches and agreements needed to be in place for mobile conversation. Mobility, strangely, depends on fixtures (2003, p. 22, emphasis in original).

In a similar way, vehicles require roads, petrol stations, parking space and so on. There is a network of institutions which undergird both technologies: car and phone manufacturers, service providers, retailers, private companies and, perhaps most significantly, government. Each limits people's use of the technology.

The *immobility* of travel can also be stressed. In most instances, travel paradoxically requires passengers to be immobile, creating a distinction between moving and movement; that is, 'to move from one place to another it is not generally necessary to move oneself, but to get oneself moved' (Fortunati, 2001, p. 87; see also Beckmann, 2004). This may seem a trivial distinction, but it has ramifications for phone use in vehicles. Driving enables movement but has a contradictory element of inactivity: drivers are locked into a stationary position by a seatbelt and, although manipulation and control of the vehicle is required, they are able simultaneously to operate a mobile

phone (albeit to the potential detriment of driving performance, as we will see). Laws in many countries now prohibit use of a hand-held phone while driving, and calls can only be made once the car is stopped and the motor turned off. Agar describes this as 'a new attack on an old alliance between two technologies of mobility' (2003, p. 127). As argued here and throughout the thesis, the notion of cars and phones as enhancing freedom and liberating people from physical constraints can be overstated and needs to be placed in context: the real-world operation of both technologies occurs within networks of organisations, policies, institutions, laws and physical infrastructure.

Having sketched this complementary relationship between cars and phones, it is time to examine specific connections. While others have offered a broad history of mobile telephony, taking in its political, social and cultural dimensions (for example, Agar, 2003; Farley, 2000, 2004; Goggin, 2006a), the remainder of this chapter will emphasise the particular and peculiar relationship between vehicles and telephony by looking at the political, economic, technological and social factors which have driven the development and use of phones in cars. Vehicles have played a pivotal role in the development of mobile telephony and, as Briggs states, 'transportation should never be left out of the history of communication' (2004, p. 101). Starting with the introduction of experimental, non-commercial mobile radio phones and moving through to contemporary mobile telephony systems, I show that mobile technology has been shaped by a range of social, economic and political influences.

A technological history[2]

The technological development of mobile telephony can be split into two eras: pre-cellular and cellular. Mobile radio telephony, predecessor to the cellular system, represented the first attempts at wireless voice communication. This type of technology was based on the transmission of radio signals between a telephone station and a vehicle. Similar to being paged, drivers were broadcast radio messages via receivers in their car. The systems were generally one-way, with drivers needing to return the call at a telephone station (Farley, 2004). Military and civil authorities experimented extensively with radio telephones, and police and emergency services pioneered mobile

[2] An earlier version of the ideas presented in this section is discussed in Jessop (2006).

radio from the 1920s (Farley, 2004; Huurdeman, 2003). Rudimentary models were installed in police cars in the United Kingdom (Huurdeman, 2003) and the United States (Dobson, 2002) during this time, and in the 1950s in Victoria (as discussed later in this chapter). Detroit police were the main protagonists, working hard to establish radio broadcasts to their cars. Led by a visionary commissioner, it was a slow process, taking the best part of a decade to come to fruition. When the first operational mobile radio system went to air in 1928 in Detroit, its effectiveness was 'immediate and dramatic'; visitors arrived from all over the world to inspect it, and 'equivalent systems were established in many cities' (Calhoun, 1988, p. 26). It didn't take long before news of these developments hit Australian shores. *Radiator*, official magazine of the RACV,[3] reported in 1936 that 'inter-car telephony is already an established fact', relating the story of an American motor magnate who had 'recently had a telephone fitted to his motor car' (p. 7).

Although these early radiophone systems were groundbreaking at the time, they were limited by several factors such as the manual operation of networks and bulky terminals, and voice communication was restricted to one-way (Calhoun, 1988; Mouly & Pautet, 1992; Rappaport, 2002). The telephone network and radio systems tended to remain separate (Agar, 2003), and it took until around 1946 before mobile phones were connected to the landline network (Calhoun, 1988). Battery power was a limitation, too: Swedish police cruisers could only make half a dozen calls before the battery ran out, and rumour had it that the 'equipment devoured so much power that you were only able to make two calls – the second one to ask the garage to send a breakdown truck to tow away you, your car and your flat battery' (Farley, 2004, n.p.). In addition, use of the radio spectrum was inefficient. The frequency space carrying radiophone calls filled up quickly and, as a result, network capacity was severely restricted. This hurdle was overcome by cellular technology.

[3] I refer to the two official magazines of the RACV throughout this thesis. The *Royal Auto Journal* was first published in the mid-1920s. In 1936, this changed to *Radiator*, a newspaper-style publication and, in 1953, reverted to *RoyalAuto* which remains the current name.

The cellular concept is reported to have emerged in 1947 when D. H. Ring, a Bell Laboratories worker, published an influential paper outlining frequency re-use. Instead of using one frequency across a large area, calls would be transferred between smaller zones (called cells) as the mobile phone moved around. In this system, each cell uses a different frequency, and the mobile phone signal is automatically switched to another frequency as it moves from one cell to another. This system would improve call quality and network capacity, as well as facilitating a more efficient use of the frequency spectrum (Farley, 2004).

Despite the cellular theory being floated in the 1940s, technological progress varied across countries, influenced by political, economic and regulatory contexts (Agar, 2003). Advances in the United States were slow. This was partly attributable to a lack of support from the Federal Communications Commission, which limited opportunities for research by failing to allocate an adequate amount of frequency spectrum, instead favouring other well-established broadcast technologies such as radio and television. More broadly, the communications industry was not very supportive of cellular research, with the 'area…considered by many to be a professional backwater' (Brown, 2002, p. 9). Indeed, one United States academic described it as akin to being 'lost in the desert' (Carr, 1998, n.p.). Nevertheless, development heated up by the 1970s when the commission allocated licences for a trial cellular network, with the first call being made from a portable hand-held phone in 1973. The United Kingdom mirrored the United States' experience, with authorities delaying access to the telephone network and frequency space (Agar, 2003). The government granted two cellular licences in 1982, culminating in the deployment of the country's first cellular service in 1985. Along with other nations including France, Germany and Italy, the United Kingdom government decided to implement an autonomous cellular network, resulting in 'ten incompatible standards' throughout Europe (Agar, 2003, p. 55).

By comparison, Japan and the Scandinavian countries were more supportive of the mobile phone industry, organising and nurturing a unified cellular telephone system. As early as 1955 Sweden inaugurated Europe's first mobile telephone system, and twelve years later the chief engineer at Swedish Telecom Radio 'suggested that an automated nationwide mobile telephone…network should be built [and] integrated with the landline network' (Agar, 2003, p. 48). The Nordic Mobile Telephone (NMT) group,

comprising Denmark, Finland, Norway and Sweden, was established in 1969, leading to the launch of the NMT cellular service in 1981. Japan's attention to the technology reflected that of the Nordic countries. Research into 'a [suitable] land mobile telephone system…was initiated in 1953' and in 1967 a nationwide cellular radio scheme was proposed, and developed shortly thereafter (Huurdeman, 2003, p. 520). This led to the introduction of the world's first commercial cellular network in 1979.

By the late 1970s Australia maintained a 'severely limited, manually connected public radio telephone service' (Clark, 1977, p. 8). There was no access to the public telephone network and use was only suitable for vehicles due to the size of the transceiver. As an employee from the Australian Telecommunications Commission pointed out rather accurately to the 'Mobility and Energy' conference of the Society of Automotive Engineers held in Melbourne in 1977, 'the future service, perhaps of the 1990s, could be truly portable, of a size conveniently carried in the purse or pocket' (Clark, 1977, p. 8). The first automated, but non-cellular, mobile phone system was launched in 1981 in Melbourne and Sydney for use in vehicles, but was prohibitively expensive. In today's terms, boot-mounted systems cost the equivalent of around $14,300, with an initial connection fee of $1,000 and annual costs amounting to $2,300.[4] Portable analogue phones became available six years later, first in Melbourne and Sydney, then spreading to regional areas (AMTA, 2003c). The *Australian* reported that 'Telecom's new cellular mobile telephone service starts in Sydney in February with 10 companies planning to offer various vehicle-mounted and brief-case sized personal handsets' (cited in Beaumont, 2002, p. 6). By this time, the cost of handsets had dropped by half to $7,579.

In spite of diverse trajectories and regulatory environments, analogue networks were in operation in most industrialised countries by the end of the 1980s (Huurdeman, 2003). Referred to as *first generation* technology, these systems were based on an analogue signal, an emission produced by the conversion of sound waves into electrical impulses. As Table 2.1 indicates, first generation cellular systems were introduced in a cluster of countries according to a similar timeframe. It is interesting to note the discrepancies between countries, most notably Australia's relative delay in launching a network, eight

[4] 1981 prices are taken from the AMTA (2003c), and have been adjusted according to Consumer Price Index calculations based on ABS data (2005a).

years later than Japan. While it is beyond the scope of this thesis to explore the reasons behind this, the differences highlight how non-technological factors have influenced the introduction of mobile networks.

Table 2.1: Year of introduction of (analogue) cellular networks

Country	Introduction of first commercial analogue network
Japan	1979
Germany	1981
Scandinavia *	1981
South Africa	1981
Spain	1982
United States	1983
Austria	1984
United Kingdom	1985
Italy	1985
France	1985
Australia	1987

* Scandinavia comprises Denmark, Finland, Norway and Sweden.
Sources: Adapted from Farley (2004, p. 9) and Mouly & Pautet (1992, p. 27).

Up until the 1980s, vehicles played an integral role in the maturation of radio and cellular telephony. The first radio phones were housed in automobiles. As they were powered by large and heavy batteries, this was equivalent to 'driving around with a complete telephone station in the car' (Farley, 2000, n.p.; see Figure 2.2 for an example of one such system). Valuable partnerships in research and development were also apparent. During the 1970s the Institute of Electrical and Electronics Engineers' Vehicular Technology Group sponsored several mobile communications symposia, and the vehicular technology conferences provided 'mobile radio and cellular experts' with an opportunity to 'present and publish' their findings (Carr, 1998, p. 103).

Figure 2.2: A vehicle fitted with an early mobile radio system, United States, 1920s

Source: Farley (2004).

This relationship was to change dramatically as mobile phones began to develop an identity separate from vehicles. Cellular technology acted as a catalyst in initiating the transition of phones from car-bound to an individual, portable device. 'Cellular systems', as Carr points out, 'facilitate[d] the widespread use of portable phones, as opposed to larger vehicle-mounted units that were the most common type of mobile unit in the pre-cellular era' (1998, p. 84). This is true only to an extent. The grouping of *pre-cellular* with *car-bound phones*, moving on to *cellular* with *portable phones,* is too simplistic. The earliest models of first generation analogue (cellular) phones were still used primarily in vehicles and were of the 'vehicle-mounted unit' type that Carr speaks of; that is, cellular technology did not immediately lead to the emergence of portable phones. Although cars could be equipped with a telephone, 'the development of the mobile phone was an independent development' (Fortunati, 2001, p. 89). This distinction is important because although hand-held portable phones have become the dominant type of phone used in cars, car phones were, and continue to be, installed in vehicles. As this thesis unfolds, the differences between various types of mobile phones (including hand-held, hands-free and car-kits) will be teased out in regards to effects on driving performance (Chapter Three), the development and interpretation of laws (Chapters Four and Five) and strategies concerning the self-regulation of phone use in vehicles (Chapters Six and Seven).

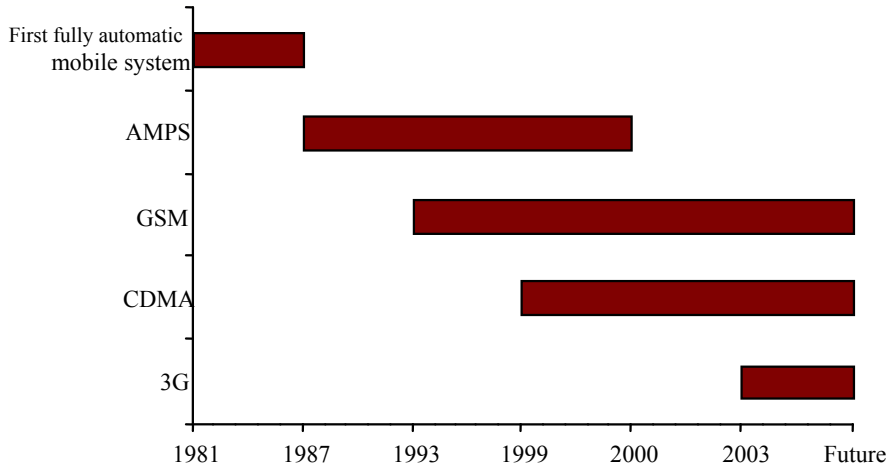
While cellular technology was an important impetus for the phone's move out of the car, this shift was also due to the convergence of several other technological advances. The advent of integrated circuits, microchips and high capacity batteries progressively reduced the size and weight of the hand-held phone, which became small enough to be carried around. This was a relatively quick process, and the physical hardware of mobile technology changed unexpectedly. 'Work on tiny mobile telephones is already well under way', reports a mid-1980s article in the *Australian*:

> The system will be restricted to hand-held 'walkie talkies' and mobile phones in cars and boats for the time being. But Telecom hopes to develop it for use of pocket telephones which are still figments of the future. (cited in Beaumont, 2002, p. 6)

Little did the telecommunications industry know how promptly this forecast would become a reality, let alone its impact on ownership rates. While Telecom had predicted a pool of 150,000 users eight years after the 1987 launch of the new service, by the end of this time the number had ballooned to 1,125,000 subscribers.

In tandem with these improvements, second generation mobile phones began to appear in the mid-1990s. In contrast to first generation technology, these are based on digital transmission of information, which means that data (typically voice and text) is converted into binary computer code. This results in a sharper, clearer and faster transmission of information compared to analogue, as well as less noise and interference (AMTA, 2003a). Aside from better call quality and higher capacity, second generation phones are also less expensive to own and operate (International Telecommunication Union, 2003a). The next step was third generation technology, which further enhanced and extended the phone's applications. Based on wideband digital radio communications, new functions include in-built cameras and the ability to send photos, access the internet, download music or watch television. Figure 2.3 shows when analogue and digital standards were introduced in Australia. As can be seen, the analogue network (Advanced Mobile Phone System) was phased out by the government in 2000.

Figure 2.3: Mobile (cellular) telecommunications timeline, Australia



Note:
AMPS = Advanced Mobile Phone System (first generation)
GSM = Global System for Mobile Communications (second generation)
CDMA = Code Division Multiple Access (second generation)
3G = third generation
Source: AMTA (2003b).

The materialisation of digital mobile telephony coincided with and contributed to sharp rises in use and ownership, evident in penetration rates across the globe. Mobile ownership overtook landline subscription worldwide in 2002, and some countries now have a mobile penetration rate exceeding 100[5] (Srivastava, 2005). As with analogue systems, second generation technology resulted in explosive growth in Australia. When Telstra launched the GSM network in 1993 there were 635,000 analogue phones, owned by less than 4 per cent of the population; ten years later there were 14 million subscribers and approximately seven out of every ten residents used the device. Mobile penetration in Australia currently stands at 90 per cent, around 18.5 million owners (Australian Communications and Media Authority, 2005).

Beyond technological improvements, a constellation of economic and structural factors contributed to the expansion of mobile telephone markets. These include falling prices, the introduction of pre-paid cards (in contrast to fixed-term subscription contracts), subsidisation of handsets, lowering of tariffs, market entry of service providers resulting in competition, and the expansion of network infrastructure (Burgess, 2004; Crabtree et

[5] Mobile penetration rate refers to 'mobile services per 100 inhabitants' (Australian Communications Authority, 2003b, p. 85).

al., 2003; Feldmann, 2003; Schrott & Gluckler, 2004). Although it is hard comparing prices over time due to the different payment structures, the cost of owning and using a mobile has dropped considerably. In 1981 it cost just over $17,000 to buy a phone and pay a connection fee, with annual expenses of $2,300[6] (these amounts are in 2005 terms). Fast-forwarding to 2005, the Australian mobile phone industry's peak body reports that the average revenue per user (a figure indicating the overall cost of handset ownership and use) was $45 per month, or approximately $540 a year (Australian Communications and Media Authority, 2005, p. 83).

Factors driving mobile telephone use in vehicles

Each of the factors described above assisted the device in becoming a common personal communication tool, moving it from inside vehicles to people's pockets and handbags. Far from spelling the end of the association between cars and phones, these developments helped usher in a new, and for the most part unexpected, relationship. From the early 1990s they began to re-converge in a new way, with mobile phones being used by an increasingly large number of drivers (in the form of hand-held, car-kits, Bluetooth, speaker phone and others). As more and more drivers reached for their mobiles and began to talk, evidence of accidents (and in some cases fatalities) started to mount. As the next chapter shows, concerns about the concurrent use of telephony and operating a motor vehicle are not exclusive to the last two decades, yet it took until the 1990s, when mobiles achieved widespread dissemination, before the dangers became tangible.

But let us take a step back. While the factors considered above meant that it was more practical and accessible to use the device in vehicles, it was by no means inevitable that so many people would use them while driving (as has become the case). Fatalities attributed to the activity have resulted in intense coverage in both the media and academic literature, fuelling debates about the degree of risk and potential consequences and raising fears about the impact on traffic safety. There is now also a legal imperative: many countries, including Australia, have banned the operation of hand-held devices in

[6] 1981 prices are taken from the AMTA (2003c), adjusted according to Consumer Price Index calculations based on ABS data (2005a).

moving vehicles. These influences have, in different ways, challenged the use of phones in cars.

In spite of this, drivers in many nations have continued to use phones, both legally and illegally. As Ling contends:

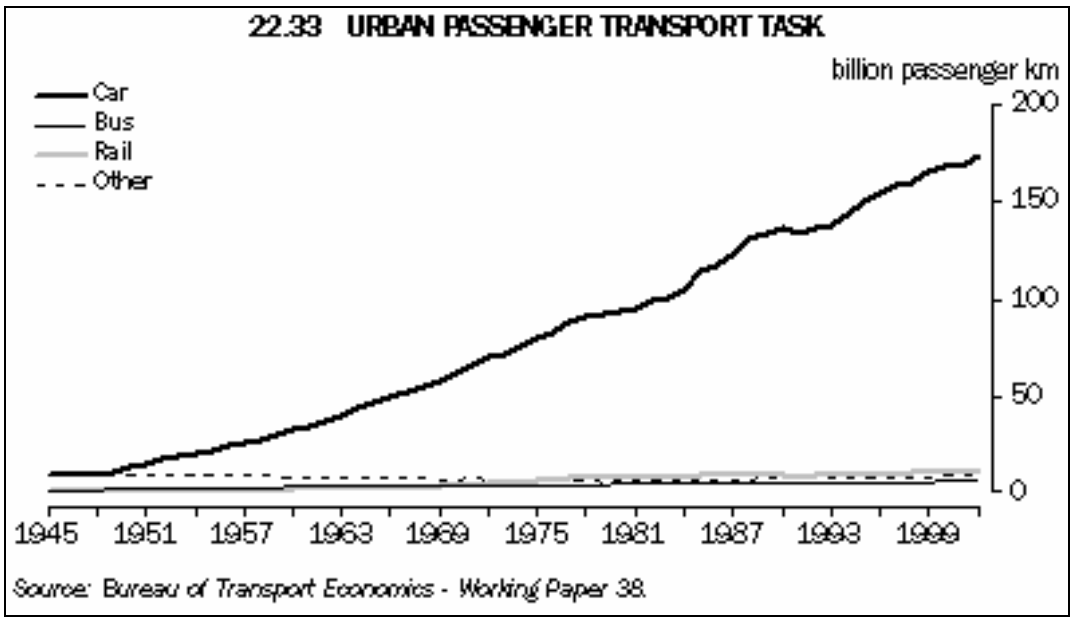
> Although there is a strong sense that use of the mobile telephone while driving is dangerous, there is nonetheless strong motivation to use it in that situation… Thus, *the question is why mobile communication has become part of driving*. (2004, p. 51; emphasis added)

To answer this question it is necessary to draw on several (non-technological) factors which have, in their own way, driven the development, production and adoption of mobile telephony and contributed to the continued association between phones and cars. Given that some forms of phone use are undesirable because of the risk of accidents and that the practice is illegal in many countries, it is important to understand the motivation behind phone use in cars in order to develop suitable strategies aimed at modifying driving habits. A description and evaluation of various approaches is covered in Chapters Four through to Seven. Another benefit of detailing these influences is in identifying the unique characteristics of mobile use as a road safety issue. Throughout this thesis I use drink-driving and seatbelt wearing as comparisons, yet each carries its own set of peculiarities, problems and appropriate strategic responses. Altogether, reflecting on these connections deepens our comprehension of contemporary uses and facilitates the development of a more circumspect and balanced view. In turn, the following section makes use of various sources in exploring some of the primary reasons which help explain the use of phones in cars. Before delving into these features, it is worth noting how both technologies have been integrated and accepted into people's daily lives.

Cars have become a pivotal component of daily modern life. On a practical level, they have come to dominate as the primary mode of personal transport. In Australia the number of private cars has risen dramatically since the 1950s: there were 10.9 million registered cars and station wagons in 2005, compared with 769,000 in 1950 and 76,000 in 1920 (ABS, 2005a, 2005b). As Figure 2.4 indicates, car use dwarfs other forms of

transport, including bus and rail. Indeed, private road vehicles represented approximately 93 per cent of city passenger transport in 1995, and in 2005 passenger vehicles accounted for 78.3 per cent of all vehicles registered in Australia (ABS, 2005b).

Figure 2.4: Urban passenger transport by kilometres travelled, Australia, 1945-2002



Source: ABS (2005c).

This pattern of adoption has produced a range of cultural, environmental, economic and social effects. Geographically, vehicles have achieved dominance over landscapes. Bell coined the term 'carchitecture' in order to describe the 'space created in the automobile's wake, the landscape of the car' (2001a, p. 12; 2001b). 'To accommodate the explosion of the world's car population', he states, 'our cities have been continuously scoured, razed and rebuilt' (2001a, p. 12). Davison documents this process in Melbourne. Describing the intense and prolonged conflict that took place over ambitious plans to build an extensive freeway network, he concludes by recognising the 'victory' and 'triumph' of the car. However, as the title of his book suggests (*Car wars: How the car won our hearts and conquered our cities*), cars are much more than a functional object which has shaped our physical environment and grown to be the principal mode of transport. Managing to permeate people's lives in a more intimate manner, in Davison's terms they have 'won our hearts'.

Personalised descriptions of vehicles and their effect on culture are not new. Over the years, writers have detailed the car's connection to independence, desire, status, sexuality and self-expression. 'The automobile satisfies not only our practical needs but the need to declare ourselves socially and individually', say Marsh and Collett in *Driving passion: The psychology of the car* (1986, p. 5). Comments in RACV focus groups show this to be a reality for some motorists. 'Without a car I wouldn't have a life', states one young man. For another, 'my car is the most important ingredient in my independence' (Cumming, 1998, p. 6). As Marshall McLuhan put it, 'the car has become an article of dress without which we feel uncertain, unclad, and incomplete' (cited in *RoyalAuto*, 2006, p. 8).

So strong is the connection, vehicles have been conceptually linked to the human body. According to some they provide a womb-like security and act as 'a mechanical extension of self' (Davison, 2004, p. 115). 'Cars breathe air, and run on hydro-carbon fuel, just as we do, and their personalities influence our own', suggests Herrick (2006, p. 17). Exemplifying this integration of man and machine, the advertising tag line for a 2006 model Lexus espouses the philosophy of car and person being able to 'move as one': 'flesh, blood, bone, sinew, every molecule that makes up your being, come together in a body that accelerates as one, corners as one, and moves as one'. This rhetoric has even permeated into the development of vehicular technology. For example, the Rinspeed Senso concept car has been designed to sense a driver's emotional state by measuring and monitoring biometric data. Specially composed music, changing colour displays and emitted scents are used to alter the driver's moods, producing a calming, neutral or stimulating effect.

The paragraphs above capture some of the cultural representations of cars, emphasising people's intimate connection with them. In much the same way, mobile phones have been conceptually likened to an extension of the body (Lasen, 2002; Licoppe, 2003; Townsend, 2000, 2002), an 'umbilical cord' (Fortunati, 2002, p. 518), and a 'complement limb…[which] function[s] as a hearing aid with a loud speaker' (Hallin, 2003, p. 5). In *Machines that become us*, Katz goes so far as to explore the hypothesis that mobile phone users may eventually want the technology incorporated into their physical body (2003). Sturken describes the integration of technology into bodies as the 'cyborg metaphor', a philosophy which has prompted 'new kinds of mobile

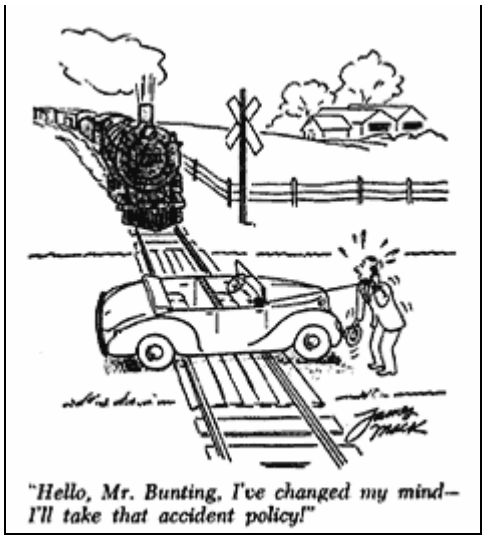
technologies that are less separate from the body', including 'tiny headphones for cell phones' (2004, p. 86).

Clearly these two technologies are now a vital part of life for many. But back to one of the primary questions I asked at the start of this thesis: how and why are mobile phones used while driving? I suggest there are three main factors here: safety and security, work and business, and the desire for social communication. The influence of each is not limited to the last two decades, but can be traced back to the early 1900s.

Road safety

Perhaps the most obvious factor driving the development and consequent use of phones in vehicles has been the imperative to enhance safety and security on the roads. Mobile radio telephones have been used to report mechanical trouble and access roadside services for over half a century. In 1948 *Bell Laboratories Record* told of a taxi driver who used his radio telephone to report a car stuck on a railroad crossing (Farley, 2004). That same year the *Record* published a cartoon depicting a man using his car phone to take up an accident policy as his vehicle is about to be hit by a train (see Figure 2.5).

Figure 2.5: Cartoon from *Bell Laboratories Record*, April 1948



Source: Farley (2004).

Around this time, the RACV began to install radio phones in their road safety fleet. In 1951, in order to 'speed up attention to service calls', it offered contracts for the fitting of all patrol cars with two-way radio (*Radiator*, 1951a, p. 13). From the following March, patrolmen and tow truck drivers equipped with 'the world's latest type of mobile wireless telephone' were directed to assist motorists from a central control station. After leaving the depot, drivers were kept in 'instant and continuous… communication with the control officer' within a 20 mile radius. Acting service manager Mr Drummond proudly stated: 'with radio-control I see no reason why RACV service on the road should not be equal to any similar service offered anywhere in the world' (*Radiator*, 1952c, p. 1).

The system was declared to be a success. According to stories printed in *RoyalAuto*, it did not take long for the new technology to produce results:

> Driving home from the theatre one evening with his wife, a member of the RACV was dismayed when his engine stopped. He pressed the self-starter and juggled hopefully with the different knobs on the dashboard, but without success…so he did what thousands of motorists in a similar plight have done – he rang the RACV and reported his plight and the position of his car. When he returned to the vehicle, he found an RACV patrol already there.
> 'How did you get here so quickly?' he asked.
> 'I had just finished a job two streets away, sir', replied the patrol. 'I rang the Patrol Station on the wireless telephone in my car and was told that you were nearby and needed assistance. So here I am.' (1954b, p. 4)

Response times were cut by half (*Radiator*, 1953b), and according to a 1953-54 report it provided a 'speedier' service and 'proved such an advantage over the old system that it is hard to imagine how the service could have met the present demands efficiently without it' (*RoyalAuto*, 1954b, p. 4). The next year a similar system was installed in Victorian ambulances, with the RACV running a Civil Ambulance Appeal to raise funds for the equipment. The president asked for members' support:

> In the Club we know the value of our radio equipped road patrol cars. This installation has saved us considerable time…it seems logical to us that

> ambulances should be similarly equipped…will you do your part to ensure for your own and your family's sake an efficient Civil Ambulance Service by sending a donation to the Club? (*RoyalAuto*, 1954a, back page)

Moving on four decades, safety has been cited as a major reason for the mobile phone's increase in popularity during the early to mid-1990s. At the 1994 International Congress on Transportation Electronics in Michigan, a Motorola employee presented a paper on 'Cellular communication: Its role in personal protection and vehicle safety', noting that:

> Today, cellular phones are commonly being used to call roadside assistance and alert authorities of impending hazards to both drivers and those around them…[it] offers the user protection of being able to communicate with someone who can help if an on-road emergency should arise. (Sexton, 1994, p. 521)

Mobile phone companies were quick to respond to this trend, using it as a marketing strategy. Cellular telephone operators in the United States tailored simplified deals for those who 'want[ed] protection for themselves or their families while they are in the vehicle and encounter an emergency situation' (Sexton, p. 522). The plans offered lower monthly access charges and high per minute usage fees. A glance at advertisements in *RoyalAuto* also shows how companies promoted the benefits of phones in emergency situations. 'Experience the safety, security and convenience of staying in touch – because although you cannot predict emergencies, you can plan for them' and 'You're not on your own with a mobile phone', promise two ads in 1994 (RACV, 1994a, 1994b). That year also saw the magazine feature several mobile phones which came with pre-programmed numbers that dialled the RACV's 'Roadside care' (RACV, 1994c, 1994d). Other ads have pictures of people calling for help from a mobile: one of a motorcyclist who has broken down (RACV, 1996-97), another of a man who has been involved in a car accident (RACV, 1999a). In 2001 Optus Direct and Ryda Direct highlighted the importance of the device in terms of access to help. 'Safety is priceless. Peace of mind only $9 a month', offers one (Optus Direct, 2001a), along with: 'How else are you going to call the RACV?' (Optus Direct, 2001b) and 'Your emergency glove box phone' (Ryda Direct, 2001a, 2001b).

Research and anecdotal evidence in Australia and abroad reflects this pattern of use. In 1998 a study funded by the Australian Mobile Telecommunications Association (AMTA) on the emergency use of mobiles found 12 per cent of respondents had reported a road accident involving others (Chapman & Schofield, 1998). At the Victorian parliamentary inquiry into the country road toll in 2005, several witnesses highlighted the usefulness of mobile services. The director of operational services for Rural Ambulance Victoria said that 'enhancements to the mobile phone network…in rural Victoria [have] meant that people can contact emergency services, an ambulance in particular, in a much more timely manner' (Road Safety Committee, 2004b, p. 521). State Emergency Service officer Mr Emms reinforced this view, suggesting that passing motorists' reporting of accidents was common practice:

> What we find now with mobile phones is normally a passing motorist is one of the first calls – they will ring a police station which will go into the police dispatch area and normally dispatch one police car and an ambulance if the information that is fed in indicates that there are people injured. (Road Safety Committee, 2004a, p. 219)

Recognising the mobile's role in road safety, the Australian federal government allocated funding for increasing mobile phone coverage along highways in order to assist travellers in business and personal activities and to provide 'greater access to phone services in case of breakdown or emergency' (Department of Communications, Information Technology and the Arts, 2004a, n.p.).

In the United States, a cellular impact survey commissioned by Motorola in the mid-1990s indicated that 40 per cent of respondents had called in order to help other motorists' broken-down vehicles and 34 per cent for assistance for their own car (Sexton, 1994). Nine out of ten people felt they were safer and more secure having a phone with them on the road. Qualitative interviews in Norway support this data:

> I got my first mobile telephone eight or nine years ago. I bought it simply because I often go to the mountains alone. Suddenly your car stops and it is about -5 Fahrenheit. What am I to do then? (Ling, 2004, p. 36)

> I was involved in a collision and I had a mobile telephone…It was out in the country and a long way to the next house. It was really good to have it. (p. 41) Things can happen. I have just experienced that a friend of mine was in an accident, and if it hadn't been for a mobile telephone at the site of the accident it might have been worse. (p. 41)

Apart from outbound calls, less obvious applications have been making their way into the on-road experience. Mr Stafford, executive director of ITS Australia, outlines the interplay between the two technologies:

> By identifying the location and speed of a mobile phone we can then extract from the network what they call floating mobile phone data to reconstruct traffic information. Mobile phones are deployed nationally. Many of the road authorities' information is bespoke to that region. Car companies sell cars nationally. Mobile phone companies sell phones nationally. National information sets are a critical component, so we do see a technology already looking at whether the phone is moving, the type of movement and using it in a positive context. There are obviously applications to examine the movement of mobile phones. (Road Safety Committee, 2006c, p. 3)

Governments and private companies are developing various embedded road safety measures that draw on this kind of infrastructure and relationship. For example, a United States project is aiming to reduce congestion by using drivers' mobile phones to trace traffic flow by measuring the time it takes the signal to change from one base station to the next (AAA Foundation for Traffic Safety, 2003). In Victoria, the Transport Accident Commission (TAC, 2004c) has been working on a system which uses mobile phone communications to notify emergency services of a vehicle's position after an accident. In the United States, 'the federal government requires mobile phone makers to embed location technology in phones…to help emergency services locate people when they call 911 in emergencies' (Marriott, 2005, n.p.). Realising the potential of these technologies, the Federal Highway Administration has begun to explore vehicle-to-roadside and vehicle-to-vehicle communication (Handwerk, 2004, n.p.). Likewise, the Federal Communications Commission has allocated valuable bandwidth for intelligent-vehicle purposes. A Federal Highway Administration official described

this as ‘a relatively generous spectrum’ allowance in an era where spectrum is ‘pretty tight’ (Handwerk, 2004, n.p.), illustrating optimism about the widespread benefits that automotive telematics promise.[7]

More direct and observable applications for drivers are filtering through and becoming available. A growing market has emerged for those who want traffic details sent to them via Short Message Service (SMS). In 2004 the RACV launched an SMS roadside assistance service to members. After the member has texted details of their location, the RACV sends a confirmation message advising that a patrol van is on its way (*RoyalAuto*, 2004). In the United Kingdom, GetMeThere.co.uk, a joint venture between Toyota and IS Solutions, offers customers SMS traffic alerts, providing details of traffic conditions before and during the trip.[8] Jon West, director of GetMeThere.co.uk, said ‘we have concentrated on not bombarding our users with ever changing information but ensuring they will have enough to make the right decisions when they need to’ (locationintelligence.net, 2005, n.p.). Introduced in July 2005, a service in a handful of major cities, including San Francisco, New York and Boston, draws upon live traffic cameras and information from a range of agencies (including the California Highway Patrol) to provide news about traffic conditions (Francisco, 2006). Major internet player Google provides a service, Google Local, where users can download local listings, maps and driving directions to their mobile phone (see Figure 2.6).

[7] Automotive telematics refers to the integration of computer and mobile communications technology within vehicles. Practical applications include vehicle tracking, satellite navigation and emergency warning systems.
[8] See http://www.getmethere.co.uk/cgi-bin/gmt_prod.dll/gmt/jump.jsp?id=TrafficAlerts

Figure 2.6: Example of a screen from Google Local

Source: http://www.google.com/glm/

Use for work purposes

Aside from reasons of safety and security, the commercial sector has played a pivotal role in the device's development and uptake. Businessmen enthusiastically embraced cellular technology from its inception, and taxi and truck drivers were early adopters of radio telephony (Solymar, 1999; Farley, 2004). Despite the pedestrian pace of technological development and restricted network capacity between the 1940s and 1970s, demand for cellular service far outweighed supply (Carr, 1998; Mouly & Pautet, 1992). This was a trend driven predominantly by elite businessmen (Lacohée et al., 2003). Introducing an experimental car phone in 1906, Lee de Forest, a prominent radio engineer, proclaimed: 'we hope it will be possible for businessmen, even while automobiling, to stay in constant touch' (cited in Churchill & Wakeford 2002, p. 161). In the late 1980s, when portable mobile phones were entering the market, consumption was primarily the domain of business users, executives and merchant bankers. Shortly

after, as prices began to fall, small-business and blue-collar workers started to use the device in large numbers (Goggin, 2006a).

The early uptake of mobile phones by businessmen and tradespeople makes intuitive sense: the increased accessibility of mobile telephony has the potential to greatly enhance work productivity, efficiency and flexibility (Goodman et al., 1999; Katz, 1999). Indeed, mobile phones were initially promoted as a work tool and explicitly spruiked according to their functionality in a business setting.

Churchill and Wakeford documented mobile companies' focus on the mobile worker, finding that 'advertising featuring workplace use of mobile devices' has been 'constructed primarily in terms of availability' of workers (2002, p. 161). In a study on professional drivers' use of phones, Troglauer et al. argue that it offers 'important strategic, timely and logistical advantages in the working routines of picking up or delivering goods between different locations, thus making the need for communication between the drivers, companies or customers likely to occur' (2006, p. 106). The mobile also fits with broader trends in work practices. As Castells points out, 'the emerging model of work is…the nomadic worker and the "office on the run"' (2001, p. 234). Nathan and Doyle refer to the 'hypermobile professional' in describing workers who are 'travelling ever harder, faster and further…this is the new hypermobility' (2001, p. 7). Cars are a major contributor to this increasingly mobile workforce, encapsulated in the term 'road warriors'[9] (Churchill & Wakeford, 2002, p. 164).

In this environment, mobile phones are a key tool. An ad for Telstra Mobilenet in *Trucking Australia* makes the point well: 'Whether you are driving down a highway in regional Australia or stuck in peak hour traffic, the Telstra…network offers smart technology suited to life on the road' (2001, p. 40). Recognising this, the VicRoads'[10] *Safer driving manual* (2002a) starts off by stating that the mobile phone is:

[9] They have also been referred to as 'road warrior weapons' (Miller, 2006, p. 10), in light of the potential for phones to contribute to traffic accidents.

[10] VicRoads is the registered business name of the Roads Corporation, a statutory corporation within the Victorian government infrastructure portfolio. Its purpose is to manage the state's arterial road network, implement road safety strategies and programs, and provide vehicle registration and driver licensing services.

> an important piece of work equipment for many of us today, particularly those whose jobs require regular travel, like sales representatives and field supervisors. They're invaluable for keeping in touch with head office…[and] making and breaking appointments.

Researchers have documented the practice of 'mobile work', which encompasses the use of mobile phones for work-related calls from vehicles (Churchill & Wakeford, 2002; Laurier & Philo, 1998; O'Hara et al., 2002; Sherry & Salvador, 2002). Laurier, in particular, has analysed the behaviour of workers who conduct business while commuting (Laurier, 2002, 2004; see also Esbjornsson & Juhlin, 2003):

> activities which were previously associated mainly with company office buildings are now carried out in company cars…mobile workers make frequent phone calls from their cars…to exchange and to distribute organisational knowledge, as well as to make future arrangements for meetings. (Laurier & Philo, 1998, n.p.)

Self-report data shows this to be true. In the United States in 1990, 80 per cent of respondents in one survey reported making business calls while commuting to or from work (Goodman et al., 1999), and up to 39 per cent of drivers in Australia admit to using a hand-held phone while driving 'to, during, or from work' (Telstra, 2004b, n.p.). Reasons for calling include letting the office know they're running late, organising a meeting and checking schedules. Referring to these findings, Telstra's managing director of mobile sales and solutions said the main reason people used their phone to, during or from work was for business related purposes (Telstra, 2004b).

More broadly, as people spend extended periods of time in their cars, the device provides a prime opportunity for drivers to stay accessible and make the most of otherwise dead or unproductive time. A growing literature has focused on a perceived lack of time in Western societies, described variously as the time squeeze (Southerton, 2003), the feeling of being harried and hurried (Southerton et al., 2001), time scarcity (Kaufman-Scarborough & Lindquist, 2003) and time crunch (Robinson & Godbey, 1996), to name a few. The argument here is that people are feeling as though there is more to do and less time to do it in. Commentators such as Gleick (1999) and Eriksen

(2001) propose a 'speeding up of time', and the phenomenon of experiencing time as running faster has been described as the 'collapse of the time-space co-ordinates' (Giddens, in Eriksen, 2001, p. 123) and 'time-space compression' (Harvey, in Eriksen, 2001, p. 123). Within this context, mobile phones are, in some respects, an epitome of the desire to make 'free' pockets of time as productive as possible. Summarising their research on mobile phones and the conception of space, the Sussex Technology Group conclude:

> In our interviews they [participants] presented themselves to us as people who need to juggle busy, full lives: their lives, they imply, warrant phones. Their phones and their phone calls are statements that they are people-in-demand, that they live their lives at a certain speed. Technology returns here, not as object – the phone itself – but as speed. What is being…displayed, using the mobile phone, is a just-in-time lifestyle. (2001, p. 210)

No wonder, then, that time in the car is used to communicate with others, particularly given that 'driving time is…often seen as free time when we are sheltered from other demands on our time' (Ling, 2004, p. 51). 'If you have a reminder list of 20 things and you can check off three of them on the way to work, that is so nice', states one of Ling's respondents (Ling, 2004, p. 52). According to Cooper et al.:

> The fact that time spent getting to and from work…can now be reconfigured as potentially productive time might be read as simple evidence of the spread of a form of instrumental rationality that is difficult to resist. (2002, p. 298)

And difficult to resist it is. A 2006 United States study found that people made longer calls while in their cars than outside of them. As Dave Van Dyke, president of Bridge Ratings (a company which provides analysis of consumer behaviour related to cell phone use), explained: 'It's a captive audience sort of thing – in a car, a lot of people just talk, talk, talk, because they have nothing else to do' (Mindlin, 2006, n.p.).

Of course, aside from strictly business matters, mobile phones are also used at work (and in transit) for personal calls (Esbjornsson & Juhlin, 2003; Gant & Kiesler, 2002; Sussex Technology Group, 2001). As vehicles have become 'platform[s] for multi-

tasking' (Featherstone, 2004, p. 8), workers can stay in touch with their employers, employees and clients, as well as family and friends. Indeed, sociologists have suggested that mobiles are blurring the distinction between work and private life, a contention which makes sense in terms of Wellman's claim that the 'person has become the portal' (Haythornthwaite & Wellman, 2002, p. 34). Following this logic, the use of a mobile phone transcends the boundaries of work because it is associated with a person, not an institution or organisation. Much more than a business tool, it holds a pivotal role in nurturing and sustaining social connections. As the next section shows, the influence of social expression and connectedness provides another compelling explanation for the mobile's popularity, as well as the motivation behind calls made in vehicles.

Social connections and the personalisation of the mobile phone

The telephone's usefulness as a tool for communication has been apparent since the introduction of fixed-line services and it is clear that the popular social uses of landline telephony have retained their salience for the mobile phone. When first introduced in the United States, the two basic uses presented to the public in order to sell telephones were for business and managing the household (typically by the housewife). The Bell Corporation initially viewed social talk and gossip as a trivial and unacceptable use, and it took until the 1920s before the industry began to emphasise the sociability of the telephone (Fischer, 1992). By this stage, the public's use of the phone as a social device was obvious. In much the same way, marketing of the cellular phone initially focused on its utility as a business tool, with advertisers later emphasising its social uses. Landline connections were sold on the basis of allowing personal accessibility ('Man for the moment') and ability to save time, as well as their functions of keeping people in touch with others ('In touch with his world'), helping in emergencies and organising daily life (Fischer, 1992, pp. 66-8). These selling points are closely aligned with the perceived benefits of mobile telephony – the promise of 'anytime, anywhere' accessibility (Galambos & Abrahamson, 2002; Srivastava, 2005; Leung & Wei, 2000), an ability to fill in dead or unproductive time (Cairncross, 1997; Lacohée et al., 2003; Lasen, 2002) and being able to stay in constant touch (Agar 2003).

The reasons for acquiring a mobile phone and subsequent patterns of use have tended to follow a common trajectory of three phases. Firstly, a phone is typically attained for the

purpose of providing safety and security; secondly, it becomes an important functional tool, allowing people to organise and coordinate different aspects of their lives (such as work, family, peer group); and thirdly, it helps support personal relationships and provides an avenue for social and emotional expression (Ling, 2004; Ling & Yttri, 2002; Palen et al., 2001). As Geser succinctly put it: 'there seem to be broad trends towards expanding usage from mere emergency to routine cases and from specific instrumental to more diffuse expressive communications' (2003, p. 7).

Scholars have offered a range of sociological explanations concerning this shift from the mobile as a functional tool to a personal – even intimate – device. According to some, its popularity parallels and complements the shifting forms of community from place- and group-based to more individually networked and person-oriented communities. Haythornthwaite and Wellman (2002), for example, describe the sociological effect of wireless communication as moving interaction from place-to-place to person-to-person. According to Wellman, the mobile phone liberates users from place, with individuals emerging as the 'primary unit of connectivity' (2001, p. 238). There is a distinct shift from fixed-line phones, because contact is individualised. 'People are becoming more dependent upon the connectivity that the mobile telephone represents', states Townsend, and 'many who have restructured their lives and personal habits around the device find it hard to go back to wired phones' (2000, p. 94). The mobile, in turn, becomes an important means of fulfilling instrumental and social goals.

In this context it is not surprising that the phone itself has become a symbolic marker of identity, with ringtones, individualised handset covers and distinct SMS languages allowing users to develop a unique personality via their mobile (Crabtree et al., 2003). Illustrating how ingrained mobile phones have become in owner's lives, funeral directors are reporting an increasing number of people who are being buried with one by their side. The Australia Institute's Andrew Macintosh said this was 'a clear indication of the dominant role that mobile phones play in our society', perhaps in part because they are regarded by some 'as an extension of…personality' (Smith, 2006, p. 3).

The notion of perpetual contact has also been cited as a major reason for the mobile phone's popularity; that is, people want to be accessible – and to have access to others – continuously (Katz & Aakhus, 2002a). Rhetoric surrounding the promise of 'anytime,

anywhere' communication has proved particularly salient amongst social commentators (Galambos & Abrahamson, 2002; Srivastava, 2005; Leung & Wei, 2000) who propose that people harbour a desire to be in 'constant touch' (Agar, 2003). Exemplifying this school of thought, Katz and Aakus' theory of 'apparatgeist' (machine/spirit) provides a useful conceptual lens through which to view the social development of the mobile. They propose that 'the development of personal communication technology presupposes perpetual contact' (2002b, pp. 307-8) and the logic of apparatgeist assumes a desire for constant accessibility. This argument is based on a metaphysical notion that the mobile phone satisfies a human need and a spirit of 'ideal communication' (Levinson, 2004; de Vries, 2005).

While it may be hard to prove or disprove this contention, there are many people who have become closely attached to their mobile. One United Kingdom survey found that 92 per cent of phone owners said they couldn't get through the day without using it (www.metro.co.uk, 2006). Research in Queensland found that mobiles 'can become as much of an addiction as snacking on junk food or smoking' (Bilowol, 2006, p. 3). This study reported that some participants suffered 'withdrawal symptoms if they didn't receive calls or text messages, which could lead to anxiety and self-esteem problems'. Others reported sleep deprivation because they lay awake at night texting. In response to this research, News.com.au (2006, n.p.) asked readers if they were hooked on their mobiles and how they dealt with the addiction:

> Kane: 'I'm so dependent on my mobile that I sleep with it in my hand. I've had a phone since I was 12 and they are more addictive than heroin…do they have MAA – Mobile Addicts Anonymous?'
> Lani: 'I've had a mobile in one form or another since I was 16. I'm 21 now and can tell you I go NOWHERE without it. I feel naked when I'm not near it and I send roughly 100 sms a day. It is an addiction, but it's an addiction to the outside world and contact with others.'
> Siobhan: 'I am 110% addicted to my phone since getting it. It sleeps with me, is with me everywhere I go and I spend more than $200 a month on it! I get upset if I don't receive at least one text a day, I feel empty.'

These comments indicate a deep – and arguably dependant – relationship of some people with their phones. This is in many respects attributable to the social and emotional connection which they offer.

So how do these insights help us understand phone use in cars? The prevalence of phoning whilst driving can be largely explained by a desire to communicate, and there appears to be a strong connection between physical mobility and social contact. As stated earlier, this is particularly relevant to the sprawling urban landscapes of cities in Australia and the United States, where there is a more pronounced reliance on vehicles. Katz (1999), a United States commentator, states that sociability fuels the use of technology. He claims that automobiles are the 'premiere mobility-enhancing technology' and that people's 'enthusiastic embracing of the telephone' is attributable to its function as 'a tool of social contact' (pp. 7-8). Here we see an overlap in terms of facilitating social relationships. This is certainly not a new phenomenon. According to Fischer's analysis, both the telephone and automobile before World War II were, in their domestic use, 'technologies of sociability' (1992, p. 254). An article in the *Economist* (2004b), 'Why phones are replacing cars', emphasises the symbolic and social synergies between the two. 'Mobile phones, like cars, are fashions items', it states. 'Both are social technologies that bring people together', acting 'as symbols of independence' for teenagers and promoting freedom and mobility. In this way, they serve to support and enhance social connection.

The experiences of young people in the United States and Australia exemplify this, and their stories help to explain the reasons for mobile use while driving. In a University of Kansas paper, a young woman wrote about the need to multitask: 'if multitasking were a disease, I would be diagnosed with it in no time', she states:

> One of my most notorious multitasks involves my car, my iPod (plugged into the stereo, not headphones) and my cell phone. If you know me at all, these are things I can't live without, so of course I use them while I drive. I have been known to send and receive text messages while attempting to maneuver through downtown Kansas City…and answer my cell phone whenever it rings, no matter where I'm driving. I know I'm not alone. We are all young, technologically

> advanced college students who have a desire to be connected to friends and family at all times. (Wiley, 2006, n.p.)

Young Australians offer similar explanations. The Australian Road Research Board ran a series of focus groups with young male drivers in the Australian Capital Territory in 2002, asking about risky driving behaviours. A number mentioned mobile phone use, with one saying, 'it's just ringing and it needs to be done [to answer], you just can't help it' (ARRB Group, 2005, p. 5).

Once again, manufacturers and advertisers have been quick to notice this trend. Unveiling the new Sportivo Coupe model in 2004, Toyota Australia's executive director of sales and marketing Dave Buttner said: 'We wanted to develop a vehicle that… focused more on younger people' (autoweb.com.au, 2004, n.p.). In turn, market research based on groups of teenagers in Melbourne and Sydney was conducted to provide the designers with an insight into key influences in their lives. The result: a car that takes advantage of the strong links between technology and sociability. 'The key to the interior is the technology and the social aspect', states Pete Jones, interior design leader. 'The interior passenger area has been shaped to create a social environment, allowing access and interactivity with the information and entertainment in the car' (autoweb.com.au, 2004, n.p.). Toyota also proposed basing the driver's licence on a mobile phone-style SIM card that would provide, amongst other functions, individualised phone numbers and GPS tracking.

A seamless relationship?

In this chapter I have argued that, because of the significant role cars and phones have come to play in people's lives, it makes sense that the two activities (of driving and talking on the phone) are carried out simultaneously, offering an alluring ability to maintain contact while on the move. According to Telstra's 2003 *Drive Safe Phone Safe* survey, one in ten respondents agreed that 'it would be really hard to get through my day if I couldn't talk on my hand-held mobile phone while driving' (2003a, n.p.). The mobile phone's enhancement of safety, usefulness as a work tool and role in facilitating social connectedness are three primary reasons underlying this, and in combination they offer a powerful incentive to make calls on the road.

So far I have presented a fairly benign picture of the adoption and use of mobiles in cars. Indeed, the rhetoric of a seamless convergence of cars and phones is not hard to find. Norbert Quinkert, chairman of Motorola Germany, put it this way:

> Thanks to its pioneering innovations, Motorola has come considerably closer to its vision of seamless mobility. Seamless mobility any time anywhere is our top priority…Bluetooth car kits for frequent drivers, demanding callers and music lovers automatically connect to mobiles in the car. The speaker-independent voice control makes operating mobiles while driving easy – hands remain on the steering wheel and eyes on the road…If a call comes in, the music is interrupted and continued when the caller hangs up. (noticias.info, 2006, n.p.)

Writing about Toyota's Sportivo Coupe, autoweb.com.au (2004, n.p.) reports:

> Australian teenagers use the latest communication techniques to stay in touch with each other, so the Toyota designers created an environment in the car that brought together an internet chat room, GPS satellite tracking and a mobile phone SMS service – *without compromising road safety* (emphasis added).

This all sounds flawless. But as the rest of this thesis will show, the relationship is far from settled. While scholarly work has emphasised perpetual contact, the promise of 'anytime, anywhere' communication and a desire to be in constant touch as a result of mobile phone technology, it is vital that analyses also recognise the significant limitations placed on the uses, and users, of mobile phone technology (and cars, too). The rise of motor telephony highlights some distinct problems associated with people's uses of mobile phones, and points to the emergence of a new regulatory domain. It is to these problems, and regulatory solutions, that our attention now turns.

As a starting point, the next chapter explores what happens when people phone and drive at the same time, weighing up evidence which suggests a negative effect on driving performance, as well as placing the issue in broader context. Here I ask: What problems are raised when motorists use these devices in the car? Is there evidence to suggest a major problem? These are important questions, especially when it comes to considering appropriate regulatory options. As Mike Hammer, manager of information

and crash-avoidance technologies at Holden Innovation, stated in early 2006: 'It is important that the community and policy response is carefully considered and commensurate with the size of the problem' (Road Safety Committee, 2006b, p. 3).

A number of strategies have been adopted to answer these overlapping questions. Vanlaar and Yannis, for example, offer three key factors in discerning the 'social relevance' of a traffic safety problem (2006, p. 157):

- Prevalence of the phenomenon;
- Risk of accidents associated with this phenomenon;
- Severity of the consequences of an accident due to this phenomenon.

In the next chapter, these factors provide a guide as we explore research into the effects of mobile phones on driving, before moving on to situate the findings amongst broader road safety policy debates taking place around driver distraction.

Chapter Three

When the rubber hits the road: What happens when people phone and drive

No sooner had phones moved inside the vehicle than concerns about road safety emerged. The RACV's *Radiator* (1936, p. 7) conveyed news of an 'American motor magnate' who had installed a telephone in his car: 'Looking at this motortelephony by and large, it does seem that the phone is going to be a bit of a worry to the average driver; a constant succession of red lights and wrong numbers, cross-roads and crossed lines'. Three decades later, academics began to probe the issue in greater detail. Brown et al. (1969) conducted the first empirical experiment into the cognitive effects of phones on driving. Citing the likelihood of an increase in the number of vehicles fitted with radiophones over the following decade, and pointing to a 'paucity of reliable information' concerning the dangers, they posited that 'the question arises as to whether this concurrent activity will impair driving skills sufficiently to increase the risk of accident on the road' (p. 419). Drawing on a psychological framework and methodology, they looked at the effects of a telephone task on driving performance (for example, control of vehicle, judgement of gaps). A trickle of studies followed during the 1970s, 1980s and early 1990s (Boase et al., 1988; Brookhuis et al., 1991; Drory, 1985; Kames, 1978; McKnight & McKnight, 1993; Mikkonen & Backman, 1988; Stein et al., 1987; Zwahlen et al. 1988). Conducted predominantly in the United States and the United Kingdom, these involved a disparate array of groups including road safety departments, universities and public health organisations. Aside from research into human factors, there was also a small focus on ergonomic issues, such as how the position and type of phone affected driver performance.

From the mid-1990s the issue gathered momentum, leading to a large number of published articles and conference presentations (see Goodman et al., 2005, for a comprehensive list). Aside from studies similar to those in the psychological domain, public health and road safety organisations began to look at accident rates and the statistical risks of phoning while driving. This interest coincided with, and was to a degree driven by, major growth in mobile ownership. As discussed in Chapter Two, escalating use of phones while driving led to (sometimes fatal) crashes, which in turn led to an increase in attention devoted to the role of driver distraction in crashes.

Attempts at measuring the effects are numerous. Despite much effort, the jury is still out on the real-world impact, due in no small part to the complexity involved in trying to empirically account for all of the relevant factors involved. The two main areas of empirical inquiry that have emerged are micro-scale evaluations of the effects of phoning on individuals' driving (experimental studies), and macro-scale approaches that attempt to quantify the incidence of crashes, as well as the relative increase in the risk of being involved in an accident (epidemiological studies).

A number of papers have provided a comprehensive analysis and critique of the studies addressing the degree to which the operation of mobile phones affects driving performance, as well as its role in contributing to the risk of having an accident (Goodman et al., 1999; Hahn & Dudley, 2002; Lissy et al., 2000; RoSPA, 2002; Young et al., 2003). The aim here is to briefly summarise this work and provide a critique of the methodologies, moving on to place the findings in the broader context of driver distraction. This will help us in framing the public policy debates on mobile phones' impact on road safety and, in turn, the implementation of appropriate regulatory options.

Individual-level impairment

How are experimental studies conducted and what do they tell us? In general terms, empirical baseline measurements of driving performance (without using a phone) are compared to those produced when a phone task is carried out simultaneously. Driving is most commonly performed in a simulator, where the road and traffic environment can be controlled and performance accurately measured (test-track and on-road environments have been used, but are less common). Within this context, a variety of phone tasks have been assessed: hands-free compared to hand-held; mode of dialling (for example, voice activated or manually typed); dialling compared to talking and texting; operating a phone in different locations in the vehicle (for example, centre console or dash); conversation versus no conversation; and type of conversation (simple/complex, emotional/instrumental). A range of measures has been used to quantify the effect of these tasks, such as reaction time, judgement of safe gaps, hazard detection, visual search patterns, speed maintenance, lateral control, crash avoidance, decision making and following distance. Results consistently show degradation in driving performance for each of these tasks (see Table 3.1).

Table 3.1: Performance decrements associated with different mobile phone tasks

	Dialling	Talking	Texting
Hand-held			
Degraded lane-keeping	*	*	*
Degraded speed control	*	*	*
Longer reaction times	*	*	*
Missed traffic signals	*	*	*
Shorter and/or longer following distances			*
Accepting smaller gaps	*	*	
Increased mental workload	*	*	*
Reduced situation awareness		*	
Visual scanning	*		
Hands-free			
Degraded lane-keeping	*		
Degraded speed control	*	*	
Longer reaction times	*	*	
Missed traffic signals	*	*	
Shorter and/or longer following distances		*	
Accepting smaller gaps		*	

Source: MUARC (2005b)

A review of the literature by the United Kingdom's Royal Society for the Prevention of Accidents (RoSPA, 2002, p. 7) concluded that operating a mobile while driving impaired:

- Maintenance of lane position;
- Maintenance of an appropriate and predictable speed and following distance;
- Reaction time;
- Judgement of safe gaps in traffic;
- General awareness of other traffic.

Characteristic crashes involving mobile phones are symptomatic of the kind of impairment outlined in these findings. Run-off-the-road and rear-end collisions are the most regular types (Neale et al., 2005; Sagberg, 2001; TAC, 2004b). Japanese data shows that rear-end collisions accounted for 76 per cent of all phone-related accidents (cited in Lissy et al., 2000; Strayer et al., 2004; Cain & Burris, 1999), and Goodman et

al.'s (1999) review of crash records indicates that drifting out of the lane and failing to respond to obvious hazards were common to accidents involving hand-held phone use. This pattern reflects an inattention to fundamental components of the driving task.

While this evidence may seem compelling, it is worth noting the nuances and contradictions within these results. For some phone-related activities there are minimal, or no, effects. Even when effects are evident, these may differ according to the type of phoning task. Before unpacking these complexities in more detail, let us focus on what causes the impairment.

Put simply, operating a mobile phone diverts attention from the primary task of controlling the vehicle, monitoring the road environment and responding to dangerous situations. The human mind has a limited capacity, and cognitive activities (such as talking on the phone) that compete for the same attentional resources as driving are more distracting than those which draw on different modalities or processes. Broadly, there are four main types of distraction associated with phone use:

- *Visual*: taking the eyes off the road to answer the phone, manually dial a number, or read/send a text message;
- *Auditory*: listening to a caller or hearing a ringing phone;
- *Physical*: manually answering the phone, dialling a number or compiling a text message, as well as searching for the phone (for example, in a bag);
- *Cognitive*: concentrating on the conversation, compiling a text message (for example, thinking about what to type or editing).

Each presents a demand on the driver and acts as a drain on resources that are required to maintain a safe level of awareness. Monash University Accident Research Centre (MUARC) in Melbourne, a prominent research organisation in the field, asserts that 'operating…a mobile phone…may involve all four forms of distraction' (Young et al., 2003, pp. 2-3; see also Direct Line Motor Insurance, 2002). Not all will necessarily be present at the same time. Moreover, different tasks and conditions create varying degrees of distraction: impairment tends to be more pronounced in complex road or traffic environments, when conversation is emotionally engaging or mentally

challenging, and when physical manipulation of a device is required (in contrast to voice-controlled functions).

One of the most important distinctions in terms of policy development is between hand-held and hands-free devices. Nearly every law that has been introduced throughout the world prohibits hand-held use, yet permits hands-free operation (this includes Australia). Empirical comparisons, however, show that hands-free devices do not confer any safety advantage compared to hand-held phones. In psychological terms, the main reason there is no significant difference is due to the cognitive distraction. While the physical manipulation of a hand-held device can impair driving performance, the distracting effects of conversation persist even when manual tasks are removed (Strayer et al., 2004). In support of this, research shows that the more difficult and complex the conversation, the greater the possible negative effect (Patten et al., 2004).

A common query in response to this evidence is: 'So what, then, is the difference between a conversation on the phone and that of a passenger? Why is the phone more distracting?'. Part of the reason lies in the fact that, with mobile phone conversations, the person on the other end of the line is unaware of the traffic situation. In contrast, physically co-present passengers are aware of the road conditions and can stop talking if the situation or environment is demanding, or even warn the driver of approaching hazards (Goodman et al., 1999; Manalavan et al., 2002; McKnight & McKnight, 1993). In addition, people on the phone are expected to maintain continuous talk, which may not always facilitate safe driving. This has been referred to as 'self-paced' conversation (between people inside the vehicle) compared with a 'steady stream of conversation' (mobile phone conversation with a remote caller) (Green, 2001, p. 45). As Crundall et al. put it, drivers may 'feel socially obliged to continue the conversation…at the expense of diverting attentional resources away from the driving task' (2005, p. 200). This effect has been demonstrated empirically. On a high-demand urban road, participants in one study spoke more with a mobile caller than with an in-vehicle passenger (Crundall et al., 2005). In other research, driver performance improved when conversation was reduced due to the remote caller having access to contextual information concerning the driver's traffic situation (Manalavan et al., 2002; Schneider & Kiesler, 2005).

In summary, hand-held and hands-free phone use have a range of negative effects on driving performance. Taken at face value the evidence appears conclusive, yet a deeper analysis reveals the complexities and limitations of research in this area, and demonstrates that the results are not so clear-cut. Many studies suffer due to low sample sizes, and measures of driving, conversation and mobile phone use often have limited utility outside of the experimental conditions. For example, maths, reasoning, repeating words, problem solving exercises and memory tasks have been used to simulate telephone conversation. As Burns et al. (2002) suggest, these tasks may represent a more extreme and different kind of cognitive load compared to that of normal conversation. Effort has been made to reproduce naturalistic everyday dialogue via role-playing exercises (Manalavan et al., 2002), pre-prepared 'easy' and 'difficult' questions that were validated by pilot testing, and asking participants about their work, hobbies and interests (Shinar & Tractinsky, 2004). Although more useful, these conversations take place in a regulated environment with a researcher who does not know the person very well. Attempts at replicating real driving situations are also often grossly inadequate. In one project, 'driving simulation involved following a cursor on a screen with a joystick' (Strayer et al., 2004; Strayer & Johnston, 2001, cited in Hahn & Dudley, 2002, p. 34). The influence of transmission type has received almost no attention: only two experiments have used manual gears – a substantial bias considering the number of manual cars on the road.

Reflecting the reduced validity of experimental conditions, impairment is less pronounced in studies involving more realistic driving situations (test-track and on-road) and phone tasks. Mazzae et al. found that a hand-held interface 'was associated with the fewest dialing errors and significantly faster dialing times than the two hands-free interfaces' for all three age groups in their study (2004, p. 5). They speculated that this may be attributable to participants' prior experience with hand-held devices (six years on average), as well as their home use of traditional push-button phones, compared to limited familiarity with voice-based dialing. Natural conversation has also been found to be less distracting than other mental tasks. Shinar and Tractinsky (2004) discovered that an emotionally-involved conversation was *less* disruptive than a math operation, and 'in the case of many driving measures, it appear[ed] to be non-disruptive at all' (2004, p. 46). Discrepancies between real-world and simulated environments reveal that the impairment found in controlled conditions may not be the same as in real

life. As explored next, part of this may be attributable to the effects of practice and processes of adapting to new activities.

While the negative physical and cognitive effects have been well documented, the influence of practice has received little attention. Stein et al. (1987) concluded that 'because the user-non-user differences were so slight it appears that, with minimal training, there is adequate carry-over from home and office telephone systems to allow safe operation of cellular mobile telephones' (p. 198), and in 1994 the South Australian government posited that 'it may be that mobile phone use while driving can be ranked alongside driving a loaded bus…an emergency service vehicle, towing a caravan and other examples of higher order driving skills, which with practice, many can attain' (Bailey, 1994, p. 3). In spite of this speculation, most studies have failed to address the habituating effects of task repetition.

Yet the results of studies which have evaluated this aspect offer an important perspective. Shinar and Tractinsky (2004) point out that most research driving and phone tasks are experimenter-paced and participants are faced with a certain condition only once, or for one set of trials, but these features are not typical of driving or phoning. In turn, they set out to investigate the effects of practice, with each person taking part in five sessions over a two week period. Results from the first day were similar to those of previous studies, but by the end of the testing period there was improvement across most measures. The authors concluded that 'where learning is observed, practice diminishes or completely eliminates the differences in the performance on the driving task' between no-phone and phoning conditions (2004, p. 46). Brookhuis et al. (1991) reported practice had a 'considerable habituating effect' on participants' subjective workload and, over the course of three weeks, verbal performance on the telephone task improved markedly, with the percentage of incorrect answers decreasing rapidly (1991, p. 314). Wikman et al. analysed the visual attention of experienced and inexperienced drivers who were required to dial a phone number while driving along highways and motorways. Repeating the task several times resulted in a 'marked learning effect', where drivers' glances got shorter for each task performed (1998, p. 379).

There is also evidence of drivers implementing adaptive practices in order to reduce the negative effects of phone use. For example, people have been shown to compensate for an increased cognitive load by slowing down (Brown et al., 1969; Brown et al., 2003; Mikkonen & Backman, 1988; Shinar & Tractinsky, 2004), increasing anticipation and alertness (Mikkonen & Backman, 1988) and increasing the following distance behind other cars (Brookhuis et al., 1991; Strayer et al., 2004). According to Johnson et al. (2004), the frequency of calls made while driving was lower at night, when the driver was speeding and when there were passengers in the car, indicating that phone use is self-regulated according to an awareness of hazardous conditions. Wikman et al. found that 'glances at the telephone were…shorter on the highway than on the motorway', signifying 'that drivers adapt their time-sharing strategy to the shorter time margins available on the highway by allocating shorter intervals on their attention to the in-car task' (1998, p. 370), and Stutts et al. (2003) found that drivers were more likely to dial and conduct phone conversations when the vehicle was stopped. As Lissy et al. suggest, 'the actual risks of real world collisions cannot be accurately inferred from…experimental studies because compensatory behaviours may not be accounted for in the study design' (2000, p. 19). Most findings in this field of research are often not sensitive to these effects and hence may over-estimate the degree of impairment caused.

It will be interesting to see the comparisons in 20 to 30 years time when younger drivers with this new skill set have aged and become more accustomed to using mobile phones while driving. 'New age cohorts that learn to drive in the future will likely have had several years experience', state Lamble et al. (2002, p. 226), 'and so it may seem quite natural to continue to use a phone inside the car'.

Whatever the case, it is clear that research in this area can become outdated quickly (Haigney & Westerman, 2001). As this critique indicates, it is hard to replicate phoning in the car in experimental situations in the same form as it occurs in practice, and the 'wide variation in unit operation, location, driving task and conversational task, makes it difficult to draw conclusions' (Haigney & Westerman, 2001, p. 136). A lack of replicated studies (almost every study employs a different procedure) also serves to reduce comparability and weaken existing findings.

Not everything rests on this data. As outlined in the introduction to this chapter, this kind of experimental evidence forms one part of the process of determining the extent to which the activity constitutes a serious road safety problem. It is one thing to provide results from controlled environments, but another to see whether these translate into tangible, real-world outcomes. Documenting the incidence and severity of traffic crashes and calculating the increased risk of having an accident are two ways of determining this.

Risk of accidents associated with this phenomenon

Epidemiological research is a strand of inquiry which aims to quantify the correlation between phone use and vehicle collisions. Starting with Violanti and Marshall in the mid-1990s, a handful of researchers have assessed the risk of being involved in an accident while operating a phone. Following is a brief review of their methods and results.

Violanti and Marshall (1996) employed a case-control design where randomly selected people who had recently been involved in a reportable accident ('cases') were compared with those who had not been in an accident during the past ten years ('control'). Aside from asking a range of questions about use of phones while driving (type of phone used, type of calls made), the researchers accessed participants' billing records in order to obtain the number of minutes spent on the phone each month. Cell phone users who had been involved in an accident made more personal and business calls and spent a higher average number of minutes per month on the phone than those who had not had a crash. Controlling for variables which might confound the association between time spent on the phone and accidents, the researchers calculated a five-and-a-half-fold increase in the risk of having an accident for those who spent more than 50 minutes a month on the phone. Of the pool of 200 drivers, however, only 14 cell phone users were identified in both the case and control groups, severely limiting the scope of the findings.

Redelmeier and Tibshirani (1997) published a seminal report in which 699 participants (who had attended the North York Collision Reporting Centre in Toronto between July 1994 and August 1995) completed a questionnaire and gave access to their cell phone records and police reports. In this pair-matched analytic approach, a specific time period

on the day of the collision was contrasted with a comparable time on the day preceding the collision for each driver. Adopting this case-crossover design, where each person served as their own control,[11] meant that confounding variables such as age, driving record and personality were eliminated. Time of collision was estimated by assessing participant statements, police records and telephone listings of emergency calls. The authors found that 'cellular phone activity was associated with a quadrupling of the risk of a motor vehicle collision' (1997, p. 455). This threat was stronger for calls made closer to the collision time: relative risk for calls within five minutes was 4.8, compared with 1.3 for calls more than fifteen minutes before the crash.

A study by McEvoy et al. (2005) used a similar methodology. Drawing on a sample of Western Australian drivers who were admitted to a hospital emergency department between 2002 and 2004 due to mild or moderate injury from a car crash, the researchers examined 456 activity records in order to check phone use two hours either side of the crash. Phone activity during the hazard interval (classified as ten minutes before the crash) was compared with control intervals of the same time and duration 24 hours, 72 hours and seven days before the crash. Mirroring the Canadian results, mobile use within the hazard period was correlated with a four-fold increase in the likelihood of being involved in a crash that resulted in hospitalisation.

Others using similar techniques have reported more modest effects. Lam (2002) analysed data from the New South Wales Traffic Accident Database System (1996-2000) which lists information on all road accidents reported by the police. Calculating relative risk by comparing the distraction-related death/injury rates of different age groups to those of a control group (whose death or injury was not attributable to a distracting activity), Lam found no significant increase in the risk of being killed or injured for those using a hand-held in all age groups, with the exception of 25- to 29-year-olds. This cohort was 2.4 times more likely to have had a crash compared with drivers who were not being distracted at the time of their accident. Of 9,200 Norwegians who replied to a survey which was mailed out to people who had been in an accident, 0.66 per cent of guilty drivers were using their phone at the time of the crash, compared

[11] That is, in contrast to using two separate 'case' and 'control' groups, each individual was compared to themselves by comparing the time period of the day of the crash with the same time period on the previous day.

to 0.3 per cent of innocent drivers (Sagberg, 2001). This equated to a doubling of the risk of causing an accident when the phone is in use. Wilson et al. (2003) compared the at-fault crash claims and inattention violations of phone users and non-users, concluding that 'when other factors are controlled, the increased risk associated with cell phone use…appears to be relatively minor' (p. 51).

Another small figure was obtained by Laberge-Nadeau et al. (2003) who sent a letter, consent form and questionnaire to 175,000 licence holders through the Société de l'assurance automobile du Québec (SAAQ). Managing to recruit 12,691 cell phone users and a control sample of 23,387 (who did not use a cell phone), they used three data sources: a questionnaire asking about driving habits, risk exposure, opinions about activities likely to be detrimental to safe driving, collisions over the past 24 months, socio-demographic information, and whether or not the respondent was a cell phone user; a SAAQ data file with information on drivers' records (including collisions reported by the police) from 1996 to 2000; and data on respondents' cell phone activities as provided by telephone companies. The estimated risks (odds ratio) for those who used a cell phone while driving (relative to those who did not) of having at least one accident in a given year, or being in a crash resulting in injury, was 1.38, and the likelihood of having an accident increased along with the number of calls made.

All things considered, using a phone while driving increases the chances of being involved in a vehicle accident. Current estimates suggest a two- to four-fold increase in the risk of having an accident and incurring injury. Reflecting the findings of the experimental studies, hands-free units carry the same degree of risk as hand-held; Redelmeier and Tibshirani (1997), McEvoy et al. (2005) and Laberge-Nadeau et al. (2003) all reported no significant difference in the relative risks. While interpreting these results, it is important to remember that the calculated odds ratio represents a statistical correlation, not a causal relationship. In addition, because estimating collision time is difficult, calls made after the crash may be classified as pre-crash. There is also some debate over whether the methodologies over- or underestimate the risks (Bellavance, 2005). In a follow-up letter four years after their article was published, Redelmeier and Tibshirani (2001) claimed that their results were in fact a conservative estimate. Methodological rumblings aside, this kind of data has played an important role because it has proved to be popular fodder for quotes in newspapers and short 'sound

bites' for television and radio. Road safety organisations, police and politicians consistently publicise the figure of a four-fold increase in crash risk, and it has come to be widely used in promoting the potential dangers of phoning and driving.

Having considered these experimental studies, let us move on to explore some concrete, real-world data. In the next section I outline the estimated prevalence of phone-related crashes, as well as the severity of consequences when they occur. Again we find that accurate data is hard to unearth. We also see that accidents conveying a very real, personalised and confronting message concerning the dangers of the practice have an important role in alerting the driving public and various organisations to the consequences of the activity. These stories have been drawn upon by individuals and lobby groups in advocating changes to government policy (particularly in terms of increasing prohibitions, fines and penalties), and they are an important part of the picture alongside representative, robust statistics.

Severity of the consequences

Knowledge of the incidence of vehicle crashes due to phone use is patchy at best. Official recording mechanisms are often either non-existent or improperly used. On top of this, there is a bias towards under-reporting due to the fact that using a hand-held phone while driving is a prohibited activity in many countries and drivers will not want to admit culpability (Haigney & Westerman, 2001; Lamble et al., 2002; Redelmeier & Tibshirani, 2001). Identifying a single cause of accidents is also difficult because mobile phone use may be only one amongst a combination of factors. Michael Regan from MUARC describes this complexity:

> [Drivers] sometimes speed up because distraction interrupts the feedback loops that enable them to monitor their speed. When it is said that a crash at a crash scene is due to speed, it might be, for example, that the person was distracted and as a result of the distraction they sped up. In my opinion there is still a lot of work to be done to get the classification of crashes, when they occur, correct so that we know that when someone has run off the road it was, for example, distraction that caused them to run off the road and not fatigue, because people

> can also become distracted the more tired they get. (Road Safety Committee, 2005c)

A recent death in country Victoria serves to illustrate the point. When a 28-year-old woman was involved in a fatal crash, the *Geelong News* reported a police officer from the Traffic Management Unit as saying the driver had been checking the message bank on her phone when the crash happened (Morris, 2005). A range of other contributing factors were found to be present, including an unrestrained dog, high blood alcohol content and failure to wear a seatbelt. The coroner recognised the *potential* role of the phone: 'it would appear that previous to the accident the deceased had been speaking on her mobile phone. There was no hands free kit installed in the vehicle'. Nevertheless, he concluded that the 'main contributor…was the deceased' (Coroner's report, 2006).

On a more structural level, most police accident recording systems around the world do not track the role of driver distractions (including mobile phones) in any comprehensive manner. Highlighting a lack of accuracy in reporting mechanisms, estimates of fatalities in the United States caused by phone use vary substantially, from ten to 1,000 per year (Hahn & Dudley, 2002, p. 3). According to Victoria Police, 'there is no collection of data that specifies whether a particular distraction was the cause of or a contributing factor in the crash' (Road Safety Committee, 2005a, p. 2). Moves are afoot to change this, with the Road Safety Committee recommending in 2005 that VicRoads establish the extent to which inattention contributes to injury crashes in Victoria. MUARC, too, has suggested that the police conduct a short-term pilot study to collect information on distraction-related factors in order to determine the impact of distractions on crashes, but it may take a while before procedures such as these are implemented. In the case of fatalities involving culpability, the Victoria Police Major Collision Unit now take possession of mobile phones to check if anyone was engaged in a conversation at the time of the crash (Road Safety Committee, 2005a). For the most part, detailed crash statistics are rare or non-existent in Australia and overseas.

From what we do know, when crashes involving mobile phone use occur, the consequences vary from near misses through to death. The United States' National Highway Traffic Safety Administration (NHTSA) recently carried out a comprehensive naturalistic study, tracking cars that were fitted with an instrumentation system of five

video channels and a network of sensors distributed around the vehicle for one year (Neale et al., 2005). The resulting data set incorporated approximately two million vehicle miles and almost 43,000 hours of data for 241 primary and secondary drivers. Although wireless devices contributed to the highest proportion of events caused by a distracting task, most of these events were of low severity (see Table 3.2 for a list of the definitions used in the study). Of the 486 recorded cases where phones contributed to lead vehicle conflicts (for example, colliding with the car in front of the drivers' vehicle), the 454 coded as 'incidents' dwarfed the other categories: 32 near crashes and 0 crashes.

Table 3.2: Definitions of crash type in the NHTSA 100-car naturalistic study

Event category	Definition
Crash	Any contact between the subject vehicle and another vehicle, fixed object, pedestrian, cyclist, animal
Near crash	A conflict situation requiring a rapid, severe evasive manoeuvre to avoid a crash
Incident	Conflict requiring an evasive manoeuvre, but of lesser magnitude than a near crash

Source: Neale et al. (2005).

A large survey in Canada yielded corresponding results: of the 9,352 male and 3,339 female cell phone users, 6.3 per cent of males and 4.3 per cent of females had been involved in a near crash within the last two years, while overall only 0.4 per cent had been involved in an accident while on the phone (Laberge-Nadeau et al., 2003). Between 2001 and 2004, Queensland statistics reveal that of the 94 crashes where mobile phone use was reported as contributing to the crash, approximately 80 per cent resulted in property damage or minor casualty, 18 per cent ended in hospitalisation and 2 per cent were fatal (Queensland Government, 2005).

Self-report data tells the same story. Less than 1 per cent of the Australians questioned in Telstra's *Drive Safe Phone Safe* annual surveys reported involvement in an accident when on the phone, with 10 per cent saying they had nearly been involved in a crash while using their phone (Telstra, 2003a, 2004d). McEvoy et al. (2006) came up with similar numbers, with 0.9 per cent admitting to having a crash and 3 per cent needing to

take evasive action to avoid a collision as a result of mobile phone use. In Troglauer et al.'s (2006) survey of 1,044 professional drivers of heavy vehicles in Norway, 0.5 per cent reported phone use as a contributing factor to an accident, while 6 per cent said it had led to a dangerous situation. Thirteen out of 2,128 drivers in a Swedish questionnaire admitted to being in an accident during a mobile call (Thulin & Gustafsson, 2004).

Although relatively rare, injuries and deaths resulting from drivers' use of mobile phones do occur. In Australia there have been several reported cases. Aside from the well-publicised death of cyclist Anthony Marsh, who was hit by a texting driver (see Chapter One), several other Victorian deaths have been recorded. Two young female passengers were killed, and one seriously injured, in 2004 when the car in which they were travelling ran off the road. A back-seat passenger had handed a mobile phone to the driver to allow him to read a text message moments before the crash. Another Victorian woman distracted by her mobile phone died when she failed to give way at an intersection (McKay, 2004). In early 2005 a motorist was allegedly checking the message bank on her phone when she drifted into the wrong lane and collided with another car, dying as a result of the impact. Other contributing factors such as alcohol were reported to the coroner (Morris, 2005).

Other states have similar stories. A Western Australian teenager was jailed for twelve months in 2004 after allowing a friend, who was sitting in the front passenger seat, to steer the car he was driving so he could read a text message. The car hit a tree, killing the passenger (McKay, 2004, n.p.). The Queensland Police Service (2005) report four fatal crashes attributable to mobile phones between January 2001 and September 2005. The New South Wales Traffic Accident Database System lists phone use as a contributing factor for 30 drivers who were killed or injured between 1996 and 2000, and 120 crashes in general were credited to the activity (Lam, 2002).

Moving overseas, there were five fatal accidents between late 1995 and mid-1997 in the United Kingdom where phone use was established as the principal cause (Tunbridge, 2001). RoSPA (2002) lists a further thirteen such cases since 1997. Police statistics in Taiwan showed that, for an eight month period in 2000-01, nine deaths and 354 injuries were linked to hand-held use, while five deaths and 89 injuries were associated with hands-free devices

(Woo & Lin, 2001). According to detailed crash investigations in Finland, the device was classified as a contributing risk factor in 26 out of 2,200 road deaths between 1991 and 1998 (Lamble et al., 2002). United States figures reveal a similarly low number. According to Goodman et al. (1999), the Fatality Analysis Reporting System, which logs around 40,000 deaths a year, lists 36 and 40 files (in 1994 and 1995 respectively) with cellular phones as a contributing element. In a recent Spanish accident, 28 people died because the driver of a lorry was distracted by his mobile phone, colliding with a tourist bus coming from the other direction (*Tenerife News*, 2006).

In context, mobile phones contribute to a very small proportion of the overall road toll, in terms of both injuries and deaths. Nevertheless, reported fatalities have been instrumental in raising awareness of the potential consequences of the activity, particularly those which take the form of a personal tragedy. According to Okoli (n.d), the sharp rise in accidents involving mobile phones has led to strong calls for the United Kingdom government to impose a blanket ban on their use while driving. In the United States, a number of tribute web sites which document the heartbreaking stories of people who have died as a result of phone-using drivers have been created. Here is a snippet from one such site (geocities.com/morganleepena/, 2005):

> **That Fateful Night**
> On Thursday, July 25, 2002, I said goodbye to my three teenagers, my nine year-old son, and my husband as they left for a late night walk around Buckeye Lake.
> **Every Mother's Nightmare**
> Around 10:30 that night, I heard sirens race past our house as I was preparing to watch TV. I said a quick prayer for the emergency personnel and victims, as I always do whenever I see or hear emergency vehicles. I found out later that the sirens had been for my own children…My mind refused to accept what was happening when I saw the state trooper through the window. I remained very calm as he told me my family had been involved in a car crash.
> **The Crash**
> Later, in the hospital, as we kept vigil next to the girls' bedsides, we learned more details of the crash. A young, twenty-three year-old man had plowed [sic] into the kids from behind as they waited at a RR [railroad] crossing for a train to pass. He never hit the brakes. He had been preoccupied with his cell phone.

Website visitors can request a free *Drive Now, Talk Later* bumper sticker (see Figure 3.1) or contribute to a memorial fund that has been set up in the girls' names. The sticker proved particularly popular, receiving more than 1,500 requests in four days.

Figure 3.1: *Drive Now, Talk Later* bumper sticker

Source: drivenowchatlater.com (n.d.).

The husband of Jessica Bryl, who was killed by a driver distracted by his phone, set up a similar memorial site, which also included a sticker (see Figure 3.2).

Figure 3.2: *Hang up and Drive* bumper sticker

Source: homestead.com (2005a).

Accidents and deaths involving well-known personalities have heightened the exposure. Cozy Powell, a 1970s rock star who drummed with Black Sabbath, Whitesnake and Rainbow, made the United Kingdom news when he was killed while speeding, drunk and talking on his mobile. His girlfriend, to whom he was chatting at the time of the crash, reported hearing a 'terribly loud noise' then Mr Powell saying 'Oh shit', followed by silence (BBC News, 1998, n.p.). A number of elite Australian Rules footballers have made the news after being caught talking on their phones while driving in Melbourne, and soccer players were the subject of scrutiny after the new laws were introduced in

the United Kingdom. Niki Taylor, a United States model, was involved in a cell phone related crash in 2001, creating a 'new awareness' (homestead.com, 2005b, n.p.). National Basketball Association player Eddie Griffin admitted hitting another vehicle while using his cell phone: '[it] fell off my lap…I was reaching for it in the back', he said, with one newspaper citing the crash as 'a reason why many are annoyed with people who drive and dial' (Alonzo, 2006, n.p.). Other tales highlight the issue in an ironic manner. During a 'Car Talk' segment on United States radio, a pair of announcers – who were staunch opponents of phoning and driving and had given out 'Hang up and drive' bumper stickers – were interviewing a legislator. As Dizon (2004a, n.p.) tells it:

> calling from the road on his wireless, [he] was saying that cell phone driving is safe and shouldn't be regulated. Suddenly a swear word, followed by a car crash, filled the airwaves. The man had gotten into a collision on live radio.

Fatalities and serious injuries (and accidents on live radio) are useful in raising awareness – and can act as a poignant reminder – of the potential consequences. Public outrage over well publicised crashes involving mobile phones plays an important role in galvanising regulators to do something, and personal stories such as those described above show how individual members of the public are active participants in the network of negotiation concerning debates about regulation (the following chapters will track the stories of two Victorian drivers who were involved in fatalities as a result of using their phone while driving, as a means of illustrating the role of individual tragedies in policy debates about the issue).

Taken in isolation, these stories do not make the issue a significant road safety 'problem'. Governments require more objective and representative empirical confirmation to justify changes to legislation. In terms of the factors outlined at the start of this chapter, although mobile use is widespread and has been shown to increase the risk of having an accident, the severity of these accidents is modest and, in proportion to other road safety issues, the practice contributes a small amount to the road toll. Despite predictions of an increase in traffic accidents as phone use becomes widespread (for example, Alm & Nilsson, 2001; Sagberg, 2001), there is no evidence to suggest this. Arguments surrounding empirical data and its relationship with policy development will

be described further in the following chapter which looks at the history of legislative change. For now, we move on to look at the topic of driver distraction.

Driver distraction

Having outlined research specific to mobile telephony, it is necessary to place this work within broader road safety debates. The in-vehicle use of communication devices fits in a category referred to as driver distraction. Regan (2005, p. 24) states that this 'occurs when a driver engages, willingly or unwillingly, in a secondary activity which interferes with performance of the primary driving task'. This can encompass distractions inside the vehicle as well as outside. Beyond this dichotomy, other distinctions between types of distractions can be made: technological and non-technological; prolonged and momentary; and deliberate and unintentional. A contributing factor in road crashes for many years, the issue has received minimal attention for a number of reasons:

- Limited amount of research;
- Lack of a useful working definition of driver distraction;
- Lack of tools to measure it;
- Low public awareness of the issue;
- Lack of accurate crash data that could be used in promoting and developing countermeasures;
- The recent proliferation of technologies that are used within the vehicle (MUARC, 2005b).

These factors feed into each other to create barriers to effective work in the area: 'lack of a clear definition of distracted driving and of the risks related to the different aspects of distracted driving probably discourages involved parties from collecting information about the phenomenon' (Vanlaar, 2005, p. 5). At the same time, a paucity of research restricts the availability of accurate data, which in turn hinders the stimulation of research activity and limits public awareness of the issues. Indeed, the major recommendations of the Victorian parliamentary inquiry into driver distraction revolve around the need to develop a clearer understanding of the extent of the problem and to devise appropriate countermeasures.

Governments in Australia have traditionally invested little in driver distraction research, and public education about the relative risks has been minimal (Regan, 2005). Although the topic has struggled to gain traction, there are signs that its profile is on the rise. The Australian Transport Safety Bureau included a chapter on driver distraction as part of its *Road Safety in Australia: A Publication Commemorating World Health Day 2004*, and in June 2005 the Australasian College of Road Safety, the STAYSAFE Committee of the New South Wales parliament and NRMA [12]Motoring and Services hosted a conference on the subject in Sydney. This attracted several prominent international academics, as well as media coverage. In Victoria, the parliamentary Road Safety Committee conducted an inquiry into driver distraction in 2005-06, with the final report released in August helping to raise the topic's profile.

Interest is also gathering momentum overseas. In his opening address to the 2005 International Distracted Driving Conference in Toronto, president of the Canadian Automobile Association David Flewelling said:

> We have gathered here to bring international attention to the issue of distracted driving…In recent years, we have seen the issue of distracted driving gain attention from the public, governments, and traffic safety organizations…We are starting to recognize that sources of distraction – both inside and outside the vehicle, concrete and abstract – are diverse, and their potential impact on the safe operation of the vehicle is varied. Along with this growing concern over driver distraction, there has been an increase in attempts to measure and understand the problem to provide a rational basis for action. We have some key challenges, however: the data available is still quite limited, as is our understanding of distracted driving. (Flewelling, 2005, p. 3)

In the United States, the NHTSA identified driver distraction as a priority area in 2001 (Horberry et al., 2006). Since 2000 it has conducted a range of activities to promote and stimulate work in the area, such as funding a gathering of technical experts to identify research initiatives that would help advance understanding of the problem and possible solutions, facilitating internet forums and producing research reports.

[12] The National Road Motorists' Association is the major motoring organisation in New South Wales.

Mobile phones have been largely responsible for putting the issue on the map. Until recently, driver distraction was not considered an important risk factor for crash involvement and injuries and, although moves to rectify this are still in their infancy, 'the refocussing of attention is mainly due to the widespread use of mobile cellular phones' (Lam, 2002, p. 412). Over the past decade, mobiles have been the glamour distraction, regularly grabbing the headlines and creating a 'frenzy of attention' (Houlihan, 2005, p. 29; AAMI, 2005a, p. 5). One United States police officer even described the cell phone as the 'poster child' of distractions (Leo, 2006, n.p.). As Sundeen explains:

> Many activities – such as drinking coffee, reading a newspaper, shaving, dealing with loud children in the back seat or applying makeup – can take a driver's attention from the road and increase the risk of a crash, but the use of wireless telephones and other wireless communications and information technology in motor vehicles has captured popular attention. (2002, p. 7)

Although research into driver distraction is embryonic, it is important in terms of framing social policy debates and raises a set of challenging questions. Is mobile telephony more risky than other socially acceptable in-vehicle distractions such as tuning the car radio or smoking? What is an acceptable level of risk? Should the technology be legally prohibited? If so, what evidence is required to drive policy? There are no easy answers to this complex set of questions, and responses are still evolving. As a means of easing into the debates, it is necessary to return to empirical data. As we will see, the level of impairment and associated crash risk of mobile phones has been compared to a range of other activities in order to situate the device's significance.

In comparison to drink-driving, speed, drugs and fatigue, mobile phones contribute to a small proportion of all crashes. In the United States, Curry (2002) estimates they account for a mere 0.01 per cent of all traffic accidents. In 1997 the NHTSA found that, of the 60,233 reviewed police crash reports, ten were cell-phone related (Lissy et al., 2000). Even in evaluations of distraction-related data, wireless communication is a small player. Approximately a quarter to one-third of road accidents are attributable to driver distraction. Within this amount, the use of mobile phones forms a low proportion of crashes: according to Glaze and Ellis (2003), phone use accounted for 4 per cent of

distraction-related crashes. Others have put this number at 1.5 per cent (see Hahn & Dudley, 2002). Amongst a sample of 9,000 Norwegian drivers who had reported an accident to their insurance company, most of the distractions (including talking to a passenger, tuning the radio, smoking, eating or drinking) caused more accidents than mobile telephony (Sagberg, 2001).

Australian data echoes that of the United States. Distractions accounted for 3.8 per cent of all injurious crashes recorded by the New South Wales police between 1996 and 2000. Out of the pool of 414,136 accidents, 30 motorists were killed or injured because of hand-held use. Mobile phone-related claims of the Victorian Transport Accident Commission (TAC) represent less than 2 per cent of all claims, with speeding (30 to 35 per cent), drink-driving (25 to 30 per cent) and fatigue (20 per cent) being the major contributors to injury and death (TAC, 2006). Given these statistics, it is surprising that mobiles have managed to generate such a large amount of publicity.

Acceptable or tolerable levels of distraction?

How mobile phones measure up to other distractions in terms of relative risk and degree of impairment is another vital component of the policy process. 'The consideration of relative risk', according to Ward and Parkes, 'is important in order to prioritise research, design, and policy efforts. For example, it is unlikely that car phones pose a greater risk at a societal level than fatigue or alcohol' (2001, p. 2). What, therefore, is an acceptable level of distraction, and what are the tolerable cognitive limits that allow for safe driving? In historical context, mobile telephony is the latest in a line of new technologies which were at first thought to provide a potentially detrimental level of distraction. Starting with windscreen wipers and including car radios and smoking, driver distraction has been a concern as far back as the early 1900s (Brown, 1965; Curry, 2002; Harvey, 1970). In 1903, after Mary Anderson invented the windshield wiper, a number of automobile companies 'resisted the innovation, fretting it could hypnotize drivers' (Gilbert, 2000, p. 9). When Motorola sold its first car radio over 70 years ago, some motor vehicle commissioners objected on the grounds they would be a distraction, and two states even attempted to ban them (Gilbert, 2000; Haas, n.d., n.p.). With the benefit of hindsight it seems obvious that drivers adjusted to these new

demands and potential distractions: could the same pattern unfold in relation to mobile phones?

One strategy that has been used in trying to make sense of the area is to compare the level of distraction of different activities. Burns et al. (2002, p. 3) contend that 'there is a need to benchmark' the effects of mobile use to behaviours which exhibit a 'clearly dangerous level of impairment':

> Although experimental research has convincingly shown that phone conversations impair driving performance, it is difficult to quantify the risk of this…because the reference is usually to normal driving without using a phone. 'Worse than normal driving' does not necessarily mean dangerous.

Two of the main points of reference which have been used are radio and alcohol.

Kames (1978) was one of the first to compare radio and phoning activities. Evaluating driver performance (measured by head movement, speed, lane position and reaction time) as people performed a telephone task or tuned the radio, he found that both tasks disrupted driving in similar ways. A decade later, Stein et al. compared radio tuning with phone use because it represented 'a secondary task which is accepted as having an acceptable level of increased driver work load' (1987, p. 192). More recently, Brown et al. (2003) and Horberry et al. (2006) have shown that operating an audio and entertainment system can have a more detrimental effect than using a hands-free device:

> while there has been much preoccupation by the media in alerting the public to the dangers of using mobile telephones…there is a need to inform the public of the potential dangers of performing everyday tasks whilst driving that may have a greater detrimental effect on safety than engaging in a mobile phone discussion. (Horberry et al., 2006, p. 190)

Drink-driving has proved another popular comparison. As an indication of how this has captured the public's imagination, the issue managed to attract the attention of *Mythbusters*, a popular television documentary series aired in Australia and overseas in which two Hollywood special-effects experts attempt to debunk urban legends by

testing them via experiments (tv.com, 2006). One episode investigated the myth that talking on a cell phone is just as dangerous as drink-driving. 'Deep down you know it's dangerous', said co-host Adam Savage. In order to test this, two of the show's team completed several driving tasks on a test-track: a braking manoeuvre, time trial and parallel parking exercise. These were done in normal conditions, during three cell phone tasks (repeating a sentence, verbal puzzle and listing everyday items), and driving just under the legal limit (0.08 blood alcohol content in the United Kingdom). Both drivers failed most of the tests when on the phone and after consuming alcohol. As Adam summed it up, 'we failed both the cell phone and drink-driving tests, but we failed the cell phone test by a much bigger margin'. They agreed that talking on a cell phone was potentially as dangerous as drink-driving and that the myth was 'absolutely confirmed'.

More credible research has also explored the links. Direct Line Motor Insurance (2002) compared the risks of phoning with drink-driving in a simulator, claiming that 'driving performance under the influence of alcohol was significantly worse than normal driving, yet significantly better than driving while using a mobile phone' (p. 7). They found drivers' attention to hazardous situations and reaction time were more impaired for phoning than driving at the of the 0.08 legal limit. Selecting alcohol 'because there are well established societal norms and laws regarding drinking and driving', Strayer et al. (2004, n.p.) conducted a similar experiment. Compared to baseline driving measurements, those talking on a cell phone had more rear-end collisions and exhibited slower reaction times, compensating for this by driving more slowly and increasing following distance. Driving while legally intoxicated led to contrasting results. Reaction time and accident involvement did not differ from baseline results, but driving was more aggressive in nature: participants had a smaller following distance and braked harder. Burns et al. (2002) reported equivalent effects. In a simulated driving exercise, participants slowed down while on the phone and sped up when under the influence of alcohol. Interestingly, people rated driving while intoxicated as easier than talking on the phone.

Whilst these comparisons have managed to gain attention in the media, they lack validity on a number of levels. Take the example of Taylor et al. who, in reporting their observational data on phone usage rates, wrote:

> Our finding that almost 2 per cent of drivers were using a mobile phone is of concern, and some perspective is useful. At one major metropolitan road site, 33 mobile phone users were observed in 1,967 vehicles screened in one lane over three hours. As mobile phone use and alcohol intoxication (BAC [blood alcohol content] 0.05%) increase the risk of collision and fatality by a similar amount, this approximates the equivalent of 2.2 intoxicated drivers passing through the intersection per minute. (2003, p. 141)

This statement presumes that alcohol and mobile phones have the same effect. Although the relative risks are similar, the two activities differ in fundamental ways. In general, mobile conversations remain distracting in accordance with their length, whereas drunk drivers experience a more consistent and prolonged state of risk. Up to 59 per cent of mobile calls from vehicles last less than two minutes (Lissy et al., 2000: see also Stutts et al., 2003), whereas alcohol will remain in the blood stream (causing impairment) for an extended period. As one of the *Mythbusters* participants commented, 'you could always put down the cell phone if something's happening that you've got to deal with, whereas you can't stop being drunk' (tv.com, 2006). Likewise, Burns et al. (2002, p. 15) point out that because intoxicated drivers do not have the same level of control over their behaviour as that of people on a mobile, the 'exposure to risk is greater'. Moreover, although alcohol and phone use may impair driving to a similar degree, the effects are different: mobiles tend to make driver reaction slower, whereas alcohol encourages more aggressive behaviour.

In general terms, matching the two tasks presents numerous difficulties. The issue of prolonged and momentary distraction highlights another hurdle. The length of distraction varies between and within activities: calls may last for ten seconds or ten minutes, tuning the radio would usually only require a few seconds, and the effects of driving while intoxicated would typically last the entire journey. As the NHTSA points out, it is 'important to keep in mind that some activities are carried out more frequently and for longer periods of time and may result in greater risk' (2006, n.p.).

Policy approaches

Altogether, it is clear that driver distraction is a multi-faceted and complex subject. Although research remains fragmented and inconsistent, it is fair to say that mobile phones have a negative impact on driving and increase the chance of being involved in an accident. In spite of the lack of detailed data, myriad methodological complexities and the uncertainty surrounding mobile telephony's status as a serious road safety issue, the use of mobile phones while driving is a common and problematic activity. As this chapter illustrates, that much is clear. What remains unclear is how to develop and implement affective strategies that address the now widespread practice. This is a challenge that involves several dimensions.

On the one hand, it relates to motorists' *personal* uses of mobile technology. As argued in Chapter One, there are significant reasons that help explain the use of mobiles in the car. While this is accompanied by an element of risk, many motorists continue to use them. This reality creates a situation which requires a response. Given that drivers are exposed to a range of distractions in the car, whether or not they *choose* to engage with their mobile is a vital factor, particularly when it comes to developing regulatory responses.

Here there is a crucial distinction between deliberate and unintentional distraction (Beirness et al., 2002). As opposed to inattention, which may include being 'lost in thought' or fatigue, distraction involves the 'presence of a *specific* activity or event' (Beirness et al., 2002, p. 5, author's emphasis). This, in turn, raises several critical questions when it comes to developing policies addressing the uses of mobile phones. Is personal regulation sufficient or is there a need for legal regulation? That is, can people be relied upon to change their behaviour of their own accord, or are rules and regulations imposed by governments necessary to achieve change? At this point, the debate moves beyond the *personal* uses of mobile technology to consider the network of groups and organisations which affect how and when mobile phones are used in this situation.

The network of negotiation around how mobiles are, can be or should be used (in moving vehicles) involves an array of actors with different vested interests and

motivations. At the Driver Distraction conference in Sydney, Jepson (2005) talked about the *regulatory space*. This refers to the range of actors involved in the regulation of motor telephony, and how these people, groups and social institutions have had positive and negative effects in regard to driver behaviour.

Table 3.3: Summary of the network of actors and their role in regulating drivers' use of mobile phones

Actors	Area of potential harm	Positive measures
Driving public	Over-confidence Lack of knowledge or inaccurate perceptions of risks Social and work pressures to use mobile phones while driving	Lobby government to change regulations, increase fines and penalties
Vehicle and mobile phone manufacturers	Car designs may not be sympathetic to safe driving practices Vested interest in drivers making calls	Establish a code of practice for design Enforced liability for non-compliance
Employers	Many work-related demands on driver Little responsibility of employer	Using OH&S provisions to ensure employer responsibility for safe driving practices
Peak road safety bodies	Exert minimal influence or enforceable control over driver behaviour	Able to influence government policy and legislative change via lobbying Effective and powerful information dissemination capabilities
Vehicle and mobile phone retailers	Minimal direct interest in driver safety Vested interest in drivers making calls	Imperative to sell products in accordance with existing codes and regulations Can help promote responsible driving practices
Regulatory authorities (government)	Ineffective enforcement capabilities Piecemeal approach	Shift responsibilities to drivers and third parties Provide resources and support for enforcement, education and publicity campaigns
Police	Inability to enforce laws properly	Actively enforcing regulations Visible presence on roads High media profile
Media	Tendency to sensationalise issue	Effective for highlighting research (for example, associated risks) and car crashes/court cases
Academic and research institutions	Research findings have potentially limited applicability to real-world practices	Highlighting dangers of in-vehicle phone use
Courts, judicial system	Penalties may be perceived as too lenient Difficulty in proving driver culpability	Penalties may act as a deterrent Setting a legal precedent for future convictions

Table 3.3, adapted from Jepson's presentation, shows the main players in the network of negotiation and the roles they play in the policy arena where regulatory options are debated and decided upon. As this table indicates, there is a diverse range of actors involved in this network, and their areas of control (or, perhaps more accurately, spheres of influence) highlight the different roles that each plays in the process of negotiating policy approaches. It also shows that each group's influence is limited in various ways. Some are more active in their engagement with the policy debates (such as governments, the driving public, police, the media and peak road safety bodies), whereas others maintain a more passive role (such as the judicial system and vehicle manufacturing industry).

The coming chapters will flesh out these groups' involvement in the negotiations, what they have to say and the influence they have on the policy process. In describing the emergence of this new regulatory domain around motor telephony, the divergent views concerning the most appropriate regulatory strategies amongst the stakeholders in the network of negotiation can be observed. As Barry (2001, p. 171) put it, 'different administrations have different political cultures and priorities, and different ways of deploying and drawing together the claims of different forms of scientific expertise'. In Chapters Four through to Seven we can observe the rationales, processes and deliberations of government in grappling with the localised, everyday practices of motor telephony, as well as the ways in which stakeholders' competing interests contribute to a non-linear decision-making process. Victoria, a proactive jurisdiction in terms of enacting laws and regulations governing the use of mobile phones in cars, has placed a strong emphasis on state-based mechanisms in order to address phone use (for example, laws, police enforcement, penalties and fines). Other jurisdictions, such as the United States, prefer to leave primary responsibility in the hands of drivers (for example, promoting education campaigns).

The description of policy debates shows there is a tension between the rationales of government in regulating for the greater public good and a desire to protect and maintain civil rights. These styles of reasoning are drawn upon by interest groups in different ways to further their preferred regulatory strategies, affecting policy decisions in a real and practical way. Some, for example, argue that self-regulation is more effective than institutional measures. As Chapter Seven will show, restricting people's

use of hand-held phones in cars is more likely if institutional and social regulations are used in combination. However, part of the reason current regulatory strategies have been limited in their effectiveness is because motorists are not receiving a clear message concerning which in-vehicle uses of mobile phones are safe or appropriate. I argue that this is due in large part to the competing interests of various groups in the network of negotiation, who support institutional and social regulation in different ways.The conflicting interests of various actors in the network of negotiation will be discussed in more detail over the coming chapters.

From this point we will explore several of the most prominent regulatory options which have gained attention over the last decade. In particular, I draw attention to the use of legislation, enforcement, and education and publicity campaigns. For the purposes of analysis, over the next three chapters I will describe these approaches in isolation. This distinction should not be regarded as a dichotomy or choice between legislation and enforcement on the one hand, or education and self-regulation on the other. Although some believe that legal regulation is the most useful method of tackling the issue, and others argue education is the most effective technique, in reality they operate in tandem. Laws, for example, perform an educative function, while publicity campaigns play an important role in raising awareness of fines and penalties.

I start by examining the introduction of prohibitions, fines and penalties, showing how the practice of motor telephony is subject to an existing legal infrastructure concerning management of the traffic system. Aside from describing the legal mechanisms that specifically address phone use in vehicles, I consider some of the political rationales and styles of reasoning which have influenced the strategies adopted by various jurisdictions throughout the world. Investigating these influences helps differentiate Victoria's approach from that of others.

Chapter Four

Applying the brakes: A history of government regulation

Laws and regulations are commonly adopted in order to encourage and reinforce safe driving practices and modify driver behaviour. Their development, introduction and implementation, however, is not always a clear-cut, linear or rational process, and there is an often complicated trade-off between the personal freedom afforded by the car, and regulatory interventions that aim to reduce crashes and promote safe driving. 'The social goals of maximising mobility and maximising safety', says Johnston, 'are frequently in conflict' (1989, n.p.). This balancing act is handled in various ways by different countries and between the Australian states and territories. In general, Victoria has a record of proactive and determined legislative action addressing road safety, being the first jurisdiction in the world to introduce compulsory wearing of crash helmets for motorcyclists (1961), compulsory wearing of seatbelts (1970) and random blood alcohol tests (1976) (Joubert, 1979; Davison, 2004). Other countries have taken a different approach, focusing more on education and self-regulation.

In this chapter I explore some of the rationales and forms of political reasoning underpinning Victoria's unique approach to traffic regulation. Using the seatbelt laws as an example, I argue that the differences in approaches between jurisdictions are partly due to the interaction of the political imperatives of state institutions imposing regulations for the public good and the protection of individual liberties. The desire to secure and encourage public safety on the roads competes with the privacy associated with the car, state regulation is held in balance with personal responsibility, and the common public good is tempered according to individual rights. After mapping this terrain, I offer a detailed description of the introduction of Victoria's and Australia's traffic laws that relate to mobile phone use. Following this, I look at the situation in other countries (in particular, the United States, the United Kingdom and New Zealand) to differentiate Australia's experience. The description of processes in this chapter shows how the empirical data outlined in the previous chapter informs policy decisions, and highlights the non-linear nature of decisions about to regulatory options.

Victoria's road safety measures in historical context

The seatbelt law typifies the Victorian approach to regulation via legislative measures. By 1970 the road toll in Australia had reached critical levels, with a record 3,798 motorists losing their lives in that year. One identified countermeasure was the use of seatbelts. The first legislative initiative aimed at tackling the issue required manufacturers to provide belt anchorages in all new cars. Up until 1965, few manufacturers installed anchorages and belts. As a result of the new laws, which came into effect in Victoria on 1 October 1964, the proportion of fitted vehicles increased markedly. At the Melbourne Motor Show, for example, cars with seatbelt anchorages shot up from 45 per cent in 1963 to almost 100 per cent in 1966 (Joubert, 1979). During the same period, Australia-wide publicity campaigns strongly advocated the fitting and wearing of belts. These were promoted by the Australian Road Safety Council[13] and private companies (some of which fitted belts to their fleets), as well as the vehicle and seatbelt manufacturing industries (Joubert, 1979). The RACV produced a booklet in the mid-1960s with the aim of encouraging people to equip their cars with seatbelts and to use them in the light of the safety benefits, as 'they have proved beyond any measure of a doubt to be one of the most effective safety measures yet developed for automobile travel' (1964, p. 2). According to the report, seatbelts had been embraced 'by many thousands of motorists' and the increasing number sold pointed to people's realisation that they could no longer afford to ignore the protection which belts offered (p. 2). At this stage, the RACV's view was that, in order to generate widespread acceptance of the use of seatbelts, 'there must be no compulsion in the wearing of them' (p. 9).

These campaigns may have helped in changing drivers' attitudes towards seatbelts. A mere 1 per cent of Australians rated them as 'one of the three most important road safety countermeasures' in 1960, but ten years later a New South Wales survey found that 75 per cent of respondents thought that they were 'very important' or 'important' (Joubert, 1979, p. 5). Any change in attitude was not accompanied by a comparable alteration to behaviour. Despite design standards requiring the fitting of seatbelts in vehicles, a sustained publicity campaign and the optimism of groups such as the RACV, in the mid- to late 1960s voluntary wearing of seatbelts remained static at around 18 per

[13] The Australian Road Safety Council comprised representatives from the states, territories and local governments, as well as various specialists.

cent of cars with fitted belts (Joubert, 1979; Youds, 1976). A change in approach was needed. In 1967 the Victorian parliament set up a Joint Select Committee on Road Safety, the purpose of which was to consider specific countermeasures that could reduce road accidents. After considering vehicle roadworthiness and demerit points, its attention turned to the compulsory wearing of seatbelts (Joubert, 1979). In contrast to the RACV's earlier claims, the committee found Victoria had had no planned education program, only 'sporadic and uncoordinated efforts', and 'the value of wearing seatbelts has not been clearly understood by the general public' (Joint Select Committee on Road Safety, 1969, pp. 10, 11). Wearing rates remained low, and a survey conducted by the RACV showed mixed support for compulsory laws.

The committee's final report indicated a clear preference for immediate legislation. Even though it suggested that an education campaign would increase usage rates and that an education program be initiated 'from primary school upwards', its faith in the ultimate effectiveness of this approach was limited. The committee was 'convinced that no matter how much the public is exposed to the use of seatbelts, apathy, lack of interest and lack of concern will mean that many people will not wear them'. In turn, it recommended 'all occupants of motor vehicles should ultimately be compulsorily required to wear seatbelts' (Joint Select Committee on Road Safety, 1969, p. 11). It also proposed that an intensive education campaign of a minimum of one year should be undertaken to convey the value of seatbelts. After the tabling of the report in the state parliament, no further action was taken for another year. Then, rather suddenly, in November 1970 the government decided to accept the recommendation. Coming into effect one month later, the request for a minimum period of a year's publicity seemed to have been abruptly discarded.

The introduction of compulsory seatbelt wearing was supported by the Australian Medical Association, the Victoria Police Surgeon and the RACV, and in December 1970 Victoria became the first jurisdiction in the world to legally enforce the mandatory wearing of seatbelts. By 1972 all Australian states had enacted similar laws and the 'Australian experience…[was] extremely influential' in setting a precedent and justification for their introduction in other countries, as well as providing data on the effect of legislation on reducing fatalities (Adams, 1985, p. 66, 1996). Naturally this was a source of pride for Victoria and Australia. Peter Joubert, chairman of the road

safety committee for the faculty of engineering at the University of Melbourne and one of the main proponents of the new law, said that 'the Victorian legislation has been shown to be the most effective life saver for motor car occupants and deserves consideration by all motoring countries' (1979, p. 9). The federal Minister for Transport proclaimed at a seatbelt seminar in Melbourne six years after the laws were enacted that 'seatbelts can truly be said to have given Australia a special place in the road safety world' (Nixon, 1976, p. 9).

The new laws did not come without resistance. The chairman of the Joint Select Committee felt that although witnesses at the inquiry displayed an 'almost unanimous awareness…of the value of seat belts…these same witnesses strongly advise[d] against compulsion on the grounds that such legislation was unrealistic, could not be enforced or was an infringement on the liberty of citizens' (Milne, 1979, p. 10). Other states also took some time to warm to the idea. Aside from noting the difficulty in enforcing the laws, South Australia and Tasmania both recommended 'greater publicity' (Milne, 1979, p. 11). As we will see, issues surrounding enforcement, use of education campaigns and defence of personal liberty are evident in current debates about laws addressing mobile phone use in cars. Of course, there is an important difference between seatbelts and mobile phones in terms of traffic safety and accidents: if a driver fails to wear a seatbelt, the resulting harm due to an accident is likely to be restricted to that driver (and sometimes other passengers). However, in the case of in-vehicle mobile phone use, the driver has the potential to injure or kill both other passengers *and* road users (as the previous chapter outlined, this has occurred). This introduces a new set of challenges and provides an added impetus for regulation.

For now, I will focus on the relationship between state regulation and personal liberty, before moving on to explore the legal measures which have been introduced in Australia. I argue that understanding some of the political dynamics involved in decisions about regulatory options helps explain why Victoria's approach has differed in significant ways from that of other jurisdictions.

Motorists' rights and the public good

The tension between regulation and personal liberty is a political as well as practical debate. Logistically, the police's ability to enforce legislation is often beset by practical, financial and time restraints. Ideologically, broader arguments centre on the encroachment on a motorist's right to drive, and the activities which they may undertake while doing so. Notions of the 'freedom of the road' and 'freedom to drive' have become popular and, as drivers spend more time in their cars, manufacturers are using information technology 'to extend the electronic environment of the home and office to the automobile' (Jost, 1998, p. 49). Much like the mobile phone, cars have been conceptualised as a personal object: an 'extension of the driver's body' (Urry, 2004, p. 31), a 'mobile semi-privatised capsule' (Urry, 2000, p. 190), a mobile workplace or office (Young & Regan, 2005) and a home on wheels. Advertisements make the point well; Ford declared their 1949 model to be 'a living room on wheels' (Marsh & Collett, 1986, p. 11) and, in the 1990s, Mazda promised that drivers could take their 'home comforts out on the road', claiming that the car 'resemble[s] a living room' (Shove, 1998, p. 2).

Such representations highlight the privacy associated with the car. Describing it as a 'private cave of autonomous comforts', Brandon suggests that 'our perception of "car space" is related to "personal space", a zone extending a few feet around our bodies which we feel we own, and whose invasion we resent' (2002, pp. 3-4). Linking this to political ideology, the automobile has been aligned with liberal ideals of individualism and privacy (Bull, 2001), 'self-determination and prosperity' (Bachmair, 1991, p. 524), personal liberty (Davison, 2004), and autonomy, freedom and a 'self-directed life' (Featherstone, 2004, p. 2). From this perspective, any moves to regulate motorists' behaviour could be seen as an attack on their freedoms, rights and personal space. This view is typified by Mark Maddox, a member of the Tennessee House of Representatives. Responding to a bill to regulate cell phone use which was almost unanimously opposed (seventeen votes to two), he expressed 'concern…that the government should not be involved in *our* driving' (Ferrar, 2001, n.p., emphasis added). As an editorial in a Boston paper stated:

> Opponents to similar bills in other states have argued that using your cell phone when you're driving is a matter of personal freedom. 'The government shouldn't have any say in what I do in the privacy of my home,' the reasoning goes. 'Why should it have any say in what I do in the privacy of my automobile?' (*Daily Free Press*, 2006, n.p.)

This reveals an important juxtaposition between the car as a personal space and its use on public roads (which are subject to state control). Packer articulates this well in his article on governing mobile communications (his specific focus is on CB radio and truck drivers):

> By producing a set of circumscribed and discursively legitimated forms of conduct and then allowing citizens to freely roam within those parameters, governing at a distance is insured. Truckers are free to drive [al]most anywhere in the US and to do so under the rubric of capitalist free-enterprise, for instance, but always within very specific parameters: at specified speeds, on legal roads, when sober, at certain ages, with proper licenses, and carrying certain commodities. This freedom to be mobile is circumscribed, but it is also what puts independent truckers on the road. It is both invitation and limit. It is in other ways a responsibility (2002, p. 46).

Motorists are free to use the roads, but within limits: in Packer's terms, such 'freedom' is 'circumscribed'. People often feel comfortable inside their vehicle which is a place to eat, watch movies, have sex, put make-up on, to name a few activities. At the same time, drivers are legally restricted in terms of how they can use their bodies within the car. Not being able to make calls on a hand-held phone is one example. Police also have the power to request breath tests and, if necessary, take blood samples if drivers are over the legal limit. Roadside drug testing, recently introduced in Victoria, further illustrates this trend. This raises two intriguing and complex questions: How far can, or should, the government go in monitoring motorists' actions in order to ensure safer roads? To what degree should individual rights be sacrificed for the common good?

Traditionally Victoria has erred on the side of regulation at the expense of personal liberty. Traces of this paradigm can be found in the liberal tradition of colonial Victoria.

Macintyre documents how initially the state sought to protect the freedom of autonomous, self-sufficient individuals who were assumed to exercise the capacities of 'reason and moral responsibility' (1991, p. 5). Yet there arose a tension between the broader interests of society and the defence of personal freedom and privacy. The debates in the 1850s relating to alcohol abuse provide an apt example of this conflict. Around this time certain groups wanted to restrict the sale of liquor (this came to be known as the temperance movement). George Higinbotham, seen by Macintyre as a pivotal figure in the second half of the nineteenth century, contended that this proposal was an 'act by which society consented to impose a legal restraint upon itself in order to arrest a dangerous and growing evil', facilitating 'a mutual compact for the surrender of abstract rights for a common public good'. The political implication was a willingness to 'interfere with the liberty of the individual' in order to secure the 'welfare of society' (cited in Macintyre, 1991, p. 195). Charles Pearson, a liberal contemporary of Higinbotham, encouraged others to 'not be afraid' of using legislation as a means of securing the wellbeing of society, which for Pearson meant enabling a person to uphold a 'duty to himself, to his family, and to the community' (cited in Macintyre, 1991, p. 196).

Since the assertions of Higinbotham and Pearson, Victoria has been guided by a similar rationale, with a willingness to place restrictions on *drivers* for the sake of the greater good. Although restrictions that came about as a result of seatbelt laws and random breath testing were seen by some as an 'attack on personal liberties' (Fawcett, 2004, p. 54), the reduction in death and injury has been used as a justification of the measures. John Birrell, in his role as Victoria Police Surgeon, staunchly advocated and promoted the compulsory testing of drivers' blood alcohol content. His evidence to a Senate Select Committee on Road Safety exemplifies the state's approach: 'While the growing trend towards submerging personal rights might be regarded with disfavour in many quarters it appears completely justifiable in such an important instance as this' (Davison, 2004, p. 159).

Deliberations around seatbelt laws also included objections on the grounds that compulsion was an infringement of personal liberty and freedom (Joubert, 1979; Joint Select Committee on Road Safety, 1969). In opposing the contention that seatbelt wearing should be a matter of choice, the Joint Select Committee on Road Safety found

that ‘there should not be compromise with death and injury where motor vehicle accidents are concerned’ (1969, p. 9). Joubert countered the resistance to compulsory crash helmet wearing in the same way:

> complete personal freedom is virtually non-existent in any society…all life involves compromise and some degree of restraint on the part of individuals. Speed limits curtail a driver’s freedom…The prevention of critical injuries and the consequent burden of the injured on society is sufficient reason for forcing the wearing of motor cycle crash helmets. (1979, p. 7)

This style of reasoning is still relevant today. When Eric Howard (who was a significant contributor to road safety both in Victoria and internationally) retired in 2005 he responded to the Road Safety Committee’s acknowledgement of his work by referring to a former chairman of the committee who said words ‘to the effect that sometimes difficult decisions have to be made in the community’s interest that impact the freedom of individuals’ (Road Safety Committee, 2005e, p. 15). Davison (2004, p. 167) has noted the effects of this approach:

> Probably nowhere else in the world was the conduct of the individual motorist more closely monitored or more rigorously controlled [than in Melbourne]. Yet, with only occasional grumblings, motorists overwhelmingly accepted these measures. Their acceptance attests to the enduring strength of the progressive utilitarianism that had once made Victoria a famous social laboratory. It also shows how much privacy, money and personal independence we are prepared to surrender in order to preserve that most cherished and illusory of our liberties, the freedom of the road.

While this may appear a balanced or straightforward trade-off, in reality the relationship between state regulation and personal responsibility remains a hard one to negotiate. As Mr Howard’s comment suggests, it is one that involves ‘difficult decisions’. As an example, the current Labor government in Victoria has faced criticism for introducing too many regulations, with some claiming it has attempted to ‘micro-manage’ people’s lives at the expense ‘of personal discretion and responsibility’ (Tomazin, 2005, p. 13). While State and Regional Development Minister John Brumby asserts that ‘Labor

governments are more conscious of the public good…and often the best way of doing that – not always, but often – is through regulation', he concedes that discerning what to regulate and what to leave alone is not easy: 'it's always difficult, particularly when safety is involved. Governments have got a responsibility to try to protect community safety and try and enhance the health and wellbeing of the community' (cited in Tomazin, 2005, p. 13).

As argued here, Victoria (and Australia more generally) has been more proactive than other jurisdictions in introducing legal measures to tackle road safety issues. This provides a telling illustration of how Australia has emphasised state regulation. In political terms, the United States has traditionally held individual rights in higher regard than Australia. According to Costar, 'rights have never occupied a privileged place in Australia's political culture' (symbolised by the absence of a bill of rights), whereas in the United States the Bill of Rights' purpose was to protect people 'by ensuring that a democracy would not infringe individual rights'. As a result, citizens have come to regard such rights as 'the highest political good' (2006, pp. 3-5). These differences in political reasoning have influenced road safety policies in a real and observable manner.

The United States and United Kingdom both took until the 1980s to introduce mandatory seatbelt laws, more than a decade later than Victoria. In their analysis and comparison of five countries' experience of such laws, Campbell and Campbell point out that eight attempts in the United Kingdom at passing mandatory laws had been unsuccessful and 'opponents of the law were mainly concerned about the perceived loss of individual freedom, as has been true in the United States' (1986, p. 35). In the United States, one significant factor delaying the introduction of seatbelt laws was a controversy about whether to use automatic restraint systems (such as airbags) or optional systems (such as seatbelts). This was not merely a disagreement over which technology was superior, but represented a 'basic philosophical [issue] concerning individual versus government responsibility for assuring reasonable public safety' (Campbell & Campbell, 1986, p. 60). Supporters of automatic systems argued 'the national character in the United States makes it unlikely that seatbelt use can be increased to the necessary levels through laws' (Campbell & Campbell, 1986, p. 9). Presumably this national character reflected citizens' desire to maintain a degree of choice. The debate divided opinion and effectively stalled the implementation of either

approach. Eventually the use of both approaches was considered a realistic option, paving the way for the introduction of mandatory wearing laws from the mid-1980s.

The following chapters will look at seatbelt laws in relation to compliance, changes in driver behaviour, and the development of long-term habits and social norms in order to provide a context for mobile phone use. For now, we will trace how Victoria has continued a tradition of (comparatively) early and proactive legislation in relation to phone use in cars. To put this section in context, there are three main components to traffic laws and enforcement: the development of specific laws and regulations, the policing of restrictions, and the implementation of legal sanctions when legislation is breached (Zaal, 1994). The rest of this chapter looks at the first of these steps, while the following chapter looks at the latter two.

Phoning and driving legislation in Victoria, 1950-88

Laws relating to phone use in cars are primarily found in the Victorian road rules and regulations, which are statutory instruments made pursuant to the broader Road Safety Acts. To provide some context, Acts are 'a statute empowering a person or body to take certain action, especially to make regulations, rules, or orders and regulations', while regulations are 'rule[s] or directive[s] made and maintained by an authority' (*Oxford dictionary of English*, 2005). While Acts provide overarching principles (for example, two of the purposes of the 1986 Road Safety Act are to provide for safe, efficient and equitable road use and to set out general obligations in relation to responsible road use), the regulations are the rules which are made in order to achieve the objectives laid out in the Act. After a brief outline of the formulation of Victoria's Motor Car Acts, I will explore the regulations which have been introduced relating to in-car phone use.

The first proposed Motor Car Bill of the early 1900s was defeated due to its severe restrictions on drivers and the opposition of motorists. According to *Radiator* (1953b, p. 12), the legal committee of the RACV 'fought the harsh and drastic provisions…to such good effect that it was subsequently shelved by the then Premier'. The Motor Car Act was eventually passed in 1909. It covered vehicle registration and licensing of drivers, as well as offences relating to reckless driving and driving under the influence of 'intoxicating liquors'. Accompanying regulations came into effect shortly afterwards

and contained rules ‘designed to implement the general provisions of the Act’ (Bell, 1985, p. 10). Within 42 years there were 20 Acts relating to motor vehicles, and as a result a Bill was introduced in November 1951 to consolidate ‘the whole of the statute law comprised in the Motor Car Acts’ (Victorian Government, 1951, p. 103). Andrew Garran, the acting parliamentary draftsman, said that ‘part of the legislation goes back to the days of the horse and buggy, and this is the third attempt that has been made to prepare a consolidation’ (Victorian Government, 1951, p. 104). The new Motor Car Act 1951 passed through parliament with little resistance, coming into effect the following February.

One month later, a list of proposed revisions to the Act’s regulations was circulated to relevant organisations for their comments. *Radiator* (1952b, p. 2) listed additions to existing regulations, including prohibiting the use of ‘a radio telephone, microphone or other similar instrument’ while driving. The *Motor Car Regulations 1952* were tabled, passed and became operational at the start of 1953, with Regulation 193 stating:

> Except with the approval of the Chief Commissioner the driver of a motor car shall not while the motor car is in motion use any telephone microphone or any other similar instrument or apparatus in such motor car.

Although it is hard to trace the rationale behind the inclusion of this clause, it was significant enough to gain coverage in *Radiator* (1952b, 1953a), first with the notification of the new draft regulations and again after they were passed into law. Given the number of clauses rose considerably (the new regulations contained approximately two and a half times the previous number), it is noteworthy that this stipulation was included in the magazine’s coverage of the changes.

Around the time these regulations were drafted, the RACV began to use radio telephones in its roadside assistance vehicles (see Chapter Two). *Radiator* (1953b, pp. 45-6) points out that although each car had a distinctive call number and there was no difficulty in establishing communication with a moving or stationary patrol vehicle, it was ‘obligatory…on being “buzzed”, to pull into the side of the road and stop [the] car as the use of the wireless telephone for a two-way conversation is forbidden when the vehicle is in motion’, based on ‘the interests of road safety’ (p. 48). This suggests an

awareness of the potential dangers associated with operating in-car telephones, and it may be that the inclusion of this clause was due in part to an awareness (or prediction) that the deployment and use of similar devices in private cars could have an effect on road safety. At any rate, this wording of the law remained virtually the same – 'the Chief Commissioner' was replaced by 'the Authority' by 1984 – up until the mid-1980s (see Regulation 715 of the *Motor Car Regulations 1984*).

Although these laws had been in existence for over three decades, Victoria is often credited as the first major jurisdiction in the world to specifically ban hand-held phone use in cars in 1988 (Cain & Burris, 1999; Hahn & Dudley, 2002). Regulation 1505 of the *Road Safety (Vehicles) Regulations 1988* stipulates that:

> (1) Except with the approval of the Road Traffic Authority and as provided by sub-regulation (2), the driver of a motor vehicle must not, while driving the vehicle, use a hand held –
> a. telephone
> b. microphone
> c. similar instrument or apparatus –
> in the vehicle.
> (2) Sub-regulation (1) does not apply to the driver of a vehicle that can be used as an emergency vehicle.

Again, it is hard to determine why this clause was introduced. According to Victoria's Director of Road Safety at the time, there was no apparent debate or major discussion around the issue (MUARC, 2005a). In contrast to the additions to the *Motor Car Regulations 1952*, where the clause relating to in-car telephone use received coverage, when the changes came into effect in 1988 a comparable article in *RoyalAuto* entitled 'New road laws – do you know them?' did not refer to phone use (1988, pp. 32-3).

Up until this point, the regulation was in practice limited to a small number of people using two-way radios and was a rarely encountered or prosecuted offence (Road Safety Committee, 1994). As mobile telephony grew in popularity during the 1990s, phone use in cars became much more common. In turn, activity and discussion began to centre on enforcement and penalties associated with the regulation. A Victorian parliamentary

Road Safety Committee report into the demerit point scheme warned that the 'rapid expansion of car and mobile telephones has created a new situation and there is growing community concern about the road safety implications' (1994, n.p.), subsequently recommending that using a hand-held device incur a fine as well as three demerit points. Yet it was another eight years before Victoria included demerit points for the offence, and fines have remained the same. Why might this be the case? The next section considers some of the factors which have influenced the decision-making process and the selection of regulatory options. We see that this is a non-linear process, one affected by a range of stakeholders.

Phoning and driving regulations in Victoria, 1988-2006

One explanation for the apparent lack of further action in Victoria relates to the reliability of research documenting the effects of the practice on driving performance and its implications for road safety. VicRoads did not support the Road Safety Committee's 1994 recommendation due to a lack of credible evidence linking hand-held use to increased accident risk, but resolved to review the matter as new evidence emerged:

> VicRoads will produce information for drivers on the safe and responsible use of mobile telephones (and other such devices) in vehicles. VicRoads will also continue to monitor the research literature on the relationship between crash risk and mobile telephone use. (Victorian Government, 1995, p. 8)

In context this decision made sense, given that scientific studies concerning phoning and driving were still scarce. At the same time as the committee's report, the South Australian Department of Transport's Office of Road Safety completed a literature review, finding just eight research reports on the issue between 1990 and 1994 (Bailey, 1994).

As evidence of car crashes and fatalities caused by use of hand-held phones mounted since the late 1990s, governments have been pressured by various groups (including opposition politicians, road safety organisations, academic institutions and members of the public) to increase penalties and create more effective deterrents. Andrew Brideson

MP, for example, called on the state government to 'implement harsher monetary penalties for drivers who use handheld mobile phones' (*Road safety: Mobile phones*, 2003, p. 1248). However, as argued in the previous chapter, the growing number of empirical studies has not resulted in a substantial increase in clarity on the issue, and there remain large gaps in knowledge. This makes it hard to justify regulatory changes. VicRoads' Road User Behaviour manager describes the paucity of quality information as 'an area of frustration for many of us policy developers' (Road Safety Committee, 2005b, p. 2). The former general manager of road safety made the same point:

> we do not have reliable research evidence [concerning the number of crashes in Australia where mobile telephone use is a contributing factor]. That is a problem, because without that information it is very difficult to formulate recommendations. There is plenty of research that shows it has a detrimental effect on driving. We know that retrieving and sending text messages does that as well, and we know that mobile phone use is associated with a higher risk of crash involvement – a fourfold increase. However, the problem in linking that to actual crash numbers is there. (Road Safety Committee, 2005b, p. 4)

As we can see here, caution remains when it comes to interpreting research and making further alterations to the law, as shown in the debate around whether to prohibit hands-free phones while driving.

In recent years a growing chorus of researchers, road safety advocates, police and members of the public has called for an eventual ban on hands-free use. Responding to the findings of McEvoy et al. (2005) who found no difference in crash risk between hand-held and hands-free, the Victorian government's initial reply was effectively identical to eleven years ago. The Transport Minister's spokesperson said:

> previous research into mobile phone use has indicated…hand-held use is significantly more dangerous than hands-free…however, the Government is prepared to look at any new research which may provide insight into how the road toll can be further reduced. (Silkstone, 2005)

In August 2005 the government changed its tack, proposing to prohibit all mobile phone use for learner and probationary drivers as part of a graduated licensing scheme (VicRoads, 2005a). This received a mixed reception.

On the one hand, the public and a range of stakeholders were generally supportive.[14] Other organisations, such as the RACV and AMTA, adopted a more conservative approach. The RACV (2005a) called for more research into the associated risks before introducing such measures. General manager Ken Ogden thought there was insufficient evidence to justify a restriction of hands-free phones, describing it as 'a fairly draconian measure' (Road Safety Committee, 2006d, p. 3). The Australian Transport Council (2005) echoed this view, stating that 'evidence is accumulating that use of hands-free units also involves a significant increase in crash risk but there is debate about the extent to which further legal restrictions would reduce serious crashes'.

Of course, decisions about legal regulations are not determined solely by empirical research. They need to be viewed in a broader context which situates mobile phone use amongst other traffic safety issues, as well as other regulatory options (such as education and driver training). Some members of parliament, for example, have expressed a reluctance to ban the practice in the context of other driver distractions. Bruce Atkinson wondered whether using a phone was any more dangerous than reading a street directory, eating or drinking, suggesting caution when prescribing 'one behaviour as a dangerous situation' while excluding other potentially risky behaviours that may 'equally contribute to accidents', while John Vogels questioned the broader repercussions of 'bringing in regulations for everything' in terms of 'making life more difficult' (*Road Safety (Amendment) Bill: Second reading*, 2003, pp. 1573, 1585).

There are also pragmatic limitations concerning the enforceability of legislation. In opposing the Victorian government's proposal to restrict hands-free use, the AMTA's chief executive officer Chris Althaus declared the association:

14 According to VicRoads senior policy advisor Russell Scott, copies of the discussion paper were sent to stakeholder organisations by the Minister for Transport inviting them to respond to it and the proposed measures. These included members of Victoria's Road Safety Reference Group, youth and community organisations, local government, schools, TAFE colleges, universities, parent groups, emergency services, medical organisations, legal organisations, and industry groups with an interest in road safety issues. The public comment given in confidence could not be provided and, in turn, I cannot be specific about the feedback received from these groups. Nevertheless, the responses did indicate widespread support and stakeholders were generally positive about the proposed measures (VicRoads, 2006a).

> Would not support any recommendation to ban the use of hands-free mobiles by P-plate drivers. The difficulty of enforcing a total ban would make it unworkable and may lead to young drivers taking risks to use mobiles surreptitiously to avoid detection. (AMTA, 2006, p. 1)

This hints at another important factor: the need to gain a basic level of community acceptance. As Assistant Commissioner Bob Hastings of the Victoria Police put it:

> if you are seeking compliance, then you have to take the community with you. I am not sure just hitting them over the head all the time is the best way to go, and saying, 'You cannot do this'. (Road Safety Committee, 2005a, p. 16)

In the same way, David Healy, general manager of road safety at the TAC, contends that is it important to adopt a 'staged approach'. He says that 'it would be important, before considering a total ban, to educate the community about the level of risks associated with any mobile phone use while driving' and to encourage voluntary compliance. Then, 'once the community understands and accepts the dangers…consideration could be given to a wider ban' (TAC, 2005, p. 16).

Perhaps more fundamentally, there is a sense that laws have lagged behind technological advances, particularly as mobile phones converge with other technological applications. Calling for tougher penalties, the president of the Pedestrian Council of Australia suggested that the mobile phone's convergence with existing technologies such as television, the internet and navigational systems 'will confound our legislators and enforcement agencies' (Scruby, 2005, n.p). The Victorian Transport Minister conceded that 'the understanding of the law of the impact of these changes, in the generic sense, but also in the specific sense of mobile phones and text messaging, is way behind, playing catch-up' (Heinrichs, 2003). Assistant Commissioner Hastings echoed this sentiment:

> The world changes, technology changes and sometimes the law can't keep up with technology…we've got a whole plethora of devices now going into cars [and] we need to look at what are these actually doing. (Kleinman, 2005, p. 1)

This effect is arguably more pronounced in Victoria because laws were introduced in the late 1980s, when mobile technology was quite different from today. As Professor Johnston, director of MUARC, stated: 'legislation [has] predated the increasing functionality of the devices and that is always going to be a problem because the technology is moving so quickly' (Road Safety Committee, 2005c, p. 12). The following chapter will detail some of the complexities of how legislation works in practice. For now, it is enough to note that legislation as an option has its weaknesses and, in turn, this approach exists alongside other regulatory strategies.

In May 2005, the Road Safety Committee[15] released a report on their inquiry into the country road toll. This provides a useful insight into the process of negotiation, illustrating how legal measures operate alongside other strategies. The inquiry found mobile phones and driving to be a significant issue during extensive public meetings with a broad range of stakeholders (including state government departments, Victoria Police, the TAC, local government, the vehicle industry, road safety groups and the public). Committee member Barry Bishop described the debates as 'tough', 'difficult' and challenging in terms of striking the right balance in the community (*Road Safety (Further Amendment) Bill: Second reading*, 2005, p. 1267). Although there was a general recognition that phone use in cars was both widespread and risky, suggested methods for tackling the situation differed. Some witnesses had preferred technological solutions, others stronger financial penalties, and many saw educational programs as the best answer. Several displayed a resignation that in-car features such as phones were 'here to stay' (Road Safety Committee, 2004a, p. 183), that it was a 'difficult issue to respond to…in a society where it [mobile phone use] is all pervasive' (Road Safety Committee, 2004d, p. 815), and that 'people will transgress if they think they can get away with it…you need other approaches' (Road Safety Committee, 2004c, p. 776). All told, legal enforcement by itself was not regarded as an adequate solution. As the general manager of road safety at VicRoads put it:

> I think education offers the best chance of dealing with this because enforcement is very difficult and if we get the community to the point where there is large acceptance of the risks and there is compliance – people decide they will not use

[15] The Road Safety Committee comprises a cross-party representation of Victorian state members of parliament.

> the phones in the vehicle – then I think that is the best chance in the short term of getting changed behaviours (Road Safety Committee, 2004d, pp. 815-16).

Recognising drivers' continued use of hand-held phones despite the threat of legal penalties, the report concluded by again recommending increased penalties together with a 'broad education strategy' (Road Safety Committee, 2005e, p. 264). While this appears a sensible and balanced recommendation, it is worth remembering the at-times competing interests of various stakeholders. Certain groups, in particular, the car and phone industries, do not support an increase in legal penalties, but favour self-regulatory approaches. In contrast, police and some road safety advocates are more supportive of broadening prohibitions to include the use of hands-free mobile devices, as well as increasing fines. These interests will be described in more detail in the coming chapters.

In summary, the legal deliberations around mobile phone use in cars provide a prime example of the non-linear trajectory of the policy process. Responding to a question concerning whether legislation is lagging behind technology in cars, VicRoads chief executive officer David Anderson said 'we would prefer to follow a process of "Here is the new technology; what does it mean for us in terms of safety?" Then, "what is the legislative response to that?"' (Road Safety Committee, 2005b, p. 9). This linear progression can be conceptualised in three stages: technology, research and response. A technology becomes available and is adopted by people, research is conducted in order to evaluate evidence of risk and the threat to road safety, and then a response is developed. As the general manager of road safety at VicRoads stated, 'one of Victoria's characteristics over the years has been tweaking the legislation as the evidence provides…we have never really leapt into something without strong evidence' (Road Safety Committee, 2005b, p. 9). Whilst it offers an overarching principle, in practice this logic is subject to a much more fluid and disordered environment. Each of the stages described above are in flux: mobile technology is constantly evolving and changing form, empirical evidence remains unclear, and when legislation has been enacted it has been hard to enforce. In addition, the ways in which various stakeholders respond to these challenges differs.

The debates taking place around regulatory options will continue to be explored as this thesis progresses. For the time being, let us continue to examine legislation that has

been introduced. The next part of this chapter will discuss the avenues through which fines may be increased, before moving on to compare Australia's legislative approach with that of other countries.

Australian Road Rules and fines for infringement

In 1999 all Australian jurisdictions agreed to abide by a nationally uniform set of regulations, the Australian Road Rules. These were developed by the National Road Transport Commission with the help of state and territory road authorities and parliamentary counsels, police, motoring organisations and the Commonwealth Office of Legislative Drafting (*Motoring Directions*, 1999). The Victorian *Road Safety (Vehicles) Regulations 1988* were replaced by the *Road Safety (Road Rules) Regulations 1999*, which are a modified version of the Australian Road Rules, incorporating local variations (Harper, 2004). Rule 300 of the Australian Road Rules addresses the use of hand-held mobile phones:

> (1) The driver of a vehicle (except an emergency vehicle or police vehicle) must not use a hand-held mobile phone while the vehicle is moving, or is stationary but not parked, unless the driver is exempt from this rule under another law of this jurisdiction.
> (2) In this rule: mobile phone does not include a CB radio or other two-way radio.

Victoria added its own exemption, replacing 'another law of this jurisdiction' with 'under subrule (3)', which reads:

> (3) This rule does not apply to a driver [if] the Corporation [VicRoads] has, by notice in writing, exempted the driver from subrule (1).

This was to enable the relevant authorities to exempt drivers, particularly for those 'escorting overdimensional vehicles' (VicRoads, 2005c, n.p). Although the road rules are standardised, each state can set its own penalties (VicRoads, 2005c). Despite calls for increases, fines in Victoria have remained virtually the same since 1988. In order to

understand some of the reasons for this, it is necessary to first explain the penalty system and the processes involved in raising fines.

In Victoria fines are determined according to a penalty points system, or penalty units. As defined in the Victorian Road Rules, a 'Penalty…indicates that a contravention (whether by act or omission) of the rule…is an offence' (Victorian Government, 1999a, p. 2). Each offence is allocated a number of penalty units, and fines are obtained by multiplying a set dollar amount by the number of penalty units associated with an offence. In 1988 one penalty unit equalled $100. As Section 5 (2) of the Monetary Units Act 2004 stipulates, 'the value of a penalty unit is the amount fixed…by the [state] Treasurer' (p. 3), who may change this once every financial year.[16] The penalty unit has been raised from $102.25 in 2004 to $104.81 in 2005 and $107.43 in 2006. There are two types of fines: court based and on-the-spot. For the offence of hand-held phone use while driving, court fines incur a maximum of two penalty units, whereas on-the-spot fines, commonly referred to as traffic infringement notices (TINs), carry 1.35 penalty units (*Road Safety (General) Regulations 1999*). Accordingly, the current TIN fine in Victoria for phone use stands at $145.

How, then, might fines be increased? In contrast to simply raising the amount in dollar terms, they are raised incrementally via the standardised penalty unit. For example, if the TIN fine was to be increased, the penalty unit could be raised from 1.35 to 1.5. In the case of hand-held phone use, both court fines and TINs have remained the same since 1988. Procedures for changing a fine in Victoria could take a number of paths. The Transport Minister may decide that a regulatory change is necessary and introduce legislation into parliament, a potentially swift process. Alternatively, organisations such as VicRoads, the Department of Justice or Victoria Police, which are the main players in terms of enforcing and modifying this kind of legislation, may call for an increase in the penalties. In this instance, depending on the proposed amendment, any adjustments would need to be justified to the minister (VicRoads, 2005b). This could involve drafting a detailed Regulatory Impact Statement, which would pass through the Victorian Competition and Efficiency Commission and parliament's Scrutiny of Acts and Regulations Committee, as well as being advertised for public comment (VicRoads,

[16] The Victorian government has a policy of automatically indexing fines each year for inflation, so that their value is maintained.

2005c). This process may take much longer. Recommendations can also be made via parliamentary Road Safety Committee reports, to which the government has six months to respond (Road Safety Committee, 2002). Ultimately the buck stops with the Transport Minister who may accept, reject or modify the committee's recommendations.

Other states have increased the monetary fines to varying degrees. Implementing recommendations from the Pedestrian Council of Australia in 2002, New South Wales Transport Minister Carl Scully effectively doubled the fine for driving while phoning to $220 (Kerr, 2002), showing that change in this area is realistic and achievable. Tasmania increased its fines from $80 to $110 as recommended by the state's Road Safety Council, promoting the change via radio, press and advertising on buses (Department of Infrastructure, Energy and Resources, 2004). Queensland tripled the penalty from $75 to $225 in 2004 (Wardill, 2004) in response to an 'acknowledgement of the growing body of evidence regarding…the increased crash risks caused by mobile phone use while driving' (Queensland Government, 2005, p. 3). Table 4.1 shows the initial year that bans were established and the current penalties in each state and territory. Victoria and New South Wales were comparatively early in introducing restrictions, with most others following suit at the time of or within two years of the launch of the Australian Road Rules in 1999 (excepting Tasmania which enacted laws in 1996). By 2001 all states and territories had established penalties for the offence.

Table 4.1: Year of introduction of prohibitions on mobile phone use while driving and associated penalties (as of 2005) in all Australian states and territories

	Year introduced	TIN fine as of 2005	Demerit points
Australian Capital Territory	2000	$231	3
New South Wales	1989	$225	3
Northern Territory	**	$70	0*
Queensland	1999	$225	3
South Australia	1999	$187	3
Tasmania	1996	$110	2
Victoria	1988	$141	3
Western Australia	2001	$100	1

*Northern Territory does not have a demerit point scheme
**I have not been able to obtain date of introduction for NT, though it is likely to be between 1999-2001.

Sources: Australian Federal Police (ACT) (2005a); Department for Transport, Energy and Infrastructure (SA) (2005); *Motor Vehicles Regulations 1996* (SA); Northern Territory Police, Fire and Emergency Services, 2005; Office of Road Safety (WA) (2001a, 2001b, 2005); Queensland Police Service (2005); Road Safety Task Force (Tasmania) (2005); *Road Transport (Offences) Regulation 2005* (ACT); Road Traffic Authority (NSW) (2005); *Road Traffic (Miscellaneous) Regulations 1999* (SA); South Australia Police (2005).

While Victoria was a frontrunner in passing restrictions on hand-held use, monetary fines have remained stagnant. Why might this be the case? One factor is the small monetary discrepancy between court fines and TINs in Victoria. Although most on-the-spot fines are typically around 10 to 20 per cent of the maximum court fine (VicRoads, 2005b), the TIN for hand-held use while driving stands at 67.5 per cent of the court-imposed sum. The court does not usually impose the maximum fine, which means there is a very small difference between the TIN and the court fine. Because of this, drivers charged with the offence may be more inclined to try their luck in court. As a consequence it would be difficult to raise the TIN fine in the context of the current maximum court fine.

This marginal disparity is unique to Victoria. As a comparison, if someone in Tasmania opts to challenge their TIN, the magistrate can impose a maximum penalty of $500, or five penalty units (Royal Automobile Club of Tasmania, 2005; Tasmania Police, 2005; *Traffic (Road Rules) Regulations* (*1999)*). The TIN in Tasmania is $110, or 22 per cent of the maximum court fine, which gives the court more leverage in issuing appropriate fines. The maximum fine in South Australia is higher, at $1,250 (Regulation 50; *Road Traffic (Road Rules – Ancillary and Miscellaneous Provisions) Regulations 1999)*). In some countries the gap is even larger. In the United Kingdom the offence attracts an on-the-spot fine of £30 (A$70). Motorists who contest a fine risk much higher penalties: £1,000 (A$2,430) for those driving personal vehicles and £2,500 (A$6,078) for those driving commercial trucks and vans. According to theNewspaper.com (2006, n.p.),[17] this 'is designed to prevent individuals from fighting the mobile phone tickets in court'. This highlights the importance of maintaining a sizeable discrepancy between general police enforcement and court fines.

Another reason for reluctance in increasing fines is that financial penalties need to be considered in proportion to other infringements. As Zaal (1994, p. 25) suggests:

[17] This is a website that aims to provide objective information about the politics of driving.

> one problem with fines is that they are usually set in relation to other criminal offences and efforts to increase deterrence by substantially increasing fine amounts (for what are often viewed as relatively minor misdemeanors) may undermine other aspects of the criminal justice system.

Justifying tougher penalties for the hand-held offence is weakened because there is a lack of robust data to suggest any major impact on the road toll, particularly in comparison to other major road safety issues such as drink-driving, speed and fatigue. In New South Wales, for example, a mere 0.047 per cent of motorists were injured or killed between 1996 and 2000 as a result of mobile phone use (Lam, 2002, p. 104; Symmons & Langford, 2005).

On a practical level, financial penalties in isolation are of limited value. Fines will act as a more effective deterrent and behavioural modifier if the likelihood of being issued with a TIN is high. As David Bullard (2003, p. 4), president of the RACV, commented:

> It is not the police officer laying the charge that is the cause of the behaviour changes in drivers, it is the fact that he may lay a charge…it is also very important that there be a visible police presence, and that offenders face the prospect of a face-to-face conversation with a police officer. We believe this is likely to be far more effective in the long run than receiving a traffic infringement notice in the mail.

It is also worth remembering that demerit points can coexist alongside monetary penalties. In fact, at the driver distraction inquiry, penalties were discussed and the consensus was that demerit points were more effective than increasing fines. To again quote Assistant Commissioner Hastings:

> I think people tend to take a lot more heed of demerit points than necessarily the fine. You have only got those 12 points to lose over a three-year period, and that seems to focus people fairly sharply on their activity if they are losing demerit points at a significant rate. (Road Safety Committee, 2005a, p. 15)

In 2002 in Victoria the offence was changed to include the accrual of three demerit points. A number of other countries have taken the same approach.

The lack of change in this area is also partly explained by the complex issues surrounding the extent to which the practice can – or should – be curtailed through legal enforcement. As Chapters Six and Seven show, there is disagreement amongst stakeholders in the network of negotiation as to the most effective means of modifying behaviour, and there are particular motivations and vested interests for some groups and organisations in promoting self-regulation over institutional forms of regulation.

Finally, fines and demerit points are one method of tackling the issue and are most effective when implemented alongside other approaches such as education and publicity. These strategies, and how they work together, will be examined in the following chapters. For now, we move on to consider how the experiences of other countries compare with Australia.

Phoning and driving laws in other countries

Laws similar to those in Australia have been enacted in a range of countries, although there remains a large discrepancy between when laws were introduced and the level of restriction. While a very small number of nations – such as Israel, Portugal and Singapore – have chosen to ban *all* forms of phone use in cars (Land Transport Safety Authority, 2003), the most commonly adopted strategy is to restrict hand-held use. Table 4.2 shows the nations currently prohibiting hand-held use. The ten year gap between Australia and the next country to introduce similar legislation (Denmark) highlights one distinct variation in how the issue has been tackled. Some countries have been reluctant to use legal means to combat the practice and have chosen not to implement any regulations. This group includes Canada, China, Indonesia, New Zealand, Sweden and the United States.

Table 4.2: Countries prohibiting hand-held phone use while driving, and year of introduction (where known)

Country	Year ban was introduced	Country	Year ban was introduced
Australia	Uniform as of 2001	Malaysia	
Austria		Netherlands	
Belgium		Nigeria	2005
Brazil	2001	Norway	
Bulgaria		Philippines	
Chile		Poland	
Czech Republic		Portugal	
Denmark	1998	Romania	
Egypt		Russia	2001
Finland	2003	Singapore	
France	2003	Slovak Republic	
Germany	2001	Slovenia	
Greece		South Africa	
Hong Kong		South Korea	2001
Hungary		Spain	
Ireland		Sweden	
Isle of Man		Switzerland	
Israel		Taiwan	
Italy		Thailand	
Japan	1999	Turkey	
Jersey	1998	Turkmenistan	2003
Jordan	2001	United Kingdom	2003
Kenya	2001	Zimbabwe	2001

Source: Dizon (2004a); *Countries that ban cell phones while driving* (2006).

In some countries, bans are enforced in individual states, provinces or cities. New Delhi (India), Mexico City (Mexico), Islamabad (Pakistan) and the Canadian province of Newfoundland are examples of this. The United States typifies such a piecemeal approach. Cell phone related Bills were first listed on the NHTSA's *Legislative Tracking Database* in 2000 (which documents the tabling and implementation of Bills in each state). Despite constant lobbying and the tabling of a large number of Bills, as of 2005 only three states (Connecticut, New Jersey, New York) and the District of Columbia had passed laws banning hand-held phones that relate to *all* motorists

(NHTSA, 2005). More specific limits apply in other states, such as restrictions for bus, transit and novice drivers. Other variations have included moves to ban cell use in specific situations, such as when 'turning on to or off of highways' or moving through school zones or in 'congested parking lots', though none of these have been enacted (NHTSA, 2005, n.p). Several states have introduced laws preventing local jurisdictions from regulating cell phone use in order to stop an even more fine-grained set of legal restrictions. According to Matt Sundeen, a policy analyst with the National Conference of State Legislatures, this reflects an attempt to prevent a patchwork of rules within states (Roberts, 2006).

Table 4.3 shows the number of Bills relating to cell phones that were introduced in the United States between 2000 and 2005 pertaining to prohibitions and changes to fines and charges. As the last line indicates, these have had a very poor success rate: from 2000 to 2003, less than 4 per cent were enacted into law. A slight shift is discernible in 2004 and 2005, with this proportion increasing, although more than 90 per cent were still rejected by the various state senates and committees involved.

Table 4.3: Number of Bills rejected and enacted by type, United States, 2000-05

Content of bill	2000		2001		2002		2003		2004		2005	
	R*	E	R	E	R	E	R	E	R	E	R	E
Restrictions for bus drivers	3	0	12	0	5	3	4	2	3	2	11	1
Restrictions for novice drivers	0	0	10	0	10	0	12	1	20	0	29	7
Local jurisdictions	0	0	1	1	3	1	2	3	2	0	1	0
Research into cell phone issues	3	1	9	1	3	2	1	1	1	0	0	0
Prohibiting cell phone use and increasing penalties	37	0	69	1	64	0	79	0	37	2	55	1
Tracking information re: cell phones and car crashes	8	0	17	1	10	1	8	0	7	1	5	1
Education of drivers	2	0	2	2	3	0	3	0	2	0	0	0
Establish cell phone use as criminally negligent	2	0	8	0	5	0	3	1	4	0	3	0
Miscellaneous	7	0	5	0	2	0	3	0	1	0	4	0
*Total***	61	1	124	6	97	7	105	8	69	5	95	10
Percentage of Bills passed	2%		5%		7%		7%		7%		10%	

Source: NHTSA (2005).

Notes:
In the time period 2000-05, Bills were proposed in all states.
*R stands for 'rejected' Bills, and E for 'enacted' Bills.
** The totals are less than the number of Bills shown, because some Bills include two or more types of action (for example, recommending prohibition for novice drivers *and* bus drivers).

These differences raise some important questions which have not been explored in detail. Why does there remain such a notable discrepancy between countries? On what basis have approaches differed?

First, the driving public has tended to favour prohibitions. In Australia and abroad, public support for legislative moves to restrict phone use while driving has been strong. In a 1998 Western Australian Road Safety Community Attitude survey, 91 per cent of respondents supported banning the use of mobile telephones while driving; 83 per cent strongly agreed, 8 per cent agreed slightly, 6 per cent disagreed and only 3 per cent were undecided. Of those who agreed that use of mobile phones should be banned, 76 per cent believed that they caused inattention and distraction (Office of Road Safety, 2001b). More recently, 93 per cent of Western Australian and New South Wales drivers were found to agree with the ban (McEvoy et al., 2006). Unfortunately, no comparable statistics are available in Victoria.

There are similarly high levels of support overseas. The Traffic Injury Research Foundation in Canada found strong agreement with a law banning the use of cell phones (Beirness et al., 2002). Half the respondents strongly agreed that the measure was warranted, in comparison with less than one in ten who strongly disagreed. Swedish data is comparable, with 48 per cent favouring prohibition of either hand-held or hands-free units while driving (Thulin & Gustafsson, 2004). Approximately three-quarters of those in Finland supported restrictions on phone use by drivers, either hand-held or hands-free (Lamble et al., 2002). Not surprisingly, current phone users in this study (especially the younger age group of 15-24) displayed greater reluctance towards restrictions. Across the Tasman, where hand-held use is not prohibited, a poll by the *New Zealand Herald* indicated that 77 per cent thought using a phone while behind the wheel should be illegal (TVNZ Interactive, 2005).

The differences between jurisdictions in adopting, delaying or rejecting legislation as a regulatory option, then, can be explained by the various styles of political reasoning of

different governments and social institutions. In this regard, debates in Western countries (such as Australia, New Zealand, the United Kingdom and United States) have centred on a number of points. Delays in passing specific laws are partly explained in terms of the scope for managing phone use via existing legislation. In the United Kingdom and New Zealand, for example, proposals to introduce new regulations were countered with the argument that drivers using their phones could be charged under current laws (the United Kingdom has since gone on to ban hand-held use, but New Zealand has not). United Kingdom motorists caught using a phone may be charged with reckless or dangerous driving, 'carrying out activities while driving which negatively impact the operation of a vehicle', or failing to maintain proper control of their vehicle (Cain & Burris, 1999, n.p.). Difficulty in enforcing the bans provides an additional disincentive (Chapter Five will discuss this in more detail).

Another common argument is that it is unfair to single out mobile phones when drivers are distracted by a variety of activities such as changing the radio station or smoking. The mobile phone industry has been particularly effective in pushing this line. Mr Parkinson from the AMTA's Health and Safety Committee told the Victorian Road Safety Committee (2006a, p. 6):

> in terms of the suitability of the current laws [the research shows] mobile phones are just one of many everyday driver distractions and our view is that all distractions should be considered and our laws should be consistent with that science.

This comment illustrates how private industry draws on empirical evidence in constructing an argument against increasing prohibitions, and is a clear example of the vested interests of the telecommunications industry.

Following on from this is the suggestion that law-makers can't ban every kind of distracting activity. Responding to the results of the NHTSA 100-car naturalistic study (see Chapter Three), Jim Champagne from the Governors Highway Safety Association in the United States said: 'It is simply not good public policy to pass laws addressing every type of driver behavior' (Cook, 2006, n.p.). This brings us back to the relationship between personal responsibility and state regulation: To what degree should

governments regulate different behaviours within the vehicle? In reference to in-vehicle behaviour, how specific should laws be? Ted Balaker, from Reason Foundation (a libertarian think tank), opposes banning cell phones on the grounds that 'you can embark on a slippery slope. You can ban eating in your car, drinking coffee in your car. You have to ask yourself, "where does this end?"' (Lawhorn, 2005, n.p.). This shows that, at least in the United States, reluctance to infringe upon individual liberties remains an obstacle to introducing laws addressing phone use.

New Zealand provides a useful comparison to Australia, being a nation which has not regulated phone use in cars but is currently debating the issue. The New Zealand Automobile Association (AA), equivalent to the RACV, has advocated the restriction of hand-held phones (New Zealand Automobile Association, 2004a, 2004b) and recent surveys have found support for restrictions: 75 per cent of 750 respondents to a newspaper poll supported banning their use in cars (Dearnaley, 2005) and 63 per cent of AA members were 'extremely concerned' about the issue (New Zealand Automobile Association, 2004a, n.p). In contrast to Australia, where public opinion has also been supportive of a ban, at this stage no laws have been introduced.

The issue has been bubbling along for a number of years, with a string of Land Transport Safety Authority reports addressing the topic. As part of consultations undertaken in 2002 regarding changes to the *Land Transport (Road User) Rules* (Land Transport Safety Authority, 2002), it was decided not to proceed with legislative restrictions. Reasons given for this decision included:

- Lack of consistency in terms of allowing motorists to hold other objects such as a cigarette or food;
- Difficulties in enforcement;
- Research remaining inconclusive in demonstrating the effectiveness of laws in reducing phone-related crashes;
- An assertion that current police powers are an adequate means of monitoring the activity (it was reported that some motorists had been prosecuted under existing road rules for impaired driving due to cell phone use; see Land Transport Safety Authority, 2003).

The report goes on to claim that, over the past five years, cell phones were, on average, implicated in 23 crashes per year. This constituted 'less than half of one percent of all reported injury and fatal crashes' and 'relative to other road safety risks, cell phone use does not constitute a serious road safety problem…By contrast, alcohol contributes to around 1200 reported injury and fatal crashes a year' (Land Transport Safety Authority, 2002, p. 49). Implementing and enforcing bans was not a high priority when compared to the other major contributors to road accidents.

In 2003 the authority released a comprehensive paper summarising and analysing research on the topic (Land Transport Safety Authority, 2003). In addition to the points raised in the earlier paper, this pointed to inconsistencies in the methodologies of phoning and driving studies and to a lack of logic in discriminating between hand-held and hands-free bans[18] in resisting legislative change. A cost-benefit analysis which concluded that a hand-held ban would not ensure safety at a reasonable cost was also used in refuting the need to regulate.

The analysis incorporated a summary of responses of public and private groups to a public consultation. While 32 per cent thought there should be no change to the law, 58 per cent supported some form of ban, 4 per cent did so conditionally and 6 per cent were undecided. While the opinions of government departments, city councils, road controlling authorities, road user representation groups and businesses were relatively evenly split, there were noteworthy differences. Three times as many individual road users supported hand-held restriction as those who didn't, and organisations favouring restriction included the AA, St John Ambulance, Cycling Advocates Network and New Zealand police. In contrast, those not supporting a ban included telecommunication companies (Vodafone, Telecom NZ) and Business NZ. In sum, the general public were more likely to favour restrictions, whereas businesses were largely against it. The report concluded with the usual stance, opting not to change the laws and to remain 'open minded' about bans in the future (Land Transport Safety Authority, 2003, p. 20).

The New Zealand government has remained reluctant to implement bans, instead directing the Land Transport Safety Authority to undertake 'further analysis on the

[18] That is, such a ban does not eliminate the cognitive distraction of hands-free devices and may result in a popular belief that hands-free is a safe option.

issue' (New Zealand Automobile Association, 2004a, n.p). Transport Safety Minister Harry Duynhoven said that, despite strong public support, the cabinet would not be rushed into a decision, hoping that a new rule could be put in place in 2006 'after substantial public consultation' (Dearnaley, 2005, n.p.). In spite of publicity generated by a road death that was attributed to mobile phone use in late 2006, which renewed calls for a ban, as of early 2007 no law had been introduced.

The comparisons between the United States, New Zealand and Australia highlight some important features of legal debates. It is significant that the driving public, who would feel the constraints on their freedom, actually favour bans. This indicates that arguments based on appeals to the public good, or individual liberties, tend to come from governments and particular social institutions, each with their own interests and motivations. The concepts of personal freedom and state regulation (via laws and regulations) have been drawn upon by countries (and certain organisations) in different ways to support their position. Australia has been more willing to use state intervention as a means of protecting the public good, whereas in the United States the defence of individual rights has meant that legislative measures have failed to gain widespread approval. This difference in political rationales is but one part of the picture. As seen in New Zealand, pragmatic considerations (such as the enforceability of regulations and the lack of reliable empirical data) have also been drawn upon to cast doubt on the usefulness of legal intervention.

At the same time as highlighting the differences between countries, it is important to recognise the nuances and complexities within various states' and nations' approaches. Although it can be said that Victoria has pioneered the enactment of road regulations in a number of areas (including telephone use in vehicles) and that this tendency to embrace legislation has been informed by a particular political tradition, the process of making policy decisions has not been entirely straightforward, logical or linear. The legislative response to mobile phone use while driving has been dealt with in a piecemeal manner in negotiation with public opinion, interest groups and scientific research, and although Victoria has adopted a unique approach in terms of implementing road safety countermeasures, there has been no general philosophical or conceptual reconciliation of these issues.

Having outlined the processes underlying the introduction of regulations and some of the political and pragmatic reasoning behind this, our attention now turns to how these laws are interpreted and applied in real life. Here again we see a range of unresolved tensions and complexities. In the first part of the next chapter I argue that fixed road rules are struggling to capture and keep up with the fluid and transitional nature of mobile telephony and its everyday uses, and a lack of clarity in the wording of regulations makes enforcement (at times) a complex task. In spite of these limitations, the offence is actively policed in Victoria, with up to 30,000 drivers being caught each year. In turn, I devote the second half of the chapter to describing the policing and enforcement of these laws.

Chapter Five

Who's on the line?: Policing and enforcing the laws

Penalties adopted in relation to motor telephony rely on a pre-existing legal structure for managing the traffic system. There is a mix of options available within this structure, and the ways in which prohibitions and regulations (as outlined in the previous chapter) are interpreted and implemented varies. This chapter continues the description of the strategies, technologies, programs and techniques of legal regulation, exploring in particular how regulations are imposed, the difficulties that are encountered in terms of enforcement, and how laws have been policed and tested in court. The pedantic (and at times arbitrary) enforcement and detection of regulatory breaches is illustrated in a number of ways, from challenges in court for 'using' a phone, to people riding bikes being charged for using their mobile phone. These stories of enforcement highlight the unique and particular questions asked of existing legal systems by motor telephony.

In describing the problematic process of developing and implementing legal regulations, we see that road rules are struggling to adapt to a transitional technology and that there are significant obstacles to enforcing the laws. Court cases involving fatalities attributable to drivers using their mobile phone further illustrate the ways in which legal infrastructures have been stretched. In this chapter, for example, I describe the experiences of a Victorian driver who was charged under culpable driving laws. The case is of particular interest because it had no legal precedent, that is, no-one had been charged with the offence due to distraction caused by using a mobile phone while driving.

Throughout this chapter we see that a range of creative solutions have been used in addressing the limitations of current legal regulations and traditional policing practices. Some of the suggested responses, such as blocking phone signals in moving vehicles and confiscating phones, raise issues about the role of government intervention, as well as the degree to which people's choice is, or could be, restricted. These proposals also highlight the diverse range of groups and alliances that have constructed, criticised and contested various regulatory options. As a starting point, I examined the complexities

involved in the wording of the regulations, and how this affects everyday policing practices.

Complexity and legislation

Drafting appropriate laws addressing mobile telephony is not an easy task. Wording is often too general and as a result there is often unresolved complexity in definitions and interpretations. For a long time this did not attract much attention, presumably because up until the 1990s there were only a small number of motorists who were able to phone while driving. This meant that the offence was rarely encountered, let alone enforced. But from the mid-1990s, as personal mobile phone use increased and more people began to use the device in their cars, the regulations were put under the spotlight. Signs of this began to emerge during the drafting of the Australian Road Rules.

The initial proposal for the clause relating to mobile phones in the draft Australian Road Rules (16.13) stated 'If you are driving or riding a vehicle, you must not use any telephone, two way radio or similar electronic communication device unless it is safe to do so' (Austroads, 1994, p. 126). A complementary note in the document attempted to shed some light on what unsafe meant: 'research suggests it is unsafe to use a communication device while driving when the driving task is more complex than usual, such as…in heavy traffic'. This wording lacked clarity, and each state was quick to pick up on the vague phrasing in the draft. Victoria Police Superintendent David Newton drew attention to several 'priority concerns' that required 'special consideration', one of which was the 'major deficiency in the wording of the offence for using a hand held mobile phone while driving' (Road Safety Committee, 1995, pp. 10, 12, 14). Arguing that establishing phone use while driving as unsafe was basically unprovable, and that this, in turn, would mean the infringement could not be enforced, he recommended following the existing Victorian legislation (where using a mobile communication device whilst the vehicle is in motion is prohibited). These concerns were subsequently taken on board, with Rule 300 of the Australian Road Rules stating:

> The driver of a vehicle (except an emergency vehicle or police vehicle) must not use a hand-held mobile phone while the vehicle is moving, or is stationary but

> not parked, unless the driver is exempt from this rule under another law of this jurisdiction (2003, p. 10).

While this rule may seem simple enough, it has faced numerous challenges when applied in everyday life. The next part explores these challenges, looking at the grey areas of the law. In particular, I detail three contested issues: What does it mean to 'use' a hand-held device? What are some of the issues around exemptions? How does the convergence of communication devices affect the application and interpretation of regulations? In answering these questions we find that writing regulations for specific technologies is a troublesome endeavour.

The law in its contemporary form (that is, the Australian Road Rules) refers to 'use'. To 'use' is a nebulous term and, importantly, is not defined in the Road Rules' dictionary. The word's ambiguity has been exposed in practice in Australia. In New South Wales a driver successfully appealed a charge at a local magistrate's court of driving while using a mobile phone. This decision was in turn appealed by the Department of Prosecutions, and the term 'to use' was brought under examination in the state Supreme Court. The defendant argued that she had been holding the phone 'merely to switch it off' and did not use it to talk. The judge sought to ascertain whether turning a phone off could be deemed a 'use'. Drawing on several dictionary definitions, he found the word was very broad and 'notoriously wide in its ambit and on occasions varying in its application' (*DPP v. Chresta*, par. 9, 17). Although he concluded that 'until and unless' the regulations were made 'more specific' he could not be confident that the defendant was guilty of using the phone under current laws (par. 9), the Supreme Court upheld the initial ruling which deemed that turning the phone off did constitute 'use'. According to the Victoria Police Prosecution Department, similar arguments are regularly made by people when they contest their hand-held offence in court (Victoria Police, 2005c).

There are a range of practices and proposals that have emerged internationally in addressing this issue. The New York State Vehicle and Traffic Law (Title 7 Article 33 – 1225C) stipulates that '"Using" shall mean holding a mobile telephone to, or in the immediate proximity of, the user's ear' (eHam.net, 2005, n.p.). United Kingdom laws define use as performing 'an interactive communication function by transmitting and receiving data' (RoSPA, 2005, p. 2). This includes sending or receiving oral or written

messages, facsimile documents and still or moving images, or accessing the internet. Australia has moved towards this approach. In mid-2005 the National Transport Commission drafted a number of amendments to the Australian Road Rules, including two relating to Rule 300. The draft proposed that 'use', in relation to mobile phones, would include the following:

> (a) holding the phone to, or near, the ear (whether or not engaged in a phone call);
> (b) writing, sending or reading a text message on the phone;
> (c) turning the phone on or off;
> (d) operating any other function of the phone. (National Transport Commission, 2005, p. 56)

As the Adelaide *Advertiser* pointed out, it is hoped that these changes will 'clear up rules that confuse both police and motorists' (Williams, 2006b, n.p.). The amendments have since been accepted and now constitute part of the Australian Road Rules.

It is not only motorists who are subject to unusual interpretations of the regulations. In Queensland a cyclist was fined for using a mobile while riding his bike. The cyclist was 'shocked' at being booked by police from the State Traffic Taskforce, with a criminal lawyer and Opposition transport spokeswoman Fiona Simpson labelling it as 'over the top' (*Australian*, 2004, n.p.; Heffernan, 2004, p. 9). The Queensland Police Service defended the officer who issued the fine, saying that uniform national laws prevented people from talking on a mobile phone while driving any vehicle, including a bicycle. Premier Peter Beattie defended the laws which also allow motorists, tram drivers, anyone riding an animal or a motorised wheelchair travelling at more than 10km/h to be fined: 'While some people may feel that's a little harsh, bike riders are very vulnerable when riding along at the best of times…I think it's reasonable that we say to people "please don't ride a bike and use a mobile phone"' (Heffernan, 2004, p. 9). In 2003 a city coachman in Melbourne was fined for talking on his mobile while driving a horsedrawn carriage. He described the fine as 'ridiculous', with the Victorian Horsedrawn Association claiming it was the first time a member had been fined for the offence (Leung, 2003, n.p.). According to Victoria Police, a horsedrawn carriage is classified as a vehicle and drivers must abide by Victorian Road Rules. Unlike in

Queensland, the police appeared to soften their stance, with a sergeant later stating that the fine would likely be withdrawn.

Another complication includes exemptions in the legislation that allow emergency calls to be made while driving. What constitutes an emergency is often not clearly defined and remains subjective. As Lissy et al. point out in a United States context, 'guidance to motorists is required' in determining a 'compelling emergency' (2000, p. 53), a guidance which is for the most part absent. There is at least one state which does provide constructive clarification. The prohibitions in the New York State Vehicle and Traffic Law (Title 7 Article 33 – 1225C) describe the exemption as using:

> a mobile telephone for the sole purpose of communicating with any of the following regarding an emergency situation: an emergency response operator; a hospital, physician's office or health clinic; an ambulance company or corps; a fire department, district or company; or a police department (eHam.net, 2005, n.p.).

Yet such precision is the exception rather than the rule. In banning the use of hand-held phones in the United Kingdom, the Department for Transport 'decided that there should be an exemption…for a genuine emergency call, if it would be unsafe for a driver to stop' (2003, p. 4), but failed to define 'genuine emergency' or 'unsafe'. Nor is 'emergency' defined in the Australian Road Rules. The variance in drivers' perception and use of emergency numbers creates further ambiguity. In the United States, at least, there has been a high incidence of illegitimate calls made to such numbers, where the 'ease of calling [a] toll-free number on a mobile phone has resulted in people dialing 911' for trivial purposes, such as 'to ask for directions or test the operation of the phone' (Cain & Burris, 1999, n.p.).

In a related manner, police and emergency vehicles are exempt from restrictions, raising further questions and tensions. The Victorian Road Rules stipulate that drivers of police and emergency vehicles are exempt if, in the circumstances:

> i) the driver is taking reasonable care; and

> ii) it is reasonable that the provision [or rule] should not apply (Victorian Government, 1999b).

MUARC researchers have been critical of this exemption, arguing that CB and two-way radios should be banned for emergency vehicles because they may be used in dangerous conditions where there is an elevated level of risk:

> We think that [the exemption for emergency vehicle drivers] is questionable given that the driving demands for these people are extremely high, especially ambos who are driving at high speeds through intersections. We would have thought they would have been the last ones who should be using these particular hand-held devices while they are driving. (Road Safety Committee, 2005c, p. 12)

The Sydney *Daily Telegraph* ran an article highlighting the fact that police are free to drive while talking on the phone 'without penalty' and that 'public servants working for the police department are also taking advantage of the *legal loophole*' (Clifton, 2004, n.p.; emphasis added). In 2006 the paper published a photo of a policewoman talking on her mobile phone while driving, pointing out that she was not breaking any laws: 'while other motorists face a $220 fine and three demerit points for using a hand-held mobile while driving, police are exempt – as long as they were making work-related calls, a police spokesman said' (Masters, 2006).

It should be noted that while the concerns raised above are valid, police officers are not above the law, so to speak. There has been at least one case of a police officer being fined. The *Sydney Morning Herald* reported that Detective Senior Constable Paul Quigg was spotted by a passing highway patrol officer after answering a call from a colleague on behalf of his boss, Assistant Commissioner Graeme Morgan. In spite of detailing the significance of the call and how he had pulled over soon after receiving it, he was issued with a TIN. Colleagues were mixed in their response. 'You've really got to wonder, in the circumstances, what the point of the exercise [in fining him] is…it's a case of this zero tolerance crap gone mad. The public are getting fed up with it – and now we're forcing it on our own', said one. Another officer said: 'I don't think police should be exempt from the ban on mobiles while driving – it's just as dangerous for them to do it as it is for anyone' (Kidman, 2006, n.p.).

Although there do not appear to have been any occurrences like this in Victoria, the state does have guidelines for its police officers, as Assistant Commissioner Hastings stated:

> I try to promote corporate responsibility for our people, even though the legislation says we can do these things without being subject to any breach of the law. I think in terms of practice, it is good practice to show the community that you do the right thing. We do not always get it right either. There are people out there who will use the processes and say, 'I do not need to, because the law says I am exempt', but that does not stop you reinforcing a message. (Road Safety Committee, 2005a, p. 8)

Superintendent Peter Keogh from the Victoria Police Traffic Operations and Support Department outlined the force's official policy:

> While we have an exemption to allow us to use mobile phones, our policy says that they will only be used in exceptional circumstances of operational necessity, albeit you hear people talking about the issue on radio inferring that the police use them contrary to advice. (Road Safety Committee, 2005a, p. 8)

Although this part of the law has gained some attention, it only affects a small minority of drivers. A more significant and increasingly complex situation involves the impact of the convergence of mobile communication devices on developing and implementing regulations.

In many ways, current laws set up arbitrary divisions between communication devices. On one level, there is no scientific basis for legally discriminating between hand-held and other phone units in terms of safety outcomes. One of the reasons New Zealand has refrained from legal regulation is due to:

> the lack of consistency if the use of hand-held cell phones while driving is banned, while the use of hand-held radio-telephones remains legal. Modern hand-held radio-telephones have the same operating characteristics as hand-held

> cell phones and could also compromise safety if used unwisely when driving (Land Transport Safety Authority, 2002, p. 47).

In many countries, including Australia, there is a legal distinction between talking on a mobile phone and on a CB or two-way radio (Australian Road Rules, 2003; Road Safety Committee, 1994). The original proposal for the Australian Road Rules suggested restricting 'two-way radio or similar electronic communication devices' but in the end narrowed this down to hand-held mobile phones, clarifying that mobile phones do 'not include a CB radio or any other two-way radio' (Australian Road Rules, 2003, p. 10). The reasons for this distinction, at least in Australia, appear unclear. In Victoria, the Road Safety Committee (1994, n.p.) noted 'that there are some differences in the likely effect on road safety of using a 2-way radio compared to mobile telephones' and that hand-held use was likely to be 'more distracting', although it did not offer any evidence or explanation to verify these statements.

This legal disparity was again raised in 2005 at the Victorian inquiry into driver distraction, with a number of witnesses questioning the exemption for CB radios. The executive director of Intelligent Transport Systems (Australia) said that:

> It is unusual that we permit the use of a CB radio but not a mobile phone. It is an anomaly in the legislation. To send the right signals to the broader user group or the community, we need to make quite a profound statement for the use of these devices, irrespective of whether CBs or mobile phones should be banned. In particular, we again get a blurring of the level where a taxi dispatch terminal, whilst it might have a driver assistance function, can be used not for a driver assistance function but to secure jobs for the taxi driver – the same way someone might send an SMS to perform a work task. (Road Safety Committee, 2006c, p. 8)

Asked why two-way radios were exempt, representatives from MUARC were unable to explain the distinction. As the following exchange suggests, one possible reason may have been due to the use of CBs in the trucking industry:

> Mr Langdon[19] – Why is a two-way radio allowed and not a mobile?
> Dr Regan – I have no idea…
> Prof. Johnston – I think it has something to do with the politics of the introduction – because of the existing use of them by the industry, probably.
> Mr Langdon – But the distraction would be just the same.
> Prof. Johnston – We believe so. (Road Safety Committee, 2005c, p. 11)

In the United Kingdom, the Department for Transport's summary of responses to public consultations on the possibility of banning phone use provides some clues about the reasons underpinning the exemption. It found that several groups supported exemptions for two-way radio microphones on the basis that amateur radio operators, commercial drivers and emergency services had been using these systems 'to communicate with a base station…over many years without giving rise to road safety concerns' (Department for Transport, 2003, p. 3). The Radio Society of Great Britain pointed out that there had been no recorded accident since 1955 that could be attributed to amateur radios being operated from vehicles. They also said that the nature of 'press to talk' devices was likely to keep conversations short and, therefore, entailed a lower degree of risk. In addition, the operational features (that such devices were less convenient, required a dedicated frequency and only allowed for one-way conversation while holding a button) were regarded as factors that would mitigate against the exploitation of a legal loophole 'because the vast majority of drivers [were] unlikely to use them as substitutes for mobile phones' (2003, p. 3). Ironically, some mobiles now have 'press to talk' features that bear a striking resemblance to the functions of CB radios (Glassbrenner, 2005b). This illustrates how different communication devices, with similar functions, are classified and treated differently, often without any consistency.

Another relevant example of this, and the difficulties it presents, is evident in the overlap of functions of hand-held and hands-free phones. Although earpiece or voice-activated software enables communication without physically holding the device, the driver may still need to access the phone, dial or search for a number, type the number in while the phone sits in a cradle, or hang up. As the Australian Federal Police (2005b) point out in their 'Frequently asked questions':

[19] Mr Langdon was a member of the Road Safety Committee, and Dr Regan and Professor Johnston were representing MUARC.

> Can I use my hands-free phone?
> If you can work your phone without holding it, then yes.
> What about if it's in a cradle?
> Again, if you don't hold the phone, you're fine. Pushing buttons on a phone that's in a cradle or on a steering wheel or handlebars is not prohibited.

Similarly, the United Kingdom's Department for Transport stated that:

> Within the context of holding a phone, pushing buttons on a phone while it is in a cradle or if it is being operated via buttons on the steering wheel…would not, in our view, breach the new regulation. (2003, p. 3)

Herein lies a discrepancy: while holding a phone during a conversation (or compiling a text message) is illegal, it is acceptable to punch numbers into a phone that is housed in a cradle. In 2005 Brisbane's *Sunday Mail* warned readers that the 'regulation isn't clear and there doesn't appear to be a definition of hand-held or mobile phone', in turn raising the prospect of being issued with a TIN whether or not the phone was hands-free (Bowering, 2005, p. 36).

This word of warning became a reality for one Adelaide man who was charged for touching a phone earpiece while driving. The police officer who stopped him reported that she had seen him holding a mobile telephone to his ear as he drove along. The driver denied this, countering that 'what he had been holding to his ear was an earpiece which, together with a microphone, was attached by a flexible cord to the mobile telephone' (*Kyriakopoulos v. Police*, 2006, par. 4). His appeal to the South Australian Supreme Court was dismissed by the judge who said that:

> In the circumstances of this case, the cord and earpiece formed part of the mobile telephone at the time of its use by the appellant. The appellant was holding the earpiece in place by hand. In those circumstances the appellant was, in my opinion, using a hand-held mobile telephone within the meaning of Australian Road Rule 300. (*Kyriakopoulos v. Police*, 2006, par. 22)

Incensed with the decision, Mr Kyriakopoulos considered a High Court challenge. 'I believed I went through the correct processes and protocols of safe driving, yet I have been punished for it', he said. 'I think the judges need to be pragmatic and sensible about these things…and in this case they have not been…this decision is clinically pedantic that borders on stupidity' (Williams, 2006a, n.p.).

Mr Kyriakopoulos' story is an example of the role that individual actors play in the network of negotiation, and how specific and localised driving incidents contribute to a non-linear decision-making process. It also shows how the convergence of various communication technologies presents unique challenges for police and the courts, which are called upon to deal with particular circumstances which sometimes do not easily fall within existing responsibilities or structures. How, for example, does the law capture a constantly evolving set of communication devices? As Vanlaar (2005, pp. 4-5) says:

> Only recently, in parallel with fast developing technologies like cell phones, legislation exists that describes aspects of distracted driving more concretely. However, due to the fast pace of developing technologies, legislation in Europe can no longer keep up with the constantly changing reality; a phenomenon which is not unique to Europe but rather common all over the modern world.

In this 'changing reality', mobile phones can be used as televisions, radios and cameras, and it is not always clear which devices (and functions, too) fall within the bounds of the law. Personal digital assistants, for example, do not appear to be covered in the regulations but nonetheless allow similar operations (such as SMS), and by extension present a similar distraction. One magistrate highlighted this limitation in dismissing a contested charge for hand-held mobile use while driving (*DPP v. Chresta*, par. 9, 17). During the hearing a range of situations were described in order to test how wide the term 'to use' might be. It was accepted that uses beyond oral communication may not be covered in the regulations but, as the magistrate pointed out, mobile capabilities now include photography, playing music and text messages, as well as applications such as calendars and calculators.

Certain functions of a mobile device may actually overlap with other laws, such as Australian Road Rule 299:

> A driver must not drive a motor vehicle that has a television receiver or visual display unit in or on the vehicle operating while the vehicle is moving, or is stationary but not parked, if any part of the image on the screen:
> (a) is visible to the driver from the normal driving position; or
> (b) is likely to distract another driver.

Now that third generation mobile phones are able to act as mini-televisions, it is conceivable that their use for this purpose may fall under this regulation. Matt Sundeen put it well when he said we 'have all these different technologies where legislators can't possibly write legislation for specific technologies…it's impossible to keep pace' (Hafner & George, 2005). One approach has been to write laws which focus not so much on the device itself as the actual applications of communication devices. In Washington, for example, regulations prohibit 'reading, writing and using personal communication technologies' (Hafner & George, 2005).

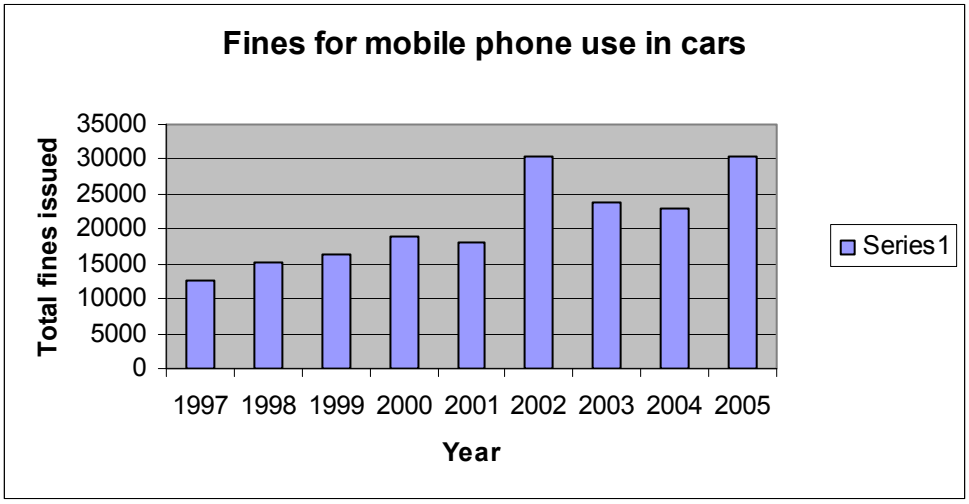
These initiatives show that as mobile technologies continue to converge and take different forms, the ability of laws to accommodate these changes is compromised. They also highlight the pedantic enforcement of a general prohibition. While highlighting these shortcomings, it is important to remember that complexities and intricacies are common to many laws. Although mobile phone use is not easily captured via legislative means, the main point is that regulations have been introduced because the practice is regarded as (potentially) dangerous and poses a threat to public safety. Given this, a number of questions become relevant: How have the laws been enforced? How effective have they been in deterring the practice? The remainder of this chapter addresses the first question by describing police enforcement of the laws and examining incidents which have gone to court. The effectiveness of various options in modifying motorists' behaviour will be considered in more detail in Chapter Seven.

Policing and enforcement

In general terms, speed, alcohol and fatigue are viewed as the more serious threats to road safety because they are the major causes of crashes and fatalities, both internationally and in Australia. Speed, drink-driving, seatbelts and fatigue dominate the

Victoria Police road safety priorities activity calendars (2005a, 2006b). Although phone use crops up less frequently on this tasking calendar, it is still a concern for the police, being Victoria's third most frequently issued on-the-spot fine after speeding and non-wearing of seatbelts (TAC, 2004b). As Figure 5.1 indicates, up to 30,000 Victorians are caught using a hand-held phone while driving each year.

Figure 5.1: Traffic infringement notices issued to Victorian drivers for mobile phone use in cars, 1997-2005



Source: VicRoads (2005f, 2006c).

While local police officers do not specifically target the offence, they are on the look-out for breaches and do enforce traffic infringements when noted (Victoria Police, 2005b, 2005e). Aside from offences detected during general duties, Victorian and interstate police often conduct blitzes and targeted campaigns. In a one-day blitz in New South Wales involving 90 police motorcycles, 681 drivers were fined for using a hand-held device (Hartley, 2005). In Queensland regular blitzes are catching up to 200 offenders. According to Sergeant Ian Birkbeck of the Gold Coast traffic branch, 'we're getting a heap of them every day. They're too engrossed in their conversations to know we are there' (Weston, 2006, n.p.).

Victoria Police have also adopted this strategy, although it is hard to track the regularity and intensity of enforcement. As far back as 1996 there were police blitzes focusing on drivers on their phones (Telstra, 1996). More recently, the road safety priorities program, which guides state-wide policing activities, has included mobile phone use as an area of importance. In the last six months of 2004 there were three campaigns

dedicated solely to the issue, while in the corresponding time frame in 2005 there was a phase planned for new initiatives within which phone use was included (Victoria Police, 2004, 2005a). Throughout 2006 Victoria Police conducted a series of special operations in the Melbourne CBD targeting mobile use and failure to wear seatbelts. In February the operation detected 225 offences from 7 a.m. to 1 p.m., including 121 drivers caught using mobile telephones. Plain-clothes and uniformed officers from inner-city stations ran the blitz in conjunction with the Melbourne Traffic Management Unit (Victoria Police, 2006a). When this exercise was carried out in April and May a similar number of drivers were fined. Inspector Stephen Mutton said 'operations like this one will continue…The public should be prepared to see police in places they least expect at random times' (Burrow, 2006, n.p.). The offence has also been targeted in rural Victoria. Funded by the TAC, the Bendigo Traffic Management Unit conducted a series of road blitzes, deploying a minimum of four police officers for one day each week to search for motorists breaking seatbelt and mobile phone laws (*Bendigo Advertiser*, 2006). Of the 366 traffic fines that were issued over a 53 day period, 119 were for talking on a mobile phone. In March 2006 police throughout the state focused on mobile use, at the same time broadcasting a community service announcement to educate motorists about the dangers (Alexander, 2006).

Despite the relatively high numbers caught, there are significant barriers to effective enforcement. In simple terms, a driver must be observed holding a phone while driving in order to be charged, and police officers need to be in the right place at the right time. If offenders are driving in the opposite direction it is often impractical and unreasonable to stop, turn around and pursue them. Heavy and fast-moving traffic make it difficult and potentially unsafe to intercept motorists, and the offence is harder to detect at night, when the phone is small, and in cars with tinted windows. Drivers do not make the job easy, either: according to police, many attempt to disguise what they are doing by dropping their phones or putting their hands up to their faces (Weston, 2006). The use of SMS, which is particularly common amongst younger drivers, also presents additional constraints because messages can be typed, sent and read in drivers' laps (below the police officer's line of sight). In terms of initial sighting, it may be hard for police to prove what they saw if the driver denies using a hand-held device. While most people do not dispute the offence, a significant number of TINs are appealed in court (Victoria Police, 2005b).

In terms of the process, if someone chooses to appeal their fine they are issued with a summary offence and receive a summons by mail to appear at the Magistrate's Court. According to the police prosecutor's department, in most cases the appeals are unsuccessful (Victoria Police, 2005c). Yet despite a poor success rate, appeals are common. On what grounds, then, do people dispute the offence? Jim Gardner, from the Victoria Police Prosecution Department, suggests that many appeals are based on what defines 'use' (Victoria Police, 2005c). Drivers from New South Wales and South Australia have appealed their TINs in the Supreme Court by arguing they were not, according to the regulations, using their phone. In Queensland, a driver's fine was dismissed after he presented a telephone bill as evidence that he had not been talking at the time he was ticketed. The magistrate could not be convinced that the phone was being used when sighted by police, overturning the fine because of an element of reasonable doubt (ninemsn.com.au, 2006).

In cases like this it is difficult to accurately assess drivers' honesty. Some are simply unaware of the finer details of the law and do not realise that they are not allowed to use a hand-held while waiting at traffic lights or when the vehicle is stopped but the motor is still running. Others who are familiar with the regulations may claim ignorance of the particularities of the law and act dumb (Victoria Police, 2005b). The high number of disputes could also be partly attributable to drivers wanting to delay losing their licence. The offence results in the accrual of demerit points, which may mean that some drivers would exceed their demerit limit, resulting in licence suspension (Victoria Police, 2005c). These kinds of appeals are based not so much on a valid reason as on attempting to prolong the amount of time available to legally drive.

Altogether, this is a difficult offence to enforce, and in some cases it can be hard for police to confirm prosecution. Although they have the power to check phone records and to access in- and out-bound calls, this is a rarely done (Victoria Police, 2005d). To do so, the police officer must fill out a report outlining the reasons for accessing phone records and this must be signed by the inspector. Even when possible, limited resources (of time and money) and other priorities dictate that tracking down phone records in order to confirm sightings is unrealistic. Police have begun to adopt innovative methods to address some of these problems. In the Melbourne CBD, pedestrian officers were stationed on a main road to observe drivers, and when a phone violation was seen they

notified police up the road, who then pulled the offenders over safely. A similar system has been utilised in Queensland, where undercover police on the Gold Coast were stationed behind a busy road with radio in hand in order to alert six uniformed officers up the road. Sergeant Birkbeck defended the 'secret new tactics':

> It's everywhere, and everyone and anyone is doing it. It's across the board, in terms of age and sex…they don't understand the danger. It's comparable to driving with a blood alcohol level well over the limit because they're not concentrating on what's around them. (Weston, 2006, n.p.).

This type of method is only part of the solution. As the comment suggests, there is growing angst amongst police about people's continued use of phones while driving, as well as an inability to properly enforce the road rules. As a result, other (more controversial) strategies have been suggested by a range of individuals and organisations. Below I briefly describe three of these: voluntary reporting, use of technology (for example, cameras, cell blocking equipment) and confiscating phones. As we will see, these options are not always feasible, but the mere fact that they have gained attention indicates the degree of frustration that the obstacles to effective enforcement generate for some groups, and the lengths people are willing to go to address them. This discussion highlights the tension between individuals' privacy and choice to self-regulate their behaviour in the car and the states' preparedness to act to protect security, the rule of law, road safety and the public good.

Alternative strategies

Voluntary reporting has been advocated by the Motorcycle Riders' Association, Bicycle Victoria and the TAC. Mr Bolitho, the TAC's manager of legal policy, drew attention to a New Zealand community road-watch program:

> members of the public are invited to report undesirable driving behaviour of many kinds. There is a form and the police then issue an advisory note to the driver concerned. It is used more as an advisory and educative approach. (Road Safety Committee, 2005d, p. 28)

In the *Age*, Shmith (2003, n.p.) echoed this suggestion:

> In Victoria, we are currently encouraged to report people who drive smoky vehicles or those who throw litter from their cars. To make a report you have to give your name and address and sign that you are prepared to appear in court. The same system should be set up for hand held mobile phone use. Then we can all help to break this habit that threatens our hard won road safety gains.

This proposal has not been officially backed by either the Victorian government or police, with the Transport Minister suggesting that community reporting would be plagued by evidentiary problems and is likely to be abused (Heinrichs, 2003).

In terms of using technology to assist police in detecting the practice, the TAC and Victoria Police have trialled a new video system whereby vehicles are fitted with cameras with a forward view which, when a button is pushed, capture the previous 30 seconds of a driver's activity. Some offences (including hand-held use) could be recorded and then replayed to the driver. Referring to this in-car video system, the TAC's general manager of road safety stated that the police have found this very useful 'in terms of gaining offender acceptance of the infringement notice':

> it could be used remotely, a bit like a speed camera where you subsequently issue a ticket and say, 'We have the video. Do you wish to see it?' The notion of mobile vehicles using that technology may well be a very significant deterrent for the future. We only flag that because we believe technology has a role in the future to enforce some of those technologies, and that may be one example of how, with appropriate development, there could be significant benefits particularly by way of deterrents. (Road Safety Committee, 2005d, p. 30)

The use of speed cameras has also gained some attention. In the United Kingdom, drivers have been fined for using hand-held phones based on the evidence of cameras (Balls, 2006; Bhat & Foster, 2006). John Fairey, manager of the Norfolk Casualty Reduction Partnership, said that offences other than speeding had been recorded on cameras, including the use of hand-held mobile phones. While police in some areas were reluctant to use this information, road safety experts backed the system. Norfolk

police, who initially declined the use of filmed evidence of mobile phone usage, reversed their decision: ‘we have reviewed it and we will now look to maximise our evidence from safety cameras’ (Deal, 2006, n.p.). The strategy was later examined by a parliamentary committee.

While the application of this equipment is more distant in Victoria, the topic is on the agenda. The Motorcycle Riders’ Association (2005, p. 6) recommended to the driver distraction inquiry that the committee ‘investigate technology to provide camera-based roadside detection when phones are in use by the driver’. Mr Healy, of the TAC, also raised the possibility of utilising speed camera technology:

> it is conceivable that in the future the resolution of those cameras will improve so that it would be possible for cameras to at least identify those who are using hand-held mobile phones. Once again, our reasons for stating this are not to increase the level of apprehension but to tell the community there is the potential for these technologies to do just that. Our whole intention is to build in people an awareness of the risk of apprehension by using these distracting and highly risky devices. (Road Safety Committee, 2005d, p. 30)

While this may seem a reasonable and practical approach, it does touch upon the issue of state intervention and personal rights. In the United Kingdom, Transport Secretary Alistair Darling initially ruled out the proposal to use speed cameras on the grounds that it was an invasion of privacy (Balls, 2006; O’Cain, 2006).

Suggestions that technology could be used to block calls in moving vehicles raises further questions about the degree to which governments should intervene in people’s driving, bringing the relationship between individual choice and institutional regulation into focus. Citing the example of alcohol interlock systems, Bob Hastings of Victoria Police said that ‘we are using more and more technology to start to intervene in…[drivers’] behaviours’ (Road Safety Committee, 2005a, p. 6). This intervention takes different forms. In passive systems, such as seatbelt alerts, the driver can either choose to comply or ignore the warning. Active systems, on the other hand, are more restrictive (such as alcohol interlocks, which block a driver’s entry into their car if they

are over the legal blood alcohol limit). The application of both passive and active systems has been suggested in relation to mobile phone use.

An OECD (2003, p. 49) report into the impact of new technologies floated the idea of developing roadside equipment which could create 'phone-free roads where cell phone communication would be impossible', and the general manager of the RACV said recently that he hoped 'there might be some technological solutions that basically make it difficult, if not impossible, to send and receive text messages and perhaps even verbal messages by a driver behind the wheel' (Road Safety Committee, 2006d). As a dialogue at the driver distraction inquiry reveals, such active systems have some support:

> The Chair – Is there technology around which would assist police in enforcing mobile phone bans?
> Dr Regan – It is an interesting one. We know that if you take your mobile phone into a cinema, its reception can be blocked. Presumably there are means by which, let us say above a certain speed, the reception could be blocked through technology. No-one has actually explored the options, or if they have been explored they have not been publicly revealed by the telcos [telecommunication companies].
> Prof. Johnston – To me the fix is technological enforcement, not police enforcement, which is what we are talking about now. I think that is quite feasible.
> The Chair – So we do not know whether that technology exists at the present time.
> Dr Regan – We do not, but I suspect it does. I do a lot of work in intelligent transport systems and I would probably say with 90 per cent confidence that I think it could be done.
> The Chair – We have machinery roaming around on Mars so I guess it is viable.
> Prof. Johnston – I think the motivation to do it has not existed, but I think as soon as it did –
> Dr Regan – Exactly.
> Prof. Johnston – It would appear very quickly. (Road Safety Committee, 2005c, p. 19)

On a practical level there are several barriers to implementing this technology. The RACV (2005b, p. 22) points out that 'further research would be needed to determine whether it is suitable for in-car use', citing potential problems such as an inability to distinguish between hand-held and hands-free, as well as the restriction of emergency calls. Superintendent Keogh thought that this 'technology would be an easy answer to it', but that preventing other passengers from making or receiving calls would make the introduction of such measures difficult (Road Safety Committee, 2005a, p. 6).

More significantly, this type of measure is not likely to receive much support from telecommunication companies and car manufacturers. As Dr Regan points out, even if this technology is available, the phone and vehicle industries may not be willing to reveal the details. A contributor to the journal of the Institution of Electrical Engineers tells a story which supports this view:

> I wholeheartedly agree with the views expressed by Kevin Ellis (IEE Review, Feedback, July 2005), about the extent to which roads are becoming dangerous because of drivers using hand-held phones. For a solution, we could look to Prof Y. P. Singh, former professor of electrical engineering at IIT Kharagpur in India. Prof Singh was challenged by his daughter to do something socially useful with his knowledge of electrical engineering. The resulting patent he took out a few years ago describes a system that ensures that, when a driver sits in his car, his or her phone is deactivated. The trouble was that Prof Singh needed car manufacturers to incorporate the decoupling device, and phone makers to cooperate. The response from both groups was 'no thanks!' (Vfenkateswaran, 2005, p. 6)

And, finally, motorists themselves may not be receptive to the idea. The Victorian Automobile Chamber of Commerce (2005, p. 21) has stated that car makers are concerned about exploring technology which disables in-vehicle functions, but that this may frustrate drivers: 'further investigation of the effectiveness of interface technology to disable in-car mobile kits whilst a vehicle is in motion is advised as conflicting research [which] suggests driver resistance to these technologies'.

Systems which are passive (or, put another way, less intrusive) are more palatable and appear more likely to find their way into vehicles. As an example, Motorola's 'polite phone' can detect phone use in the car. Depending on the driving conditions, calls may be diverted to voicemail or automatically diverted to a hands-free system. A consortium funded by the European Commission has been developing a similar system which monitors driver activity (such as throttle application, braking and steering), and at certain points diverts phone calls if a threshold is breached (*Economist*, 2004a). Volvo, who are part of the group working on this program, say that the mobile phone can be programmed to bypass the system because 'we don't want to frustrate customers who want to answer the phone in any situation' (Hagon, 2004, n.p.). Here we see a more tentative approach, exemplified in the term 'polite phone', as well as Volvo's reluctance to completely restrict calls in the interest of preserving motorists' capacity to choose whether or not to use the device.

Another controversial proposal has been the confiscation of phones. The debate has been fuelled by the case of a Gold Coast driver whose TIN was overturned in court. Spotted by an undercover traffic officer, he presented a telephone bill as evidence that he had not been talking at the time he was ticketed. Traffic police countered that he may have been using another of the phone's functions which may not have been itemised on the bill, such as receiving a text message (Dullroy, 2006). Police reacted strongly to the ruling, calling for more power to seize handsets in order to ensure successful prosecutions. Confiscating a handset and checking its records may be necessary to prove the phone was being used, they argued. The Police Minister Judy Spence expressed her support for this idea. Asking the Police Commissioner to provide a report on the overall number of motorists charged with hand-held offences and how many were acquitted, she said, 'I am willing to consider any legislative changes that ensure police can prosecute people who continue to flout the law by using hand-held mobile phones while driving' (Dullroy, 2006, n.p.; ABC News Online, 2006). The concept was also raised briefly at the Victorian driver distraction inquiry. The committee chair asked VicRoads whether there had 'been any thought given to, or is there any experience overseas of confiscating mobile phones?' (Road Safety Committee, 2005b, p. 12), with chief executive officer David Anderson responding by highlighting the practical problems involved, in particular, the ease with which someone would have access to another phone.

This measure emphasises a widespread frustration about drivers' lack of compliance with the law. Western Australian police District Superintendent David Parkinson conceded that 'we haven't made the slightest impact. We haven't made a dint':

> We need tougher measures because the fact is the message isn't getting through…Take the phone off the person. In most cases they probably care more about losing their phone than losing their licence…we should charge them $20 a day for safekeeping (Paddenburg, 2006, n.p.).

The Queensland Police Union's Phil Hocken took a similar view in suggesting that police should have the power to confiscate mobiles for 24 hours: 'People are paying exorbitant prices for mobile phones. But in saying that, we're trying to get the road tolls down…24 hours is just a good shake-up for the people' (ABC Local Radio, 2006, n.p.). Melanie Christiansen questioned him on this point, arguing that 'some people are pretty attached to their mobile phones, though. They might find it hard to live without one', to which he responded, 'Well, all they've got to do is pull over really…that's the bottom line. And the idea is to make sure that people's full attentions are on the road'.

Not surprisingly, this proposal has received a mixed reaction. Queensland Premier Peter Beattie was sympathetic to the idea:

> People driving on a phone is just plain, bloody stupid. And at the end of it all, you've got to say to people: 'Wake up to yourself'…You can kill somebody. I just don't think there's any excuse for it. We don't want to have to do any of this [confiscate phones]. But if people keep getting killed and we get this irresponsible behaviour the police are right, and we will have to look at it. (ABC Local Radio, 2006, n.p.)

Mark King, from the Centre for Accident Research at the Queensland University of Technology, was also supportive:

> I'm in favour of police being able to enforce the laws properly. And if they can only do that by confiscating the mobile phone to download the records then I

> think that that's the sort of power that they're going to need. (ABC Local Radio, 2006, n.p.)

Similarly, Western Australian Road Safety Council chairman Grant Dorrington agreed tougher penalties were needed: 'we…need to take the phones from people… unfortunately, some people don't change their ways unless you penalise them and then they scream' (Paddenburg, 2006, n.p.).

Others are more sceptical. Western Australia's Royal Automobile Club member advocacy manager, David Moir, pointed out 'there are other avenues we need to explore before simply seizing phones', suggesting that more advertising and education was required before it was considered (Paddenburg, 2006). Royal Automobile Club of Queensland spokesman Gary Fites also replied with caution. Describing the measure as 'over-reactive', he claims that other methods of gathering evidence are more appropriate: 'It would be a big imposition to take someone's phone away…I don't see why police would need to take that step when there are other avenues of gaining phone records' (Dullroy, 2006, n.p.). Altogether, it is hard to see this approach becoming a feature of police enforcement, but the debate shows how far authorities are prepared to go in restricting phone use.

As argued in this section, finding appropriate and practical ways to implement current regulations is not easy, and there is disagreement about which new measures should be introduced. In pursuing the objectives of ensuring safe roads and adherence to the law, how much do governments act via institutional regulation, and how much do they rely on social responsibility? On the one hand, drivers are encouraged to abide by the laws by maintaining a level of social, ethical and/or moral responsibility (strategies which focus on motorists' capacity for self-governance are covered in more detail in the following chapter). But as this section has revealed, there is a lack of trust in this approach from some groups, who in turn advocate more active measures, such as confiscating mobile phones or blocking signal reception. These negotiations serve to illustrate the difficulties for governments in reconciling the rights and responsibilities of drivers.

To this point we have considered the minor infringements and penalties associated with mobile use, yet as outlined in Chapter Three there has been a growing number of reported fatalities attributed to phone use. Deaths caused by mobile phone use while driving fall under more serious breaches of traffic law. Next we examine several landmark legal cases involving the sentencing of two young Victorian drivers. The experiences of Silvia Ciach and Marcus Johnstone provide two intriguing examples of the legal process of dealing with culpable driving causing death as a result of mobile phone use.

Court cases and serious offences

As described at the start of Chapter One, in late 2001 a Victorian woman ran into, and killed, a cyclist while distracted by her mobile phone. After the accident Ms Ciach was charged with culpable driving causing death, and the case was brought before the Geelong County Court in 2003. Robert Richter QC – a prominent barrister – was enlisted for the defence, reflecting the significance and unprecedented nature of the case. Initially pleading not guilty, Ms Ciach changed her plea to guilty after the committal hearing.

In relation to the specific laws concerning culpable driving causing death, Section 318 (2) of the Crimes Act 1958 states:

> a person drives a motor vehicle culpably if he drives the motor vehicle –
> (a) recklessly, that is to say, if he consciously and unjustifiably disregards a substantial risk that the death of another person or the infliction of grievous bodily harm upon another person may result from his driving; or
> (b) negligently, that is to say, if he fails unjustifiably and to a gross degree to observe the standard of care which a reasonable man would have observed in all the circumstances of the case (Victorian Government, 2004a, p. 164).

The offence covers four types of culpability: '*recklessness*, *gross negligence*, and driving under the influence of either *alcohol* or *a drug* to such an extent as to be incapable of having proper control of the vehicle' (Department of Justice, 2004, p. 16;

emphasis in original). Part (2A) of the Crimes Act 1958 specifies that 'a presentment for an indictable offence under this section shall specify which form of culpability' the driver is guilty of (Victorian Government, 2004a, p. 166). Given the 'evidence of the whole circumstances', presiding judge Justice Cohen classified Ms Ciach's 'form of culpability' as 'driving with gross negligence' (*R v. Ciach*, 2003, p. 2). According to the Act, this means:

> by so driving the motor vehicle the person failed unjustifiably and to a gross degree to observe the standard of care which a reasonable person would have observed in all the circumstances of the case. (Victorian Government, 2004a, p. 165)

As prescribed by Section 89 of the Sentencing Act 1991, the maximum penalty for this offence stands at 20 years in jail and/or a fine of up to $240,000 (Victorian Government 2004b; *R v. Ciach*, 2003). Indeed, Section 318 (2) b – the offence with which Ms Ciach was charged – has come to be regarded as the most serious breach of all the traffic laws aimed at punishing driver carelessness. This is reflected in the maximum jail term, which is equivalent to manslaughter. According to Harkess, 'culpable driving causing death by gross negligence is a species of involuntary manslaughter and…both crimes bear exactly the same criminal element of negligence' (2004, p. 46). As Justice Cohen explained, 'these penalties in themselves indicate the very great seriousness with which the legislature regards this crime' (*R v. Ciach*, 2003, p. 1).

Whilst the case had no legal precedent in terms of its form of culpable driving causing death – that is, no-one in Australia had been charged with the offence due to distraction caused by using a mobile phone while driving (see Harkess, 2004) – the offence typically carries a sentence of imprisonment. In the period 1998-99 to 2003-04, 73 per cent of those convicted of the offence in Victoria received a sentence of immediate imprisonment. Justice Cohen ruled that Ms Ciach be convicted of the offence and sentenced to two years' imprisonment, but the term was wholly suspended for three years due to several reasons. The judge was satisfied with the genuine remorse shown by Ms Ciach and felt that her conscience would act as a powerful deterrent in the future. Moreover, Anthony Marsh's parents did not want her to be imprisoned. They requested that the magnitude of the tragedy stand as a reminder of the risk involved in using a

mobile while driving. Altogether, it was 'only very strong mitigating factors, including that…this specific risk [text messaging while driving] and its potentially fatal consequences had not previously been highlighted before a court' that persuaded Justice Cohen not to send Ms Ciach to jail (*R v. Ciach*, 2003, p. 6).

The ruling provoked heated debate, with many members of the public angered at the lenience of the sentence (these reactions will be covered in Chapter Seven). Perhaps partly as a result of this trial and the responses to it, the sentencing of Marcus Johnstone, who was charged with the same offence, was more severe. In mid-2004 Mr Johnstone was driving along a country road carrying six teenage passengers when one of the passengers passed him a phone to read a text message. According to a witness in the car, he 'tried to shoo [the passenger] away' when he offered him the phone (*R v. Johnstone*, 2006a, p. 21). Nevertheless, he did eventually look at the screen several times. As a result, he lost control of the vehicle and ran off the road, killing two passengers. As with Ms Ciach, the driver owned up to his phone use:

> After admitting to a police officer that he was the driver, [an] officer asked what happened. He replied: 'I was handed a mobile phone to read a text message, I looked down to read the message, when I looked up the corner was on me and I lost control'. (Sergeant McMahon, cited in *R v. Johnstone*, 2006b, p. 92)

He was charged with two counts of culpable driving causing death and one count of negligent driving causing serious injury, and it was the first time in Victoria that a culpable driving case involving the use of a mobile phone had gone to a jury. According to the judge, Jane Campton, the pivotal issue was whether 'texting on a mobile… amounts to culpable driving' (*R v. Johnstone*, 2006b, p. 75). Pleading not guilty, the defence's argument was that the 'use of the phone, albeit the cause of the death, is not – used in that way – a departure from the standard of driving so as to amount to gross negligence' (*R v. Johnstone*, 2006a, p. 65). The judge's ruling was more severe than in Ms Ciach's case: four and a half years in jail, with a non-parole period of two years and three months. A parent of one of the deceased teenagers said that although the jail term was 'not going to help us…it may help save someone else a similar experience…at least it was not just a slap on the wrist' (Thomson, 2006, p. 3).

The Department of Prosecutions appealed the sentence on the grounds that it was manifestly inadequate. During the hearings, Victoria's Chief Justice, Marilyn Warren, said:

> Driving a vehicle in the community involves responsibility. In certain circumstances, the lack of attention to the driving environment – the use of a mobile telephone combined with other factors such as speed and lack of focus – may be as serious as driving under the influence of drugs or alcohol or driving at excessive speeds or erratically…[this] behaviour was so serious and dangerous that it warranted a severe penalty. (*DPP v. Johnstone*, 2006, n.p.)

Mr Johnstone's sentence was increased to six years and nine months imprisonment, with a three year and three month non-parole period. Chief Justice Warren concluded:

> It is a fundamental principle of driving a vehicle that the driver will remain attentive, alert and focussed on where he or she is travelling. To deliberately divert attention to the viewing of text messages is a serious breach of acceptable driving behaviour. (*DPP v. Johnstone*, 2006, n.p.)

This decision highlights the changing attitudes of the courts to illegal mobile phone use while driving, and to culpable driving charges more generally. Arie Freiberg, chair of the Sentencing Advisory Council, noted that Victorian courts were reflecting a view that killing on the road was no less a serious crime than manslaughter: 'what used to be an attitude 20 or 25 years ago of "there but for the grace of God go I…if something happens it's bad luck", it's now seen as culpable rather than accidental or bad luck' (Rood, 2005, p. 5). In a discussion paper released in 2004 addressing culpable and dangerous driving laws, the Department of Justice states that 'the courts have made clear that the sentencing of persons found guilty of culpable driving causing death is taken very seriously' (p. 11). In dismissing an appeal by a person convicted of this offence, the president of the Court of Appeal said:

> If there is still a residual opinion existing in this community that the offence of culpable driving is not to be treated like other criminal offences because it is 'a tragedy for all concerned'…then, in my view, the time has come for such views

> to be dispelled. Offences of culpable driving are commonly committed by persons who are of good character, but it must be understood that the community will not tolerate the taking of human life by acts of gross negligence of the sort that occurred in this case. The offence is a species of involuntary manslaughter, and it must be treated as such (Department of Justice, 2004, p. 11).

Data from a recent Sentencing Advisory Council report reflects this change in attitude. Over the previous six years the number of charges for culpable driving almost equalled those for murder, and in 2003-04 77 per cent of those convicted of culpable driving causing death were jailed, compared with 54 per cent in 1998-99 (Sentencing Advisory Council, 2005; Wilkinson, 2005). The difference between Ms Ciach's and Mr Johnstone's sentences provides a compelling, real-life illustration of this shift. As outlined in the next section, this trend is not limited to Australia.

International court cases and convictions

Overseas, there have been numerous fatalities involving mobile phone use while driving that have resulted in court cases. The sentences have varied substantially, from monetary fines through to four-year jail terms. The case of Jason Jones – a United States resident who drove into a car parked on the side of the highway while talking on the phone, killing two people and seriously injuring a third – bears a striking resemblance to several aspects of the Ciach story. He was acquitted of vehicular manslaughter and found guilty of negligent driving, with the judge handing down the maximum penalty: four points accrued to his driver's licence and a $500 fine (MacKeen, 2000). As with Ms Ciach, Mr Jones veered off the road, evidently neither braking nor attempting to stop before he hit the car. As with Anthony Marsh's parents, the brother of one of those killed stated that 'his family wants only to spread awareness of the dangers of driving while talking on a cellphone' (Stockwell, 2000, p. B01).

Others have also received a relatively light reprimand. In the United Kingdom in 1996 a motorist who hit and killed an eleven-year-old girl was fined £250 and given six penalty points after admitting to careless driving (BBC News, 2001). A 1999 incident in the United States saw a driver receive a $50 fine and two traffic tickets after missing a stop sign and hitting a car while talking on a phone, killing a two-year-old child in the

process (Pena, n.d.). In another incident, a man was charged with vehicular manslaughter for running into a car and killing the driver while distracted on his phone. Although the accused denied that he was on the phone at the time, phone records and witnesses suggested otherwise. The judge 'proceeded to issue a creative sentence' designed to make an example of the driver and to 'bring attention to the dangers of being distracted behind the wheel' (Watson, 2002b, 2002a, n.p.). The offender received a 90-day jail term, with 80 days suspended provided he gave fifteen community presentations on the risks associated with distracted driving (Watson, 2002a).

There have been instances of much harsher penalties. A Swiss woman was jailed for two and a half years after killing two policemen while texting and driving in France (Wren, 2004). United Kingdom truck driver Paul Browning was sentenced to five years after veering out of his lane and fatally hitting a person standing on the side of the road. He pleaded guilty to dangerous driving, claiming he was searching for papers at the time of the crash. The judge wanted to determine whether the use of a mobile phone had contributed to the crash, taking the unusual step of ordering a hearing even though a guilty plea had been entered. Further investigation proved that the driver was typing a text message, the last lines of which were particularly damning: 'Oh yes! A real scorcher! Well, just leaving Benfleet for WThurrock. Job 7 of 11. Oh shit! I'll call u back!' (Sherriff, 2001b, n.p).

The judge went on to berate Mr Browning, pronouncing that 'in many ways it is hard to imagine a more blatant act of cold blooded disregard for safety on the roads' and contending that if he had been writing a text message at the time of the accident it would have been 'wickedly dangerous' (Sherriff, 2001a, n.p).

In 2004 a United Kingdom delivery driver admitted to causing death by dangerous driving. Mobile phone records checked by the police showed that he had been talking for approximately two minutes in the lead-up to the accident, and the person he was conversing with told police that the line suddenly went dead about nineteen seconds before the fatal impact (BBC News, 2004). He was jailed for three years and banned from driving for four years. The deceased driver's widow said 'I hope that a custodial sentence will serve as a warning to other drivers' (BBC News, 2004, n.p.). In late 2006 another United Kingdom truck driver was jailed for four years after driving into the

back of a vehicle on a motorway, crushing the car and killing the occupant. The driver, who was arrested at the scene, admitted that he was on the phone and accepted this was 'an appalling error of judgement' (*Daily Mail*, 2006, n.p.). In context, the sentence handed down to Mr Johnstone is part of a pattern of increasingly severe penalties in Western countries. Compared to the late 1990s and early 2000s, judges are now more likely to issue (longer) jail sentences.

As shown here, the court system and the driving public are an active part of the network of negotiation. Both in Australia and overseas, specific incidents involving individual motorists, and the deliberations of judiciaries, have played a role in raising public awareness of the dangers of phoning and driving. They have both also been involved in shaping legislative prohibitions. Earlier in this chapter we saw how court appeals against TINs, along with the difficulties associated with enforcement, resulted in the revision of the Australian Road Rules. The cases which have been brought to trial, and perhaps more significantly the decisions that have been handed down, have generated a lot of publicity and heated debate (Chapter Seven canvasses these reactions in more detail). In sentencing drivers who have caused fatalities, judges have been aware of the need to provide a sufficient deterrent to mobile phone use while driving, and have increasingly issued more severe jail terms. In this way, court cases have both set a standard for, and at the same time been informed by, community expectations concerning mobile phone use in cars.

Employers' liability

Penalties are not restricted to individual drivers: the legal and financial ramifications of fatalities caused by drivers distracted by their phone have also been felt by employers. Given the growing awareness of the road safety dangers, work-related calls made while driving pose a considerable occupational health and safety issue. Employers in the United Kingdom now have a legal obligation to ensure a safe working environment: it is an offence to 'cause or permit a driver to use a hand-held phone while driving' and 'employers can be held liable…if they require employees to use a hand-held phone while driving' (RoSPA, 2004, p. 3). In Victoria, because vehicles are defined as a workplace under OH&S legislation, employers have a legal duty of care to encourage responsible use of a mobile while driving at work (Australasian College of Road Safety,

2004; VicRoads, 2004; Victorian Automobile Chamber of Commerce, 2005). Section 5 of the Victorian Occupational Health and Safety Act 2004 defines a place of work as including cars, and 'employers must therefore ensure in-vehicle devices do not risk employee safety', according to the Victorian Automobile Chamber of Commerce (2005, p. 18).

This type of legal imperative has already been demonstrated in a number of cases in the United States. One company whose employee was found liable for causing injury while driving to a business meeting was ordered to pay $21 million to the victim (Burke, 2003). The state of Hawaii agreed to pay $1.5 million to a pedestrian who suffered permanent brain injury after being struck by a car driven by a state employee, while investment firm Salomon Smith Barney paid $500,000 in 1999 to the family of a motorcyclist who was killed by an employee who ran a red light while looking for a dropped cell phone ('Cell phone ban considered', 2005). Fatalities can be even more costly, such as for Californian law firm Cooley Godward LPP who were hit with a $30 million wrongful death suit (Dickinson, 2004; see Tierney, 2005, for more examples).

This chapter highlights the complexity involved in developing and administering road laws that relate to mobile phone use in cars. Motor telephony throws up a range of unique problems for existing legal structures, many of which remain unresolved. Government intervention (via legislation) is struggling to address the disruptions that have occurred as a result of the practice, and the novel means by which people are able to use mobile phones inconspicuously while driving. As Barry (2001, p. 120) put it:

> the law…is continually failing to adjust to the demands made on it. The exercise of the law demands that the boundaries and identities of subjects and objects need to be defined and identified. But the development of technology and science do not easily fit in relation to the legal fictions that individual subjects are sovereign, and that objects have clear and distinct identities.

Chapters Four and Five reflect this, showing that the boundaries of regulation are permeable, disorganised and contested. The pragmatic solutions which have been adopted and suggested illustrate the difficulty in managing, controlling and containing

mobile use in cars via legal means, and point to an uneasy relationship between legal prohibitions and their mundane and pedantic application in everyday life.

Aside from the development and enforcement of legal prohibitions, there are other technologies of government which have been called upon in addressing motor telephony. We now move on to look at approaches which encourage individual citizens to modify their own actions. As Barry has suggested, 'the government of a technological society implies the formation of new human capacities and attributes' (2001, p. 4). In this instance, the challenge for governments and other organisations is in getting people to draw on their capacities of self-regulation. Chapter Six describes these technologies of the social, that is, methods which appeal to citizens' social, moral and ethical responsibility in order to change a risky on-road practice. Police, industry and road safety organisations have been instrumental in developing educational and publicity campaigns designed to heighten drivers' awareness of the dangers and legal ramifications of using a phone while driving, as well as working on how to change their driving habits.

Chapter Six

‘Bloody imbeciles’: Personal and social responsibility as regulation

A pivotal strategy for reducing risky driving practices is based on mobilising the self-governing capacities of citizens. Attempts to do this take a range of forms, including appeals to moral and ethical responsibility, as well as education and publicity campaigns. Nikolas Rose talks of these strategies in terms of the responsibilisation of individuals and organisations. This means that ‘the management of risk’ involves the ‘deployment of a range of novel technologies for acting indirectly and at a distance on the objects to be governed’, and that ‘it is not solely the state that should make…risk calculations: individuals, firms and communities should manage their own riskiness’ (Rose, 1999, pp. 236-7). This has been described as governing through freedom. ‘The government of freedom’, Rose contends, ‘may be analysed in terms of the deployment of technologies of responsibilization’ (1999, p. 74).

This chapter focuses on the ways in which individuals and communities are encouraged to manage the risk of using a mobile phone while driving. I argue that this kind of approach operates on two levels: individual and social. On the one hand, drivers are encouraged to take personal responsibility for their actions. Traffic safety education, the promotion of courtesy and manners via the motoring lobby, appeals to change driving habits, as well as media campaigns highlighting the risks involved, all focus on the agency and ethical capacities of motorists to modify their own behaviour and minimise risky driving practices. There are also strategies pitched at a societal level which aim to alter social norms. The aim here is to make phoning and driving socially unacceptable, in much the same way as drink-driving or not wearing a seatbelt.

Before exploring this regulatory strategy, it is important to recognise the motivations and vested interests of various actors in the network of negotiation in supporting and promoting social forms of regulation (including education and publicity campaigns). On the one hand, most stakeholders support education and publicity campaigns which bring attention to existing laws and regulations, as well as the risks of phoning and driving. Digging a bit deeper, we see that some have a stronger preference for self-regulation, preferring it to either the introduction of more institutional measures or increases in the

severity of fines and penalties. In particular, the vehicle and mobile phone industries argue that education is more appropriate than institutional regulation, and the government's main priority should not be to introduce further prohibitions, but to encourage motorists to follow safe driving practices. To quote Graeme Chalker, former AMTA chief executive officer:

> The overwhelming majority of independent international reports on mobile phone use have suggested education, not legislation, is the key to increasing the responsible use of mobile phones. The most useful action that governments can take is to help educate drivers about all distractions. (Chalker, 2003, n.p.)

Advocates supporting the phone's safe use in the car – including 'mobile phone industry representatives' (Haigney & Westerman, 2001, p. 138) – have employed a rhetoric which places mobile telephony in a context of other socially accepted in-vehicle distractions. The phone industry began employing this tactic almost as soon as car phones were commercially introduced. In 1987 Stein et al. reported that industry representatives claimed the devices were no more of a distraction than car radios.

This justifies a preference for self-regulation. A similar line comes from the vehicle industry. Laurie Sparke, chief engineer for Holden Innovation, states:

> It is not about stopping people using mobile phones. What it needs to be about is stopping people doing things that are distracting them…Talking to your partner or looking at the stocking advertisements as you drive past can be equally distracting and as dangerous and we are not considering having legislation to ban stocking advertisements. (Road Safety Committee, 2006b, p. 3).

In much the same way, Ken Ogden, general manager of the RACV, said:

> The fact is that there is nothing surprising or unusual about being distracted when you are driving. In fact the whole driving task is one of continual distractions, be they visual, audible or any other way. The key thing is how the driver responds to the distraction and that they in fact continually give their primary attention to the driving task so that if there is another task that threatens

> or challenges or wants to intervene, the driver knows when it is okay to do that and when it is not okay to do that and in fact sheds the extraneous load to give their primacy to the driving task. So our view of distraction is that it is not distraction that is the issue; it is the way that the driver deals with the distraction and is able to shed the extraneous tasks so that they can give their primary attention to the driving task. (Road Safety Committee, 2006d, p. 2).

While government, private industry and other organisations often work together in encouraging self-regulation, their motivation differs (the issues and difficulties associated with some of the specific conflicts of interest are discussed in the following chapter). With this in mind, I will set the scene by looking at the role of publicity campaigns in raising awareness of the dangers of phoning and driving, before moving on to consider the specific way in which motorists are encouraged to practise self-regulation.

Educating the public about the risks

There has been widespread concern that people have not understood the dangers of phoning and driving. The *Age* (2003, p. 12) stated that 'there is an urgent need to ensure that this risk is understood by the community'. The following year another newspaper highlighted the perception that many people are unknowingly overlooking the potentially serious consequences:

> Many of us have done it: taken our eyes off the road to check a text message, answered a call while driving without the hands-free, or opened the wrapper on a sandwich as we negotiated traffic. But what most of us don't realise is that the few seconds we spend diverting our attention from the road is equivalent to having a blood alcohol limit of 0.14. (*Gold Coast Bulletin*, 2004, p. 49)

In light of this, one of the main aims of the educational approach has been to inform motorists of the risks. In the mid-1990s, Telstra and VicRoads produced a series of radio commercials 'to educate the community of the dangers' and promote the penalty because drivers 'often…don't realise it attracts a fine' (Telstra, 1996, n.p.). Aired on major Melbourne stations, the 30-second spots told listeners not to 'put your life on the

line' and were backed by promotional material, such as posters, flyers and stickers. At this stage, the issue still had a relatively low profile, and it wasn't until the last five or so years that it started to receive more attention.

In response to a perceived lack of attention to phone use as a road safety issue, Telstra developed and promoted *Drive Safe Phone Safe*, a national community awareness campaign, in 2001. At the launch, group managing director of the mobile division, David Thodey, described mobile use as 'an important missing factor' when compared to the attention given to fatigue, speed and drink-driving (Telstra, 2001b, n.p.). Highlighting the need for a concerted education drive, he cited a survey of 400 Telstra customers about their mobile phone usage while driving which found 8 per cent reported involvement in an accident while using their phone, close to one-third had used their hand-held phone to make or receive calls in the car, and half thought that phone use reduced concentration. Brochures, radio announcements and television advertisements were used to achieve the aim of encouraging 'all Australians to use mobile phones responsibility' and to make safety their priority (Telstra, n.d.b). The father of Anthony Marsh offered his story as a means of conveying the risk:

> Using SMS while driving can be deadly. I learnt this when my son Anthony was knocked off his bike, killed by a driver sending an SMS. My family's message is simple: sending an SMS text message while driving is illegal, it's like driving with your eyes closed. If you need to send or read an SMS when driving, park in a safe place and turn off your car first.

In 2003 Telstra refocused the drive with the endorsement of Victoria Police and the TAC, claiming in their 2004 *Corporate social responsibility report* that awareness of the dangers had doubled over the three years since the launch of *Drive Safe Phone Safe* (Telstra, 2004d).

Since the late 1990s, a common move has been to use statistics from empirical studies (as outlined in Chapter Three) to convince drivers of the dangers. One of the most frequently used figures is that mobile use increases crash risk four-fold. For example, a flyer notifying motorists of changes to the law as part of the Victorian government's *Arrive Alive* strategy states that: 'using a mobile phone while driving is a common,

dangerous and illegal driving behaviour that increases the likelihood of crashing by at least four times!' (VicRoads, 2002b). The *Think!* road safety campaign in the United Kingdom has also used this statistic in a creative way (see Figure 6.1).

Figure 6.1: Publicity image from the *Think!* road safety campaign in the United Kingdom

Source: Wren (2004).

Advertisements also emphasise the cognitive effects. As the AMTA pointed out at the driver distraction hearings, education has a unique role to play here:

> Obviously legislation can deal with…physical things, but it cannot deal with cognitive distractions, so that is where education has a key role. Drivers need to be educated about those factors because it is something that only education can deal with. (Road Safety Committee, 2006a, p. 6)

Advertisements have highlighted the impairment caused by mobiles, such as slower reaction times, that drivers may not be aware of. A *Drive Safe Phone Safe* ad provides a humorous take on the issue. It shows a driving instructor commentating on the learner's dangerous driving when she picks up the phone. As she answers the call and proceeds to continue driving, the instructor says in a sarcastic, deadpan voice:

> Check your mirrors, indicator off, away you go. [Phone rings] Take your hand off the wheel, fumble around for your bag, don't forget to take your eyes off the road. Right. Grab the phone, take it around to the front, say hello, get distracted by the conversation. Veer over to the left up onto the foot path. Excellent. Now into the oncoming traffic, don't use your indicator. (author's copy)

Another approach has been to move beyond research data to focus on the (potential) real-life consequences. In a South Australian radio advertisement (Transport SA, 2004), the listener hears a person talking on a phone and driving. The voice-over says:

> This person is taking a crash course on how to use a handheld mobile phone while driving. [Hear driver have an accident]. The lesson is an easy one…using a handheld mobile phone while driving is dangerous. Put it to the test and the fine is $182 and three demerit points, or something much worse.

Television advertisements have illustrated the costs of being involved in a serious accident in a more graphic manner. As part of its *Just Like That* campaign, the Tasmanian Road Safety Task Force released an ad in 2000 depicting a young female driver who hits a child on a scooter while checking a text message from her boyfriend. The voice-over at the end says: 'You may not be watching the road. It might be a simple distraction. You could wreck your life just like that', while the words

> Inattention…just like that
> Distraction…just like that
> Wreck your life…just like that

flash on the screen. It achieved the highest recall rate of any of the Task Force's advertisements (93 per cent; Road Safety Task Force, 2004). Since then the video has been aired in the Australian Capital Territory and Victoria (as part of a TAC campaign). In Victoria the voice-over was changed to 'When you're driving, a moment's distraction can lead to a lifetime of consequences. So if you're on the phone, get off the road'. It was chosen due to its focus on texting and younger people, and because it highlights the severe and permanent consequences (TAC, 2006).

School-age children and teenagers have also been involved in developing advertisements which expose the risks involved. Billboards designed by students at a suburban secondary college in Melbourne were displayed on a main arterial road carrying two visual messages conveying the potential consequences (see Figure 6.2).

Figure 6.2: Road safety advertisements designed by Doncaster Secondary College

Source: Author's photos

The elevated risks, cognitive distraction and real-life consequences associated with mobile phone use have been effectively highlighted by a range of groups using a variety of mediums. In 2003 Telstra included several questions on advertising in their *Drive Safe Phone Safe* survey, finding that approximately one-third of drivers (without prompting) were aware of recent advertising, publicity or promotion relating to mobile phones and road safety (Telstra, 2003b). Of these, 68 per cent referred to television and current affairs, 8 per cent to radio news, 4 per cent to talkback radio, and 3 per cent to

newspapers and magazines. In Western Australia 82 per cent of respondents in a 2001 survey believed using a mobile phone while driving would increase their chances of having a crash; 58 per cent said their chance of crash involvement would increase a great deal, and only 5 per cent thought it would not increase at all (Office of Road Safety, 2001b). The 2005 TAC *Road safety monitor* found that, on average, people rated the risks of using a hand-held phone as 8.4 out of 10, where '0' was not at all dangerous and '10' was extremely dangerous (DBM Consultants, 2005). This sentiment is not limited to hand-held, either: 70 per cent of respondents to AAMI's 2003 Annual Crash Index felt that hands-free mobiles were just as distracting as hand-held (AAMI, 2003; see also Rakauskas et al., 2004).

In spite of this increase in awareness, a significant minority admit to using a hand-held device illegally (according to AAMI's (2006) Annual Crash Index, 18 per cent of drivers admit to often using a hand-held mobile phone). In turn, newspapers, safety organisations and police consistently emphasise people's *deliberate* defiance in using a mobile while driving, implying that while the message of the associated risks is becoming better-known, it is being ignored. Newspaper articles make the point well:

> Clearly, however, motorists have either not accepted the dangers of such behaviour or are simply choosing to ignore them. (*Age*, 2003a, p. 12)
>
> Sheer arrogance and the knowledge that policing is difficult means they just don't care. Thousands and thousands of them. (Anthony Marsh's father, cited in Tippet, 2003b, p. 15)
>
> Too many blatantly disregard the law prohibiting the use of hand-held phones. (Merriman, 2002, p. 19)

These comments stress an apparent indifference and a defiant attitude to the consequences that using a mobile phone may have, and press headings continually underline the concern that 'the message about the risks is not getting through' (Silkstone, 2004, p. 8):

> 'Busy signal: Drivers fail to get the message on mobiles and cars' (Kleinman, 2005)

> ‘Hulls sends clear message to drivers using mobiles: Get off the road’ (TAC, 2004a)
>
> ‘Motorists fail to hear message on phones’ (Wardill, 2004)
> ‘Young motorists miss the safe driving message’. (Telstra, 2004c)

Part of the reason underlying the continued use of mobiles relates to enforcement and the probability of detection, and it seems that many drivers regard the likelihood of getting caught as relatively low (Chapter Seven discusses this point further). In addition, there is a recognition, and almost resignation, that in spite of the strategies adopted (whether laws and regulations, or education and publicity), and a growing awareness of the dangers, there will always be those who will continue to use their phones. In this way, drivers are not merely passive recipients of an educational message. They are active players in the process of negotiating, developing and implementing effective self-regulatory options. At the hearings into the country road toll, Councillor Rob Gersch from the Shire of Hindmarsh in western Victoria acknowledged that:

> You can have all the safety features, but if somebody is going to get in a vehicle and drive and use a telephone, drugs, or alcohol…whatever safety factors you put in, I am afraid the human element does comes in. The more we can eliminate, certainly it is better; but unfortunately with human nature as it is we will always have this problem, it does not matter what rules we make around a table like this. (Road Safety Committee, 2003a, p. 63)

The challenge, then, is how to address the ‘human element’. As the next section shows, part of the answer involves tackling people’s attitudes in order to change their behaviour. In contrast to legal regulation and the enforcement of laws (as covered in the previous two chapters), a different set of strategies relies on drivers’ capability to self-regulate. ‘Self-government’, according to Cruikshank, ‘depends upon the ability of citizens to recognize, isolate and act upon their own subjectivities, to be governors of their selves’ (1996, p. 235). In relation to motor telephony, this is achieved in a number of ways. Traffic safety education in schools is one avenue, the first explored here. I then look at attempts to modify behaviour via challenging the habits of individual motorists, as well as calling upon social norms to facilitate change.

Traffic safety education in schools

Broadly speaking, the road safety agenda in Victoria is driven by the *arrive alive!* initiative, which 'is designed to provide Victoria with the safest road system possible' and 'change driver attitudes and behaviours' in order to significantly improve safety outcomes for all road users (Victorian Government, 2005c, n.p.). Its practical aim is to reduce deaths and injuries by 20 per cent over a five year period (2002-07). A combination of tactics has been adopted, including:

- Promotional campaigns to modify road user behaviour;
- Strategic enforcement campaigns to reduce high-risk behaviour;
- Development and introduction of appropriate legislation to regulate road user behaviour;
- Educating the community about safe road use;
- Increasing the number of education and information materials provided in languages other than English;
- Undertaking research and development to better understand the causes of road crashes;
- Encouragement of the public and private sectors to take ownership of road safety by providing safer vehicle fleets and fostering responsible road use by employees and the broader community.

Organisations involved in *arrive alive!* include the TAC, Victoria Police, VicRoads and several government departments (Human Services; Justice; Education and Training). Overseen by the Ministerial Council for Road Safety, the program comprises a number of sub-groups, each of which contribute in different ways to the overarching aims (Victorian Government, 2005e). In relation to education in schools, the major arm is the Traffic Safety Education Reference Group. Including VicRoads, the TAC, Victoria Police, the Department of Education and Training, the Department of Infrastructure, Metlink and the RACV, this develops resources and programs with the aim of preparing students to become safe road users, and it has a significant role to play in the formation of driver attitudes and behaviours.

Although there is no compulsory or standardised state-wide driver education in Victoria, schools are encouraged to include road safety programs as part of their curriculum (VicRoads, 2005e). The TAC and the Department of Education and Training work together to provide professional development leaders whose role is to encourage schools to include traffic safety education as part of their program, as well as to offer support in terms of developing curriculum. There are currently eleven professional development leaders in Victoria and by 2004 approximately 90 per cent of government schools included traffic safety education in their curriculum (Department of Education and Training, 2005b).

Typically included as part of health and physical education subject areas, traffic safety is moving into a stream of subjects related to physical, social and interpersonal learning, which is based on a civics and citizenship approach and student wellbeing (VicRoads, 2005d). The overall aim is not to teach car skills per se, but attitudes and behaviours that encourage safe practices for pedestrians, passengers (including those using public transport), riders, drivers and cyclists. To this end, pre-licence training adopts a harm minimisation approach in order to teach students about understanding risks and consequences, as well as making wise choices (VicRoads, 2005e). According to the Department of Education's *Administrative guidelines for traffic safety education*, these programs are 'concerned with information, ideas, skills, behaviours, attitudes, values and beliefs related to individuals and groups using the traffic system and travelling responsibly and safely' (1997, p. 7). This strategy is justified not by quantitative measures (for example, changes to road toll) but by the contribution to overall change in behaviour and attitudes, and in reinforcing the messages conveyed via legal enforcement, media campaigns and community activities (Department of Education and Training, 2005a).

Programs are targeted according to childhood developmental stage, level of understanding and exposure to the road system. Prepared as part of the *SafeRoads* initiative, which is implemented by a partnership formed between VicRoads, the Municipal Association of Victoria, Local Government Professionals, the TAC, the RACV and Victoria Police, *Enhancing the safety of young drivers: A resource for local communities* gives a useful overview of the strategies pitched at different groups of young and novice drivers (VicRoads, 2003; see Table 6.1).

Table 6.1: Targeted areas of road safety according to stage of learning to drive

Group	Target areas
Pre-learners	Influence of role models Influence of peers on performance and safety Poor choices pre-learners make as passengers Complexity of the driving task
Learners	Complexity of the driving task Need for supervised driving practice in a range of conditions and contexts
Probationary	Influence of peers on performance and safety Managing risks such as passengers, night driving, safe speed, hazard detection Acceptance of learning for areas of deficit Impact of lifestyle – drugs, fatigue, emotions Over-confidence

Source: Adapted from VicRoads (2003).

Primary students are taught safe practices for pedestrians, passengers (including public transport), cyclists and as future drivers and riders. In high school, priority is given to the key years, just before teens get their learner's permit. For Year 10, the main aim is to encourage safe choices concerning drink, speed, distractions and drugs, as well as to help them understand the increased risks for drivers of their age and to develop resistance to peer pressure. At this stage, students are encouraged to come up with their own solutions and have greater ownership of learning. From Year 12 onwards, students begin to obtain their probationary licence. The essential skills required for this stage – such as car control and on-road practice – are generally not taught in schools, but remain the domain of parents and private instructors.

While the current material available to teachers in Victoria does not raise the issue of mobile phone use directly, momentum on the topic is gathering. Future resources being developed with the aforementioned reference group will incorporate information on mobile phones as part of the issue of driver distraction. There was also significant mention of mobile phones in the Young Driver Safety and Graduated Licensing Discussion Paper, which proposed banning all mobile phone use for learner and stage one probationary drivers (this proposal has since been accepted). This document, which lists mobile phones as a key safety issue, was used by many schools to explore driver

safety with students in Years 10 to 12 (VicRoads, 2005d). At the 2005 driver distraction inquiry, MUARC recommended:

- Including information in licensing handbooks on the relative risks of driver distraction;
- Including questions in knowledge tests on coping strategies and relative risks;
- Providing guidance concerning when and how to gradually expose novice drivers to distracting activities;
- Assessing young drivers' ability to self-regulate, as well as their awareness of distraction, as part of on-road tests.

The Road Safety Committee's subsequent report (2006e, p. 170) went on to recommend increasing the profile of driver distraction in school road safety programs and that VicRoads and the driver training industry 'incorporate driver distraction material in driver training and licensing processes and publications'. While distraction will be addressed more thoroughly in the coming years, this is not to say that the issue has not been tackled to date. As the next section shows, students have been, and currently are, exposed to the topic in a number of ways, and in some cases they have chosen to focus on it (of their own accord) as part of existing programs.

Mobile phones in traffic safety education

A range of resources developed for and used by schools addresses mobile phone use while driving. VicRoads' Novice Driver Kit has two components – the *Road to solo driving* handbook and *Getting there from Ls to Ps*: *A step by step guide for you and your supervising driver*. In *Road to solo driving*, drivers are warned of the current Australian Road Rules relating to hand-held devices and encouraged to 'be responsible for [their] actions and [to] make the right decision to manage these risks. It's really up to you to drive within your limits' (VicRoads, n.d.b, p. 51). Highlighting the need to be cautious when drivers start out on their probationary licence, *Getting there from Ls to Ps* emphasises the need to restrict mobile phone use while driving as a way of reducing risks and minimising distraction. Parents and supervisors are reminded of 'common activities that learners have difficulty with' so they can 'incorporate opportunities to practise them in [their] driving sessions together'. Among the activities are mobile

phones: ‘Many learners have difficulty grasping the following important concepts. Talking about these will help: the dangers of driving distractions, such as passengers, radio noise, looking at maps or mobile phones’ (VicRoads, n.d.a, p. 43).

A number of school-based programs have managed to play a role in developing students’ appreciation of traffic safety and, within these, mobiles have gained attention. Run by the RACV, *Transmission* requires Year 9 to 12 students to research a road safety issue related to young road users and create a community service announcement for television. The finalists’ task is to ‘pitch’ their concept and ‘sell’ the production to a panel of judges. Winning designs are co-produced with Channel Seven in Melbourne (metropolitan schools) or WIN Television (regional schools) for broadcast on television (RACV, n.d). Semi-finalists are invited to attend a one-day workshop with speakers from media and road safety organisations. Previous winners have addressed speeding in school zones, fatigue, distracting the driver and peer pressure. One finalist highlighted the driving habits that children pick up from their parents, showing a young child pretending to drive his parent’s car. At one point he is shown talking on a mobile phone. In 2002 colleges in Mildura and Melbourne designed advertisements on mobile use while driving, and these were judged as the two best entries (*RoyalAuto*, 2002-03).

Commencing approximately three years ago, the City of Manningham in suburban Melbourne developed an ongoing competition to raise awareness of important road safety issues. In a process involving the local council’s road safety committee, police and local businesses, Year 8 and 9 art students are briefed on a selected topic by the police, and ideas for advertisements are developed on an A3 sheet (City of Manningham, 2005). Speeding was the first issue selected, followed by hand-held phone use in 2004. The competition winner was announced in late 2004, with a local business donating a trailer and the services of a graphic artist to produce the designs professionally. The advertisements have been located at several busy roads of high visibility since 2004 (see Figure 6.2). According to the Victoria Police schools resource officer, the competition was enthusiastically embraced by the students, who owned the concept and were proud of it. They encouraged parents to drive past the sign and were protective of it (on one occasion they noticed the trailer had graffiti on it and asked to have it cleaned). The officer regarded this as a more effective way of getting the

students interested in road safety, as opposed to other methods such as a structured lesson in school (Victoria Police, 2005d).

Private organisations are also playing a role in producing information about the practice for younger drivers. Safe Drive Training, an Australian company specialising in driver education products, has produced a video which contains a segment on mobile phones. Developed four years ago, the segment lasts approximately five minutes and draws on emerging international research to identify alternative ways to reduce the risks of hand-held phone use (for example, use pager, pull over) (Safe Drive Training, 2005). The company has sold over 1,250 copies of the video to schools in Australia and New Zealand, and the rights were sold to the National Roads and Motorists' Association (2005b) which launched and repackaged the material in DVD and video format in late 2005. The AMTA has also been active in this area. It reports that most states are considering, or have agreed to, the inclusion of a list of safety guidelines for phone use in their official driver education materials (AMTA, 2005a; Road Safety Committee, 2006a).

In summary, students are made aware through a variety of means about the dangers of phoning while driving. These include school-based programs, as well as initiatives from government and private industry. Having outlined programs for adolescents, it is time to consider the wider driving population. Just as education in schools aims to reinforce safe driver behaviour by encouraging responsible attitudes, a similar strategy has been used on a broader scale for adult drivers. Based on notions of civility, courtesy and personal responsibility, this could be described as a cultural, or social, means of regulating behaviour on the road. As we will see, this kind of approach is driven predominantly by the car and phone industries.

The self-regulating motorist

In Victoria, strategies of the car lobby which promote safety on the roads follow a tradition of appealing to the courtesy and manners of individual motorists. In 1928 the RACV launched a road courtesy league where drivers signed a certificate of membership pledging to 'extend to other road users the same high standard of courtesy and consideration as I hope to receive from them' and to 'encourage all my friends to do

the same' (*RoyalAuto*, 1928a; RACV, 1930, p. 1). Its president urged members to 'unswervingly follow the code of the League' (*RoyalAuto*, 1928b, p. 36). By the following December over 5,000 certificates had been distributed amongst all state schools in Victoria, with the intention that teachers would give regular lessons on road courtesy (*RoyalAuto*, 1929). The RACV considered this a more effective road safety measure than law enforcement, suggesting at the time of the launch that 'there is more chance of benefits ensuing from the general adoption of better manners…than from Acts of Parliament or Traffic Control regulations' (RoyalAuto, 1928a, p. 32).

At this time, courtesy was closely associated with the class of automobile owners. These were typically wealthy males who saw driving in terms of belonging to a community of gentlemen. This was likened to being part of a club which cultivated a 'spirit of sportsmanship' (*RoyalAuto*, 1928a, p. 32), and their philosophy included opposition to legal restriction. Referring to the United Kingdom context, Brandon sums this up well: 'Motorists, ran the subtext, were gentlemen; and gentlemen could and should be relied on to regulate themselves: they had no need of outside help' (2002, p. 51).

Even when the demographic of car users had diversified and expanded beyond the upper classes, good manners were still called upon in order to further the cause of road safety. During the 1950s, Victoria Police introduced courtesy cars whose role was to highlight minor traffic infringements without necessarily officially charging drivers (Drinkwater, 1988). Reminders in *Radiator* throughout this period encouraged road users to be polite and civil: 'There would be far fewer accidents if road users showed the same spirit of goodwill and courtesy on the roads as they do in ordinary personal relationships' (*Radiator,* 1952a, p. 7). Another article asked 'What makes a good driver?':

> The ability to drive a car well does not make a good driver. He must have good manners, be able to appreciate the problems of others, and to make allowance for them. He should exercise ever more patience, care and consideration than is required by the letter of the law. (*Radiator*, 1951b, p. 2)

Davison describes this as 'moralising motorists', where 'road safety…was a matter of moral obedience' (2004, p. 145). Although emphasis shifted during the 1960s from a

moral to a medical approach which focused on the physical effects of seatbelt wearing and alcohol consumption on driving, and construed car accidents as a public health problem (Davison, 2004), courtesy remained a major plank of the RACV's campaigns.

In 1969 it reiterated that many road accidents could be avoided 'by observing the fundamental principles of road courtesy'. It encouraged drivers 'who have proved their sense of responsibility and community spirit' by joining a motoring organisation and supporting a national campaign to demonstrate that road courtesy saves lives (*RoyalAuto*, 1969a, p. 8). Premier Henry Bolte and the Chief Commissioner of Police put their weight behind the initiative, with Bolte proposing that developing the habit of extending courtesy to fellow drivers would have a positive effect on the road toll (*RoyalAuto*, 1969b, p. 8). Two decades later, 90,000 *Courtesy Is Catching* bumper stickers were produced with the aim of 'reintroducing a seemingly forgotten road safety idea – road courtesy' (Drinkwater, 1988). 'There have been a lot of initiatives taken in the past in an effort to reduce the carnage on our roads', said RACV general manager Ern Drinkwater, 'but surely the simplest remedy of all is caution…and consideration for others' (1988, p. 6).

The motor lobby has retained an emphasis on the responsibility of drivers as opposed to legal (or state) intervention. In 2002 RACV president Max Lay wrote:

> the ultimate responsibility lies with the drivers and with those immediately associated with them…We all have to accept a social responsibility for making high-risk driving totally unacceptable at all times. It is not a problem for someone else – politicians, regulators, educators, car-makers and police officers. Today, driving…is a test of personal and social responsibility, both for ourselves and those around us. (Lay, 2002, p. 4)

Appeals to motorists' manners and civility also persist. 'Driving is an extremely dangerous occupation…every other driver is a member of the team…so please concentrate, co-operate and be courteous', says RACV president David Bullard: 'The old slogan, "Courtesy is catching", still applies' (Bullard, 2004a, n.p., 2004b, p. 6).

Over the last ten years, many organisations have drawn upon this rhetoric of individual responsibility in addressing phone use while driving. One of Telstra's *Drive Safe Phone Safe* flyers states: 'if you must use a mobile phone, use it responsibly' (Telstra, n.d.a), with David Thodey pointing out at the campaign launch that some drivers continued to use mobile phones in an 'irresponsible' manner (Telstra, 2001, n.p.). As VicRoads' *Road to solo driving* suggests to learner drivers:

> you also reduce the risk by making good decisions and taking responsibility for your behaviour when driving….managing the risks of driving is also about choices…*You choose: you decide*. (n.d.b, pp. 51, 55; emphasis in original)

The L site: The learner driver's online resource asks young drivers about their attitude:

> If you've been clocking up hours behind the wheel, most of the stuff you've been doing so far will probably be about getting from A to B – but how you think and what you think can have a big impact on your safety record too. How does your attitude shape up? Think about it. It's worth remembering that a good driver:
>
> - Never stands out
> - Goes with the flow
> - Cooperates with other drivers
> - Stays cool
> - Plans well ahead
> - Takes pride in not having close calls
>
> …the fact is a good driver runs with the pack, rather than doing anything that might seem more impressive or exciting. (VicRoads, 2006b, n.p.)

Outlining drivers' 'Rights and responsibilities' on a website for young adults, the Victorian Government (2005a, n.p.) points out:

> It's your responsibility to know the road rules and stick to them…Using your mobile phone while driving (without hands-free and including SMSing) incurs a fine. If a call is that important and worth that much, take the time to pull over!

The same terminology is used by some employers. In their 'Golden rules of safety', British Petroleum advises workers not to use hand-held cell phones and radios while driving, stating that 'best practice is to switch off all phones and two-way radios when driving' (BP, 2005a, p. 1). Imploring every individual to read and act upon the rules, it goes on to say that:

> safety is a legitimate personal expectation and a constant individual responsibility. In a world, and an industry, full of risks this goal can only be achieved if every single person remembers the importance of safety, accepts their personal responsibility, and knows what to do (p. 1).

As can be seen here, a range of institutions, from the car lobby to mobile phone companies and private business, have adopted a rhetoric which emphasises self-regulation. The underlying current is that self-regulation is sufficient (in contrast to more laws and more severe punishment), and that people can be relied upon to make good choices while driving. This style of reasoning is driven, in particular, by private industry. Former AMTA chief executive officer Graeme Chalker contended that 'by adhering to…simple common-sense practices, drivers can make full, productive and safe use of mobile phones' (AMTA, 2004, n.p.). In the United States, the spokesman for the Cellular Telephone and Internet Association states that 'it has to be up to the driver to determine when is a good time and a bad time to make a call' (Dizon, 2004b, p. N17), while Motorola encourages people to 'practice good driving judgement' (2005b, n.p.). Put another way, Dizon says that 'those who believe that driving while calling is generally a safe practice say society can't legislate common sense' (2004b, n.p.).

This rationale tends to come from organisations that have a vested interest in people making mobile phone calls while driving, and their advice is not always in agreement with other actors in the network of negotiation. As an example, in an intriguing exchange in the *Medical Journal of Australia*, Taylor responded to Chalker's comment by suggesting that:

> [the] claim that common-sense practices can make mobile phone use safe is extraordinary and disregards emerging evidence…At best…common-sense

> practices will not make mobile phone use while driving *safe*, only possibly *safer*. (2004e, p. 44; emphasis in original)

The conflicting interests of stakeholders, and how this affects the messages conveyed to the driving public, will be covered in more detail in the next chapter. For the time being, our attention turns to the specific methods by which motorists are encouraged to monitor their own driving behaviour. Below I explore some of the attempts to define safe and unsafe uses of the mobile phone, explaining this in terms of the development of good habits.

Getting towards behavioural change

Habits

As argued in Chapter Two, driving vehicles and the use of mobile phones have become habitual activities for most people. When the two are combined there is a *clash* of habits. For the most part this is a harmless process, but as several fatalities and numerous crashes attest, the impact can be real and damaging (hence VicRoads' description of it as a 'deliberate and dangerous habit'; 2002, p. 1). It is at (or during) these moments 'when habits clash and the self is forced to reflexively monitor itself and the context in which it is acting' that people are forced to assess their actions (Burkitt, 2002, p. 220). Most drivers do monitor themselves by deciding not to use the phone while driving, yet a significant minority opt to carry out the two activities simultaneously. In turn, a focus on getting motorists to change their habits has emerged.

While the term 'habit' has been used frequently, let us pause to unpack its meaning. Typically, a habit is regarded as an action that is carried out subconsciously. 'The everyday notion of habit seems to suggest an unthinking and unchanging routine', suggests Burkitt (2002, p. 225), but this conception is too simplistic. For example, the *Oxford dictionary of English* defines a habit as 'a settled or regular tendency or practice, especially one that is hard to give up' (2005). According to the *Collins Australian dictionary*, it is an 'established custom [or] usual practice' (2003, p. 732). From these definitions we see that habits are based on routines which are reflexive and open to adaptation – they can be given up, challenged or changed. As one politician pushing for

hand-held bans in the United States remarked, ‘it’s like a bad habit that you’ve got to break. It’s too convenient’ (Dizon, 2004b, n.p.). While laws can have a role in forcing people to change their driving conduct, education has a crucial part to play. As Elliott says, ‘deterrence is thought to be less effective in controlling or eliminating habitual…behaviour’ (2003, p. 3).

In turn, one approach of education and publicity campaigns has been to address the issue in terms of developing good habits. The National Roads and Motorists’ Association (2005a, n.p.) website advises:

> Good habit: If you need to make or answer a call on your mobile, pull to the side of the road. Concentrate on one thing at time.
> Downright dangerous: Living on the mobile phone. If you own a mobile phone, it’s tempting to make calls while you drive. After all, you’ll save time and reduce your stress levels, won’t you?

This kind of approach is evident in publicity campaigns and educational material which focus on getting people to change their driving routine. In the United Kingdom the ‘THINK! – Switch off before you drive off’ series of advertisements is based on the premise that ‘apart from in a vehicle, one of the only other places people normally switch off their mobile is in the cinema’, in turn encouraging people to develop a similar habit before heading off in their cars (Department for Transport, 2005a, n.p.). The cinema advertisement shows a close-up of a hand scrolling down several menu options on the mobile phone screen:

> Switch off!
> Lose control
> Crash
> Write off car
> Injure pedestrian
> Kill best mate
> Kill girlfriend
> Switch off!

finally selecting ‘Switch off!’ at the bottom (Department for Transport, 2005b). The use of ‘Think’ in this campaign provides an insight into this process, implying that turning the phone off needs to become a conscious part of the driving routine. In 2006 the Victorian Road Safety Committee recommended that state government agencies examine this series in developing publicity campaigns.

The most common and widely publicised method for encouraging people to adopt safe driving habits is to provide guidelines for behaviour. These have been produced by a range of mobile phone companies and representative bodies, including the AMTA, Cellular Telephone and Internet Association (United States), Motorola, Telstra and Vodafone. Common instructions found in phone product manuals, websites and brochures are:

- Stop in a safe place to make a call or retrieve a message;
- Don’t dial, take notes, look up phone numbers or write down messages while driving;
- Don’t send an SMS while driving;
- Let calls divert to message services;
- Use hands-free;
- Don’t call in dangerous driving conditions;
- Avoid complex or emotional conversations;
- Plan your trip in order to leave breaks for calls;
- Know the phone’s features;
- Place the phone within easy reach;
- Let the other person know that you are driving and may end the call if the situation requires;
- Assess the traffic situation before making a call;
- Minimise length of calls.

Although these instructions have been extensively promoted, their effect on actual behaviour is hard to measure. As the general manager of road safety at VicRoads stated in 2004, ‘we can never control the nature of conversations in a vehicle whether they be on the telephone or between passengers’ (Road Safety Committee, 2004d, p. 816), and it would be extremely hard to detect whether, for example, people have avoided

emotional conversations due to these warnings. Nevertheless, there are signs that behaviour is changing. Poysti et al. (2005) found that people minimise risks *strategically* (by deciding whether or not to use a phone while driving) and tactically (by making calls in lower risk driving situations). Stutts et al. showed that United States drivers were more likely to dial and conduct phone conversations when the vehicle was stopped than when it was moving: 'this suggests that, at least to some degree, drivers are choosing to engage in these activities [including mobile phone use] at "safer" times on the roadway' (Stutts et al., 2003, p. 9). A more detailed discussion about the changes in driver behaviour is offered in the following chapter. For now, let us explore another avenue through which drivers may be encouraged to adjust their actions behind the wheel, one which relies on a broader social and cultural movement: the alteration of social norms.

Social norms

The habits listed above link to broader notions of accepted driving practice. As Burkitt contends, 'all our habits are normative, in that they are acquired through training or instruction which have a normative framework…and because all our actions are subject to moral evaluation' (2002, p. 233). Several activities that are major causes of road trauma have come to be regarded as socially unacceptable, with prominent examples including drink-driving and the non-wearing of seatbelts. Social norms now dictate, for example, that it is unacceptable for someone to drink and drive; according to the TAC ads in Victoria, such people are 'bloody idiots'. Some groups have drawn on this kind of shift as one means of tackling phone use. At a conference on driver distraction in Sydney in 2005, presenters highlighted the need to mobilise social norms in combating the practice. Caird thought that a 'solution to the problem…is to make driving and attending to any distracting device socially unacceptable' (2005, p. 9) and John Lee (2005), a prominent academic in the field of the psychological effects of distraction, suggested that public policy decisions and social norms have an integral role to play, over and above alternative methods of mitigating distraction.

This line of attack is not new. As argued earlier in this chapter, some groups have called upon the morality of individuals and the wider society as a means of ensuring personal responsibility and, by extension, safer roads. In these terms, drink-driving might be

regarded as immoral. What is new, and still finding its feet, is the aim of some groups in establishing phone use as a similarly unacceptable practice, in much the same way as the failure to wear seatbelts or drink-driving. This rhetoric has been used both in Australia and overseas. In the United Kingdom, a spokeswoman for the RAC said that using a mobile while driving needed to be seen as being as 'anti-social as drink-driving' (Dalton, 2004, n.p.). Policeman Michael Edney contended that 'as with drink-driving, there is a small hardcore group of people who continually endanger us, other road users and themselves with their selfish anti-social attitude to driving on the roads' (Greaves, 2006, n.p.).

In Australia, the Motorcycle Riders' Association (2005, p. 6) recommended to the Victorian driver distraction inquiry that the committee 'investigate the likely effectiveness of peer pressure to discourage mobile phone use, [for example] a "shaming" campaign where other road users wag their finger at offenders'. Referring to the accident involving Ms Ciach (described in Chapters One and Four), Shmith (2003, n.p.) said that the accident proves:

> in the chilling light of fatal reality what common sense and research have made only too obvious for years: that mobile phones and driving is an even more lethal cocktail than being over the legal alcohol limit and behind the wheel. 'If you drink and drive, you're a bloody idiot' has become a mantra, as has the term 'designated driver' (well, to some responsible citizens, at least). 'If you talk or text and drive, you're a potential killer' will take more time.

Baker and Spina, reporting on the attitudes of Sydney drivers to mobile phone use, highlighted 'the need to implement a state wide road safety campaign that shifts the social acceptance of using a mobile phone while driving' (2006, p. 31).

Reinforcement of social norms is not entirely left up to education campaigns. Technological interventions, such as phone jammers which block reception, have been employed in various settings to restrict mobile use. Examples include churches, restaurants, schools, universities, cinemas, and workplaces that want to stop staff from using mobile phones during business hours (Australian Communications Authority, 2003a; Bennahum, 2003; cathnews.com, 2004; CNETAsia, 2003, n.p.; Srivastava,

2005). According to Paul Kan, chairman of a Hong Kong-based company which sells jammers, 'this is a way to enforce etiquette of mobile phone usage where polite persuasion has failed' (CNETAsia, 2003, n.p.). In a similar way, as covered in Chapter Five, there have been suggestions of blocking mobile phone signals in moving vehicles. The appeal of this kind of technology reveals a tension in the use of a private technology on publicly regulated roads.

Laws and regulations also have a role in influencing social norms, as well as performing an educative function. According to Elliott, legal measures of deterrence serve several purposes. They 'stimulate…and mobilise informal social approval', have a role in 'anchoring…the normative climate of the community' and are integral to reinforcing a moral code:

> sanctions may…have moral-educative and habituative effects so that they may be causally involved in the generation of moral beliefs and inhibitions, and laws may be obeyed purely by force of habit. (Elliott, 2003, p. 2)

Legislation and enforcement, then, have a role in increasing awareness and ensuring voluntary compliance. As Harrison et al. (2000, p. 1) state:

> Legislation may be seen as having a number of psychological actions. It serves to threaten and impose official punishment on offenders and, more importantly, it encourages the development of social norms and behavioural habits that are consistent with the legislation and safe driving behaviour. The effectiveness of legislative approaches in this regard is most likely dependent on the pre-existing social norms and behavioural habits of those subject to the legislation.

This very purpose was made clear in North Carolina where a Bill was introduced restricting teenagers' use of cell phones. Senator Bingham pointed out that the law was 'not meant for enforcement…but it sets a standard that teenagers need to follow' (Baker, 2006, n.p.). A newspaper article further highlighted its educative purpose:

> don't expect a rash of teens facing tickets on North Carolina roadsides. Like graduated licensing, this law is designed more as a tool for parents than a tool for

> law enforcement. There would be no additional insurance points for an infraction under the Bill, and teens could have an alibi if they were talking to a parent, spouse or emergency personnel. (Baker, 2006, n.p.)

While introducing a law which is not going to be properly enforced is an indirect and clumsy approach, it does illustrate the role that education, publicity, legislation, families and parents all play in the shaping of social norms.

Having outlined the aims of this strategy, has there been a shift in social norms? There is some evidence to suggest so. A survey by Car Parts Direct in the United Kingdom found that 58 per cent of motorists felt intimidated by other motorists if they used their mobile phone while driving. Mark Cornwall of Car Parts Direct said:

> The possible health risks of continually having a phone to the head or even the prospect of a prison sentence for a motorist in the event of an accident has not been enough to encourage some drivers to use a hands free kit – It's the stern stare of displeasure and a shake of the head from law abiding motorists that is helping to bring results. (easier.com, 2006, n.p.)

According to easier.com (2006), 'using a mobile phone whilst driving has become as anti-social as dropping litter or queue jumping and has resulted in a number of angry confrontations between drivers recently'. Berg (2005, n.p.) makes a similar argument:

> Mobile phones have inherited the same social baggage that smoking once held – perfectly legal and many people do it, but accompanied with disapproving looks from passers-by. As with smoking, it is greeted with the heavy-handed social regulation and legislation which is increasingly definitive of our relationships with government and each other. Bans on mobile phone use in cars are the most obvious example – the assumption being that making a phone call while driving is more dangerous than Mr Bean getting dressed on the way to work.

However, I doubt the strength of these assertions. In 1996 Telstra and VicRoads launched a publicity campaign alerting motorists to the risks and penalties, with Telstra's managing director (mobiles) claiming that it was 'an excellent opportunity to positively influence driver

behaviour before bad habits become ingrained' (Telstra, 1996, n.p.). Nine years on, an editorial in the *Herald Sun* (2005, n.p.) stated:

> Police this week warned that sending text messages on mobile phones while driving has become more commonplace. Like drunk and speeding motorists, any driver who uses a mobile phone handset should face the full force of the law. Unfortunately, the use of mobiles while driving does not yet have the social stigma that is now attached to speeding and drink-driving.

On completion of Ms Ciach's sentence, Anthony Marsh's father said the activity had 'disturbingly' become a 'part of our culture' (Moynihan, 2005, p. 4). An editorial in the *Age* (2005, n.p.) described the focus on 'attitude, approach and education' as an 'abject failure'. In their study of Sydney drivers' attitudes, Baker and Spina (2006) report that phone use was common and not regarded as being as dangerous as drink-driving, or as anti-social. Respondents themselves suggested the need for publicity campaigns with a focus on 'Do the right thing by other drivers' and 'It can wait' in order to convey the message that the behaviour was not socially acceptable (2006, p. 30).

This raises an important question: why have the appropriate habits failed to gain acceptance amongst many drivers, a significant minority of whom continue to use their hand-held mobile phone illegally? Partly it is because the process of ingraining a new social norm can be long and complex. It took many years of education campaigns, reporting of fatalities and accumulation of solid research evidence before seatbelt wearing and drink-driving came to be regarded as they are now. In context, the regulation of mobile use has a long way to go. Shane Threlfall, chair of RoadSafe Western District in Victoria, drew a parallel with seatbelt and alcohol laws:

> Mobile phones would be a bit like seatbelts, I reckon; eventually the next generation will probably be pretty good with them, once all the advertising and the fines et cetera kick in. But it is certainly an issue…It is a bit like the education process though; it took a while for the seatbelt stuff to kick in, and the alcohol. Mobile phones eventually will be, I would imagine, okay once

> education kicks in. Probably it will be another generation. It seems to go in generations (Road Safety Committee, 2003b, p. 168).

The *Age* (2005, n.p.) editorial makes a similar point:

> Just as breaking the links between drinking and speeding and driving took a concerted campaign, so too will breaking Australians of the habit of trying to perform and concentrate on two complex tasks at once.

In addition, as Chapter Two argues, mobile phones have become a vital device for many people, and this presents particular challenges in terms of modifying behaviour. The norms and etiquette for their use in general are still under negotiation, as is their use in vehicles. Although they are used on public roads and are highly visible, vehicles are a relatively private space. As Marsh and Collett put it:

> The car provides us with a shield and a feeling of invulnerability, a shelter for all manner of activities. We pick our noses in traffic, but we assume that other people cannot see us…We make obscene gestures and threaten total strangers, behaviour we would not normally have the courage to exhibit in other circumstances. We can do all this because we feel secure in our inviolable territory. (1986, p. 11)

In turn, attempts to mould social norms will more likely prove difficult because drivers are not able to receive a comparable negative reaction to that associated with a call received in a movie cinema or restaurant, to name two examples. One of the reasons why public sentiment which condemns phone use may not filter through to drivers is because there is less direct and immediate feedback. If a phone goes off in a company meeting, the receiver is likely to face social embarrassment, if not verbal chastisement. In a car, people are more detached from the social environment, and the development of norms is likely to be a more complex process. The 'disapproving looks from passers-by' (or fellow motorists) would appear to be more easily disregarded compared with those of a person seated next to you at the cinema or in church. Characteristics such as age, work status and gender also have an effect on these interactions (there is a discussion of young drivers and mobile use while driving in the next chapter). The point is that it is hard to predict, plan and control the adjustment of social norms.

Altogether, this section reveals the negotiations surrounding the ways in which social norms are encouraged or enforced, such as public disapproval (for example, complaints to newspapers and disparaging looks from others), publicity campaigns and legal deterrence. Appeals for drivers to change their habits or routines, and attempts at altering social norms via private conscience and public shaming, are two examples of strategies that are based on drivers' ability to self-regulate.

Effectiveness?

A range of methods has been used to educate drivers about the need to modify their phone use in cars, and about what behaviours are acceptable. These strategies, which include harm minimisation approaches in school, publicity about increases in accident risk and the provision of guidelines for appropriate behaviour, rely on drivers' personal responsibility and common sense. As this chapter illustrates, the mobile phone and car industries have tended to favour strategies of self-regulation. Indeed, the Cellular Telecommunications Industry Association (n.d., n.p.) in the United States boldly claimed that 'there is near unanimity in the belief that educating drivers about how to safely and responsibly drive amid a myriad of potential distractions can ultimately result in positively changing behaviors'. However, the effectiveness of publicity and education campaigns, and their relationship with actual changes in behaviour, is hard to track because of the integrated use of other measures. Legislation, enforcement, education and publicity all have a role to play, even if it is only partial or limited (Zaal, 1994). In addition, even if – as some predict – the use of mobile phones while driving will evolve into a socially intolerable practice, leading to a form of self-regulation, this could be a drawn-out process, as the experience of seatbelt laws indicates.

In the next chapter I offer some reflections on the effectiveness of the mix of strategies covered to this point. For the purposes of analysis, these policy measures have been discussed separately: in reality, they do not operate in isolation. With this in mind, Chapter Seven covers the relationships between laws and regulations, police enforcement, education and social norms, exploring how they work together in achieving compliance amongst the driving public. As Flewelling suggests, uncertainty surrounds their success:

> initiatives to reduce distracted driving have been reactionary at best. Efforts to deal with the problem – including awareness and educational programs, technological approaches, and legislative and regulatory initiatives – have also increased in recent years. But are they the right approach? How do we know? And how will we convince road users what the right approach is when we find it? (Flewelling, 2005, pp. 3-4)

These are hard questions to answer, particularly given the lack of accurate information concerning drivers' motivations and behaviour. Nevertheless, I draw upon several sets of data, as well as the precedents set by seatbelt and drink-driving, in speculating on the effects of the methods that have so far been employed to change motorists' phoning and driving behaviour, and why they have had a limited impact. I argue that the most effective results are, or will be, achieved when institutional and social regulation are used in combination. However, part of the reason current regulatory strategies have failed to influence a significant minority of drivers' behaviour is because of the competing interests of various groups in the network of negotiation, who support institutional and social regulation in different ways. This has resulted in mixed messages being conveyed to the driving public.

Chapter Seven

Mixed messages:
How effective are current approaches?

Having considered several key strategies – legal prohibitions, enforcement of laws and self-regulation – in addressing the negative consequences of motor telephony, the focus now turns to describing some of the avenues for tracking their effectiveness. As Burchell says, government 'is understood as a way of acting to affect the way in which individuals conduct themselves' (1996, p. 20). In turn, I ask whether current regulatory options have changed drivers' conduct. I do this in three ways. First, I look at the public's response to legal restrictions, publicity campaigns, education and appeals to responsible driving, as well as drawing on various sources in order to speculate on changes in behaviour. After this I consider some of the limitations of current strategies. Here I ask why a significant minority of drivers continue to phone and drive, examining how the network of negotiation affects the message(s) the public is receiving, as well as offering some reflections on the effects of enforcement, education and compliance on sustaining long-term behavioural change. Finally, I outline some current directions for policy, highlighting several important driver characteristics which influence the likelihood of using a mobile. I argue that current rhetoric and hyperbole that implies drivers are not getting the message is too simple: a more nuanced and critical analysis is required in understanding the relationship between motorists' behaviour and policies which attempt to modify or restrict in-vehicle phone use. We start by exploring the public's attitudes towards legal restriction. As already pointed out, motorists are not just passive recipients of an educational message, but play an active role in the process of negotiating, developing and implementing effective self-regulatory options.

Public attitudes and reactions

Awareness of the increased risks and road regulations is now high amongst Australian and international motorists. In 2005 a 'Drivers in Europe' survey of 2,700 drivers from twelve countries was commissioned by a group of motoring organisations, the Eurotest

consortium.[20] The results, summarised in Table 7.1, show that virtually all drivers are aware of regulations: 97.4 per cent believed that either hand-held use, or hand-held *and* hands-free, was prohibited. Although the Croatian, French, Slovenian and Spanish respondents were less accurate in their knowledge of the actual laws, their bias was in the direction of heavier restrictions: over half of the French and Spanish respondents and one-third of the Slovenians thought that all forms of phone use were banned, when in fact hands-free are permitted.

Table 7.1: European driver responses to the question: Are you allowed to use your telephone while driving?

Country	Yes, without restriction	Yes, but only using hands-free	Yes, but can only answer incoming calls on hand-held phones	No	Don't know
Austria	0	86.4	3.9	0	5.8
Croatia	0.4	69	1.9	28.4	0.4
France	0.3	47	1.4	51	0.3
Germany	0.7	94.4	2.6	2.3	0
Holland	0.3	80.9	0.6	17.8	0.3
Italy	0	80.3	2.6	17.1	0
Norway	3.9	86.4	3.9	0	5.8
Portugal	0	87.9	0	11.6	0.5
Slovenia	1.3	64.5	1.3	32.9	0
Spain	0.3	47	1.2	51.2	0.3
Switzerland	0	75.7	0	24.3	0
United Kingdom	0	81	2.5	15.5	1
Overall	0.5	73	1.5	24.4	0.6

Source: AA Motoring Trust (2005).

Hand-held use has been illegal in all Australian states and territories since 2001 (see Table 4.1), and only a small minority of drivers remain oblivious to the laws. *Drive Safe Phone Safe* surveys show that in 2002 and 2003 10 per cent of drivers did not know the practice was illegal, with this reducing to 4 per cent in 2004 (Telstra, 2003a, 2004d). Attentiveness to the risks has risen markedly from 2001 onwards. Telstra claimed in its

[20] This comprises motoring organisations in Austria, Belgium, Croatia, Finland, France, Germany, Italy, the Netherlands, Norway, Portugal, Slovenia, Spain, Switzerland and the United Kingdom. The survey was conducted between 16 June and 31 July 2005, with responses being analysed by the Institute of Applied Marketing and Communications Research in Erfurt, Germany.

2004 *Corporate social responsibility report* that awareness of the risks had doubled over the previous three years (Telstra, 2004d), and the percentage of people rating mobile phone use as a major road safety problem leapt from 27 per cent in 2002 to 62 per cent in 2004 (Telstra, 2003a; 2004d). Qualitative data from focus groups verifies this trend:

> 'I think it's one of the most dangerous things.'
> 'I could drive better when I'm pissed [drunk] than on the phone.'
> 'as you drive more you kind of realise that…you need to be concentrating while you're driving and not off with the fairies.'
> 'I realise how much less attention I'm paying to the road.' (ARRB Group, 2005, p. 5)

Given that knowledge of the laws and increased risks is common, what has been the response to legal intervention? One indicator is the debate around offences which have gone to court. At this point we return to the incident involving Ms Ciach as a way of gauging the general public's views of the role of laws in curbing mobile use. These reactions highlight the significance of individuals in the network of negotiation, showing how public opinion has played an active role in arguments for increased legal regulation.

The incident and the ruling handed down by Justice Cohen elicited a range of opinions and emotions. As there was no legal precedent, it was a landmark case that aroused debate concerning whether or not the sentence would act as a deterrent. Bruce Hartnett (2003, n.p.), who wrote in to the *Age*, starts by asking the question 'Imagine the community outrage if the *Age* headline "Text-message driver who killed cyclist goes free" (11/11) had read "Drunk driver who killed cyclist goes free?"', going on to claim:

> the outcome sends the wrong message to a community that tolerates an epidemic of mobile phone use while driving. The evidence from numerous studies of thousands of accidents and from simulation studies of driving competence is clear: drivers who use mobile phones, hand-held or hands-free, are at the same risk of an accident as drunk drivers…the Government should respond by treating all mobile phone use while driving the same as drunk driving.

Bicycle groups were scathing in their assessment of what they perceived as a lenient sentence. Writing on cyclingforums.com (2003), Veeral types:

> My question is how can a car driver get away with killing a cyclist? One would go to jail for life if they killed someone with a baseball bat but killing a cyclist its like getting a slap on the wrist. This is just fu#ked. Is the law ever going to change?

A similar sentiment is found in a discussion thread on Bike Forums (2003), with contributors voicing concern over the sentence compared to other punishable offences:

> 2 years isn't enough! people with maryJ [marijuana] get a harder sentence then that! (Turbonium)
> somehow I feel that if the death had been by an 'accidental' gun or knife wound, the dead man's parents would be calling for blood (Chris L).
> There is a HUGE difference between deliberately running someone down and a moment's inattention that has had tragic consequences for all. Had the 'moment's inattention' involved a gun or a knife or virtually any other device that led to similar consequences, there would have undoubtedly been a custodial sentence. In any case, this wasn't a 'moment's inattention' – this was a blatant failure to pay attention to what one is doing. There was no mitigating factor here – texting while driving is something that simply should not be done. The punishment should reflect that (Chris L).

These responses reflect a feeling that mobile phone use should not be treated any less severely than other offences which are regarded as a serious crime. Contributors to the discussion pointed to the inadequacy of the punishment handed down:

> Justice Susan Cohen said the circumstances of the offence illustrated how relatively simple acts in the driving of the motor car could have devastating consequences. Yup – there certainly were 'devastating consequences' for the innocent cyclist, his family and friends. However, there are NO consequences @

> all for the irresponsible driver. Yup, that's sending the right message to the driving public (bac).
>
> Justices like this promote crime and irresponsible behavior by refusing to issue punishment of any significance (SamDaBikinMan).

These comments reflect the perceived inadequacy of the court's decision and its failure to provide a sentence that would sufficiently deter the use of mobile phones in cars. This opinion was supported by Peter Gstrein, chairman of RoadSafe Corangamite, who stated in a letter to the *Geelong Advertiser* that the sentence handed out to Silvia Ciach was not an appropriate messages to other drivers (Fogarty, 2003, p. 1). He asks:

> What hope do we have of educating the public about safe driving habits when our judicial system hands out slap-on-the-wrist penalties or not guilty verdicts for totally irresponsible driving behaviour resulting in the death of innocent people?

As a result of the accident, Bicycle Victoria lobbied for the offence to carry the same weight as being over the alcohol limit ($300 and ten demerit points for a first offence), comparing the current penalties to that of being 15 kph over the speed limit and as less than running a red light. The clear implication is that 'road safety legislation [has not] caught up with this dangerous new behaviour' (Bicycle Victoria, 2004a).

Anthony Marsh's parents have been vocal in generating awareness of the dangers. After their son was killed they set out to research the risks associated with mobiles and driving, and have repeatedly called on the government to increase the penalties. The offence in 2003 resulted in a $135 fine[21] and accrual of three demerit points which, according to the Marshes, is 'trivial and meaningless' (Healey, 2003, p. 1). Ted Marsh, Andrew's father, claims that 'there has to be some disincentive and we haven't got that' (Rose, 2003). Hence, they have lobbied for the offence of talking on a mobile phone while driving to elicit a $500 fine and accrual of six demerit points, and a $500 fine and loss of licence for motorists caught text messaging. They have also made a submission to state parliament's Road Safety Committee, as well as participating in community service announcements via radio (Haberfield, 2004; Tippet, 2003a).

[21] It is now marginally higher, at $145 (as from mid-2006).

The views expressed in response to this case reflect wider societal views, with members of the public continuing to ask for heavier fines. ‘We now need to crack down and heavily fine any instances of car mobile phone misuse…the threat of the loss of licence would be sufficient incentive to such drivers to stick to the rules’, states one letter to the editor in *RoyalAuto* (Thorpe, 2000, p. 28). Others offer similar proposals:

> I believe that in Singapore this offence became a non-event overnight. A police officer booking a motorist for this practice impounds the phone for a minimum of 30 days, and it is then released only after a very painful fine is paid. Singapore learned many years ago that some people only understand one language: heavy penalties. (Flinkier, 2000, p. 33)
>
> A $141 fine, plus three demerit points for using a mobile phone while driving is taken lightly by most of us. If the same punishment applied to drink-drivers, we would find thousands more driving over the .05 limit. (Tomkin, 2005, p. 22)

The need for more stringent enforcement is also stressed. In *RoyalAuto*, Mr Codognotto felt Victoria had failed to achieve ‘anything more than token enforcement’ of mobile phone laws (2002, p. 37). In reply to the government’s graduated licence scheme which proposes banning hands-free use, a writer to the *Herald Sun* argued that ‘the ban on using handsets needs to be enforced before any new ground is covered’ (McGinley, 2005, p. 22).

These reactions tap into a widespread irritation directed at phone-using drivers. A letter to *RoyalAuto* bluntly typifies this feeling:

> In conjunction with the ‘If you drink and drive, you’re a bloody idiot’ ads, may I add: ‘If you drive with your ear…stuck to your hand-held mobile, you’re a bloody imbecile’. (Vanden Berk, 1999, p. 40)

There is no shortage of anecdotal evidence of frustration with drivers who have been distracted by their phone. ‘I am very annoyed at the growing incidences of drivers holding a mobile phone while driving’, states a contributor to *RoyalAuto,* claiming ‘I was cut off by such a driver travelling in the wrong lane…last week…Such drivers are not only selfish, but create dangerous situations through their lack of courtesy and

concentration' (Thorpe, 2000, p. 28). Or as *Age* journalist Alan Attwood (2005, n.p.) complained, 'Look around (preferably when stopped at lights) and then get angry, very angry, at the selfish fools who persist in talking on mobile phones on the road seven years after it was made illegal'. Indeed, a recent National Opinion Poll of United Kingdom motorists – conducted on behalf of the RAC, the Institute of Advanced Motorists, the British School of Motoring and *Auto Express* magazine – found the second most annoying motorway habit, behind tailgating, to be use of a mobile phone (McCue, 2005; Strathclyde Police, 2005). A survey of Queensland drivers yielded similar results, with the RACQ's 2006 *What cheeses you off?* report finding that drivers talking or sending text messages on hand-held mobile phones was ranked the third most annoying road user behaviour by 4,510 motorists (up from tenth in 2002). Attwood (2005, n.p) went so far as to describe it as 'the new road rage'.

Change in behaviour?

Have the laws, negative public sentiment, education, publicity and awareness of the risks translated into any discernable shift in behaviour? To start, let us consider research which attempts to determine the proportion of drivers who use a phone while driving, as well as some of the issues concerning different forms of data which may be used as a means of tracking changes in drivers' behaviour.

Observational studies conducted in Australia (Eby & Vivoda, 2003; Horberry et al., 2001; Taylor et al., 2003) and overseas (Astrain et al., 2003; Glassbrenner, 2005a, 2005b; McCartt & Geary, 2004; RoSPA, 2002; Sullman & Baas, 2004) show that approximately 1.5 to 6 per cent of drivers on the road at any one time are using a hand-held mobile phone. These studies generally involve a researcher counting the number of cars in one lane of traffic at different intersections during various times of the day. Drivers seen using a hand-held are recorded as a proportion of overall traffic flow. Here are two examples:

> It can be estimated that in a seven-day period, Canadian drivers spend approximately 137 million minutes on a cell phone while behind the wheel of a motor vehicle. (Beirness et al., 2002, p. 14)

> The 2005 rate translates into 974,000 vehicles on the road at any given daylight moment being driven by someone on a hand-held phone. (Glassbrenner, 2005b, p. 1)

Although these figures may reflect actual usage rates, they tend to portray the activity as an epidemic, inflating perceptions of the dangers. Nevertheless, the numbers are reliable and help address the problem of under-reporting.

In Australia, self-report surveys conducted or funded by VicRoads, Telstra and AAMI provide useful information. In Victoria up to 31 per cent of drivers have admitted to using a hand held phone while driving during the previous month (DBM Consultants, 2004). Of the 718 Australian drivers interviewed as part of Telstra's 2004 *Drive Safe Phone Safe* survey who owned a mobile phone, 28 per cent had read and 17 per cent sent a text message while driving, 35 per cent made calls while driving at least once a week, and 49 per cent reported receiving calls at least once a week (Telstra, 2004d). Most of the focus has been on hand-held use, as there is more incentive to track hand-held rates because of the introduction of regulations that prohibit that type of device. Although hands-free use is also common, it is harder to observe and not illegal. In turn, statistics are scarce. Estimates from observational studies in the United States and United Kingdom suggest their usage rate to be slightly lower than hand-held, at around 0.4 to 1.9 per cent (Broughton & Hill, 2005; Glassbrenner, 2005a, 2005b; Hill, 2005). Due to the difficulties inherent in detection, these numbers are likely to be a conservative estimate. Self-report data relating to all types of phones suggests that 35 to 40 per cent of people make calls while driving, with approximately half receiving calls (Telstra, 2003a, 2004d).

Other measures of phone use (such as insurance claims, TINs and crash records) are typically unreliable for a variety of reasons, although they do suggest that mobile use may be underestimated. Insurance companies will not cover accidents that are a result of an illegal activity, so people involved in collisions are not likely to admit to the mobile phone as a cause of distraction (Dizon, 2004a; Eby & Vivoda, 2003; Goodman et al., 1999; Lissy et al., 2000). As RACV general manager Ken Ogden pointed out, by volunteering this information drivers risk their claim being refused (Road Safety Committee, 2006d). This may not be the only reason: in 2002 a spokesman for the

NRMA, the major car insurer in New South Wales, noted that people were 'too embarrassed to put on their claim forms that the accident was as a result of mobile phone use' (Delaney, 2002, n.p.). TINs show that many drivers are caught (it is the third most frequent on-the-spot offence in Victoria), yet these figures are not statistically representative. Detecting hand-held use is difficult, and the number of fines issued is influenced by enforcement patterns and available resources (see Chapter Five). Mobile use is often not reported by police as part of their accident investigation procedures, and reliable figures are hard to come by (Dizon, 2004a; Hahn & Dudley, 2002; Goodman et al., 1999; Road Safety Committee, 2005a). While this type of data does not provide an empirically robust means of determining the prevalence of mobile phone use, it does highlight some of the difficulties in producing accurate information.

On balance, a significant minority of drivers use their phone on the road. Current figures most likely underestimate actual prevalence. But back to the point: has there been any change in driver behaviour over the last five to ten years? Notwithstanding some of the difficulties in tracking usage rates, some data shows that there may be a positive response to the guidelines provided to the public. Amongst Australian drivers, the most commonly reported method of making or receiving a call is to stop the car (Telstra, 2003a, 2004c). Even for those using a hands-free or car-kit, approximately 30 to 50 per cent opt to 'stop the car as soon as practical' (Telstra, 2003a, p. 2). These figures indicate that a large proportion of drivers are obeying the law and adhering to a number of the suggested driving tips, such as stopping in a safe place to make a call or retrieve a message, not calling in dangerous driving conditions, ending a call if the situation requires, assessing the traffic situation before making a call, and minimising the length of calls. The AMTA has interpreted this as indicating that drivers are 'self-regulating themselves' (Road Safety Committee, 2006a, p. 4).

There is also evidence which shows that the practice is still rife. AAMI (2004, p. 3) found that 'despite heavy campaigning against the use of hand held mobile phones while driving', one in five drivers say they 'regularly use their mobile phone without a hands-free kit'. This figure has remained constant (the 2006 AAMI Crash Index reports that 18 per cent often use a mobile phone without a hands-free kit). Recent figures from the Australian Transport Safety Bureau's *Community attitudes to road safety* survey indicate that while just under half of the respondents reported always using a hands-free

kit, 53 per cent either use a kit 'only sometimes' or never (Pennay, 2006). Moreover, 16 per cent had read and 8 per cent had sent text messages.

With this data in mind, it may seem that although education and publicity have increased awareness, they have failed to make much of an impression on motorists' behaviour. Indeed, while 62 per cent of all *Drive Safe Phone Safe* respondents regarded the 'use of mobile phones [as] a major road safety issue…more than half regularly answer[ed] their phone when it rings in the car' (Telstra, 2004d, p. 1). Citing evidence that 28 per cent of New South Wales drivers acknowledged that using mobile phone handsets while driving was dangerous and caused many serious accidents, Telstra's consumer and marketing group managing director Ted Pretty said: 'Our research shows that drivers continue to ignore their better judgement, and the law, to take mobile phone calls while driving, despite knowing they are risking the safety of themselves and others' (Telstra, 2003d).

The minority who persist in using their hand-held phone illegally present an enduring challenge, and the issue is continually raised in the public arena. As pointed out in the previous chapter, politicians, journalists and, most prominently, police officers repeatedly criticise motorists' behaviour, claiming they 'aren't getting the message'. Crashes, and particularly deaths, serve to reinforce this perception in a graphic and confronting manner. Indeed, David Johns, editor-in-chief of *Auto Express* (the most widely bought motoring weekly in the United Kingdom), claimed that 'the mobile phone ban has to be one of the most ignored motoring laws of all time' (*Evening Times*, 2005, n.p.). I argue that this rhetoric is too simplistic and that a more nuanced understanding is required. There are a variety of reasons why drivers fail to comply with the law. The next section describes some of the factors which have restricted the conversion of attitudes and awareness into behavioural change. I start by looking at the discrepancies between empirical research, laws, education and advertising in terms of the message(s) being conveyed to the driving public, along the way highlighting the conflicting interests of various stakeholders in the network of negotiation.

Mixed messages

The rhetoric that people are failing to 'get the message' is too basic. Although police, phone companies, road safety advocates and others consistently make this point, the driving public is not receiving a single, clear message. Legislation allows for, and advertising explicitly encourages, hands-free use while driving. At the same time, education (such as the guidelines for drivers outlined in the previous chapter) and emerging research on driver impairment and accident risk suggests that hands-free use is no safer than hand-held. Some have worried that the laws will lead drivers to believe that hands-free units provide a safety advantage over hand-held (in turn, encouraging hands-free use), even though emerging research suggests no such reduction in risk. David Strayer, professor of psychology at the University of Utah, says that current laws 'could very plausibly be counterproductive if they give people the message that a hand-held phone is unsafe but a hands-free phone is safe' (Hafner & George, 2005, n.p.). Michael Trujillo, who as vice-chairman of Santa Fe's Public Safety Committee supported and promoted the city's adoption of a ban on the use of all but hands-free phones in cars, has since changed his mind and thinks the prohibition should be scrapped. He believes that, by implicitly encouraging the use of hands-free phones, the laws may increase rather than decrease driver distraction: 'If you have hands free, not only are you able to do something else, but you are able to do three different tasks at the same time' (Hafner & George, 2005, n.p.). Along similar lines, Goodman et al. (1999) describe the paradox where ease of use may promote a higher number of calls, as well as longer call duration. The 'intended safety benefits of hands-free operation', therefore, may 'paradoxically increase exposure to distraction-induced crashes' (1999, p. 29).

These views reflect a concern that the driving public may perceive a safety advantage where none exists, in turn encouraging a substitute activity which is not necessarily any safer. There is evidence to support this anxiety. A recent United Kingdom report indicated that, although hand-held use has been declining since 2002, hands-free use has increased, perhaps reflecting a response to the laws (Hill, 2005). Calls made by Australian drivers from hands-free phones tend to be longer than those from hand-held devices (Telstra, 2003a, 2004c). Comments from young male drivers in a series of focus group interviews conducted by the Australian Road Research Board also reflect the view that some people do not perceive the cognitive implications: 'I don't see why it's

any different to…listening to the radio' and 'It's just like talking to someone next to you' (ARRB Group, 2005, p. 5).

The attitudes and actions of drivers may also be influenced by the strategies of the telecommunications and advertising industries which openly encourage hands-free use. Companies selling mobile phones in Australia and overseas have tailored their marketing to the laws, and the prohibitions have been used explicitly in promoting hands-free units. According to Praveen Chandrashekhar, senior research analyst at Frost and Sullivan, based in London, 'using this mandatory legislation as a key marketing tool to spur awareness of wireless technologies – such as Bluetooth – and their implications on driving safety will facilitate increased market penetration' (quoted in Koprowski, 2006, n.p.). There have been numerous examples of companies using the laws as an incentive. Supporting Telstra's national *Drive Safe Phone Safe* community awareness campaign, Nokia provided discounts for in-car phone kits in order to encourage their installation (Australian Automobile Association, 2001). Other companies have been more explicit in their approach. Sterling (2000, p. 44), for example, spruiked their product in this way: 'Driving with your mobile phone in hand risks prosecution! Talk and drive legally and safely with the Universal Hands Free Mobile Phone Car Kit. Fits any phone and all vehicles.'

Smarteq presented Victorian drivers with 'one way of avoiding a $135 fine' in order to promote their hands-free unit (2002b, p. 53; 2002a). Underpinning these ads is an assumption that hands-free is a safer alternative. An RACV ad in *RoyalAuto* offered a mobile hands-free phone attachment, along with the line: 'Drive *safely* and legally while talking on your phone' (1999b, p. 65; emphasis added). 'Are you looking for a safe, efficient, and cost-effective hands-free solution?' offer VoicePlus (2006, n.p.), who maintain that 'hands-free car kits are the safer way to communicate'.

In the United Kingdom an outlet offered discounts one day after the laws banning hand-held phones came into effect, promising safe, legal and 'fine-free' driving (*Sun*, 2003, p. 8). Carphone Warehouse, the country's largest mobile phone retailer, offered a 10 per cent discount on hands-free equipment from November up until Christmas 2005 (whatcar.com, 2005). Their managing director of in-car solutions said:

> We believe it is vital that drivers use hands-free car kits if they need to make a call; not only for their safety, but for the safety of all others. The 10 per cent discount on all hands-free car kits we are offering should be a good incentive for UK motorists to make this necessary change. (carpages.co.uk, 2005, n.p.)

At least in the United States, the ploy of promoting hands-free phones as the safe alternative seems to be working. *Twice* magazine, a publication for the consumer electronics industry which provides information for industry leaders to make key decisions about merchandising and marketing cycles, ran an article which suggested that new legislation was a driving force behind hands-free sales (Gill, 2006; see also theautochannel.com, 2006). 'A growing spate of hands-free laws coupled with advances in technology and style provide a host of compelling reasons for consumers to purchase a new headset in 2006', they state (Gill, 2006, n.p.). Paul Perryman, national sales manager for a San Diego company which sells headsets, credits legislation as driving market growth: 'When the recent hands-free law passed in Connecticut…we experienced a 10-times lift and a higher baseline in headset sales in that state. As more states and towns pass such laws, we expect similar results' (Gill, 2006, n.p.).

These developments have not happened without scrutiny. Observers have criticised companies that use the laws as an opportunity to sell their product. In the United Kingdom, the chief executive of road safety charity Brake said retailers were 'ruthlessly exploiting' the new ban: 'phone companies are perhaps unwittingly placing profits before lives by continuing to sell hands-free kits and using the ban on hand-held phones and driving as an advertising opportunity' (BBC News, 2003, n.p.). In 2006 T-Mobile placed an advertisement in London's *Evening Standard*, *Times* and *Guardian* for a BlackBerry hand-held computer, which showed a woman inside her car, surrounded with office equipment. She was pictured with one hand on the steering wheel, along with the line: 'Work where you work best, Business data solutions from T-Mobile puts your business wherever you are' (freelanceuk.com, 2006, n.p.). Seen as promoting dangerous driving, the ad received complaints that it implied the product could be used while driving, in turn encouraging such practices. T-Mobile countered that the picture did not actually depict a device being used while driving. Nevertheless, the Advertising Standards Authority ruled the advertisement to be in breach of two clauses of the advertisers' code, Responsible Advertising and Safety (freelanceuk.com, 2006). A

spokesman stated: 'We considered that, because motorists could be prosecuted for failing to have proper control when using a hands-free phone, the image of the woman was irresponsible and was likely to be seen to encourage dangerous practice' (*Life Style Extra*, 2006, n .p.). According to Mr Iggulden, a United Kingdom resident who lost his wife in a car crash in 2005 involving a careless driver who admitted using his mobile while driving:

> Common sense says that you can't drive and use mobile office technology at the same time. I'm glad they've withdrawn the advert, but I can't believe when the Government is trying to stop mobile phone handsets being used in cars there are advertisers launching campaigns like this. (*Royston and Buntingford Mercury*, 2006, n.p.)

In Australia, Telstra has also faced criticism. Richard Hockey, of the injuries surveillance unit at Brisbane's Mater Hospital, said Telstra's recommendations (to get off the road or use hands-free) contradicted current evidence:

> If you say that you can't have a handheld phone but you say it's okay to have a hands-free phone then you're really indicating by implication that one is safe and one isn't – research indicates it isn't the case, both are just as unsafe. (Colley, 2003, n.p.)

Paul Treffner of Griffith University sums up the paradox in Telstra's logic: 'they're saying "it's not a good thing to hold the phone" but you're still going to have an increased chance of an accident [with hands-free]' (Colley, 2003, n.p.). In fact, Safe Drive Training, who used Telstra's advertisement in their training video (the licence for which has been sold to NRMA), asked for permission from Telstra to change the voice-over at the end so that it was aligned with current scientific evidence (Safe Drive Training, 2005).

The discrepancy between the messages from private industry and from other groups is not surprising. Mobile phone companies have a vested interest in people being able to make calls in cars because of the revenue the practice generates. In 1998 *Mobile Phone*

News ran an article titled 'Industry hopes emphasis on safety will thwart anti-car phone laws':

> with some 50 million Americans using wireless phones, and industry estimates tracking about 80 percent of the air time to calls placed and received inside moving automobiles, the industry has a huge interest in keeping people talking and driving. Pleas to pull aside and place a call often ring false to the busy, high-use customers carriers wish to have and hold. (Twatchman et al., 1998, p. 1)

Recognising this, it is important to critically evaluate how the interests of different stakeholders affect public policy debates and advertising campaigns. Industry emphasis on self-regulation (where the choice is up to the individual driver) can result in a biased perspective, and the messages given to the public are not always in line with the empirical evidence, as illustrated in Telstra's campaign outlined above.

The same tension is being played out in the work domain, where employers' reactions have been mixed. In the United States some have banned all forms of mobile phone use in employees' cars, while others have resisted explicit restriction, instead providing training and encouraging workers to pull over to use the phone (Peterson, 2004). Research conducted by RoSPA in 2002 found that large United Kingdom companies were 'aware of their legal responsibilities' and had 'policies to ban or restrict the use of mobile phones when driving for work purposes' (RoSPA, 2002, p. 23), with many providing hands-free kits to be used in limited circumstances. Another United Kingdom survey by the Association of Car Fleet Operators found that 99 per cent of fleets had implemented a policy prohibiting the use of hand-held phones, and that 39 per cent had banned hands-free devices altogether (Workplace Law Network, 2004). Before the law was introduced, company car drivers were much more likely to be using a hands-free kit (87 per cent) compared with employees driving private cars (38 per cent) (RAC, 2004). A year later, over half had policies prohibiting all phone use (Workplace Law Network, 2004). BP has joined this group, introducing a new driving standard in 2004. Amongst the ten key elements is a total ban on use of mobile phones (BP, 2005b, 2005c).

In Australia, some companies direct employees to comply with the statutory requirements, while others enforce a more stringent policy, banning all forms of mobile

phone use. In many cases, hands-free kits are suggested along with a word of caution. For example, while recommending the installation of approved car kits, Telstra's staff policy states that 'extreme care should be exercised…for hands-free operations to ensure the user's attention is not distracted while driving' (Telstra, 2005, n.p.). Numerous employers provide hands-free devices for their workers: according to the *Drive Safe Phone Safe* figures, of those who use a hands-free kit (approximately 40 per cent), just over one in five reported that these were provided by their employer (Telstra, 2004d). The standards and procedures of corporate enforcement are still being negotiated as companies and individuals develop appropriate measures that strike a balance between work productivity, accessibility and personal safety.

As argued in this section, there is a discrepancy between empirical research, laws, education and advertising in terms of the message conveyed to the driving public. Motorists are exposed to concerted publicity campaigns which encourage safe and responsible phone use (including the use of hands-free devices), whilst reading of research which indicates no safety advantage associated with hands-free phones, and that *all* phone use is potentially dangerous. Take a media release from the Minister for Transport and Regional Services, John Anderson (2004, n.p.), as an example:

> It is of course illegal to use a mobile phone while driving, unless you are using a hands free device. That said, there are times when even the use of an in-car hands free kit or portable hands free device should be avoided as well.

At the launch of a road safety awareness campaign designed to highlight the dangers of driving while using a mobile phone, Victorian Attorney General Rob Hulls said: 'marketing by phone companies encourages the use of mobiles in all aspects of our lives, but there is a time and a place for phone use' (TAC, 2004a). Both comments aptly illustrate the contradictory message that is being communicated to the public. This is partly attributable to the network of negotiation, in particular, the different approaches and conflicting interests of stakeholders.

As stated earlier, a range of regulatory strategies are used in combination. Self-regulation or social regulation and institutional regulation both have an important role to play in getting drivers to alter their behaviour (even if they are supported in different

ways by the network of actors involved in the debates about mobile phone use while driving). As the next section reveals, important lessons can be gleaned from traffic law theory about how legislation, education and enforcement work together to achieve compliance. We will draw on the example of seatbelts in order to tease out some of these issues, before moving on to apply these theories to mobile phone use. In this section we see that a concerted and sustained effort is required to convince drivers to change their behaviour and for these changes to become permanent.

Enforcement, education, compliance and behavioural change

As pointed out in the previous chapter, there is an acknowledgement that changes to driver behaviour and the development of social norms and habits will take time. Traffic safety education aims to cultivate appropriate attitudes, knowledge and skills which are 'intended to reap benefits over many years' (Johnston, 1989, n.p.). A long-term vision is also required in terms of enforcement and publicity: 'consistent commitment…over reasonably long periods of time can lead to changed attitudes…but they do require considerable resources to bring about these changes' (Fildes, 1995, p. 56). Moreover, prolonged enforcement and education are important factors in eliciting permanent change because of their role in raising the expectation of being caught. Here we look at the combination of factors which can bring about changes in driver behaviour.

In terms of law enforcement and compliance, theories suggest that if the threats of specific and general deterrence are low, drivers are more likely to break the road rules. Specific deterrence refers to the influence of enforcement on their behaviour as a result of previous detection, prosecution and punishment, whereas general deterrence relates to the belief in the community that road laws are being enforced, there is a risk of detection and punishment will occur when these laws are breached (Fildes, 1995; Zaal, 1994). In terms of specific deterrence, there is a correlation between apprehension rate and compliance. Campbell (1988, cited in Zaal, 1994), for example, studied countries where seatbelt usage rates exceeded 90 per cent. He found that Australia had a relatively high apprehension rate, concluding that compliance increases along with enforcement. Increasing the perceived likelihood of detection (general deterrence) is also particularly important in changing road user behaviour and is more effective than increasing the

severity of penalties or introducing new laws. This can be achieved via publicity, education and, perhaps most effectively, enforcement.

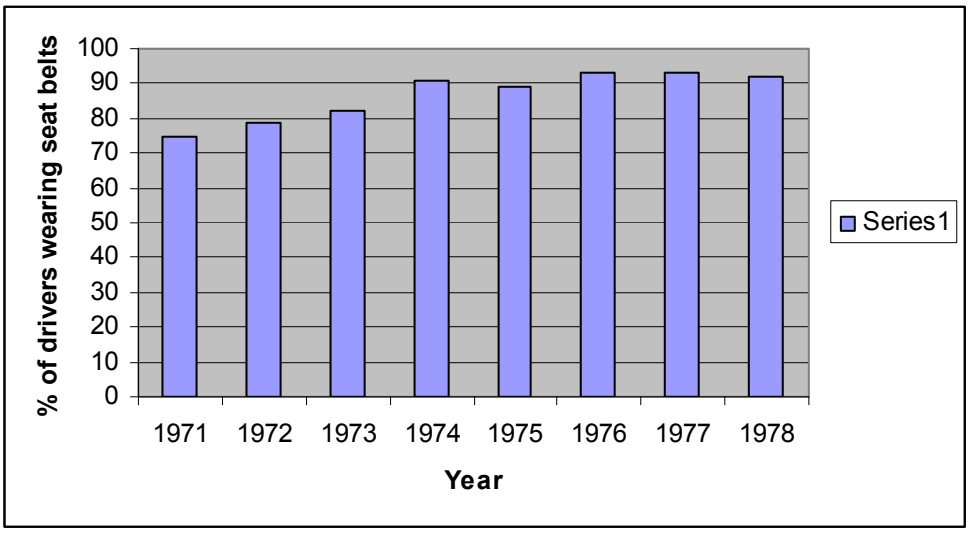
The Victorian government's response to a recommendation that fines be increased for failure to wear seatbelts and hand-held phone use illustrates the role of both general and specific deterrence in affecting behavioural change:

> While setting appropriate penalties for offences plays an important part in deterring and modifying unsafe driver behaviour [specific deterrence], increasing penalties alone does not change the way drivers behave. There must be high levels of enforcement, which must be seen as applying anywhere and anytime so that drivers believe that if they commit an offence they will be detected [general deterrence]. (Victorian Government, 2005d, p. 20)

This points to the vital function of enforcement. Road rules need to be frequently enforced in order to reinforce the messages conveyed via education, to maintain compliance and increase the perceived chance of detection. While enforcement alone may have short-term effects, drivers will often revert to their usual conduct if the threat of enforcement drops off (Zaal, 1994). The most pointed illustration of this relationship was in Canada, where seatbelt wearing rates jumped from 28 per cent before the introduction of legislation to 83 per cent one year later. Following a court ruling, the offence was not enforced for a period in 1989, and usage dropped to 45 per cent. When the court reversed its decision a year later, the rate sprang back to 88 per cent (Zaal, 1994). So while publicity and enforcement are independently effective, superior and more sustainable results are achieved when the two are used in tandem.

Victoria's experience with seatbelt laws highlights the trends outlined above. Compulsory legislation had an immediate effect when it was introduced in 1971. During the first month, police were instructed to caution and educate (rather than prosecute), and wearing rates rose from 25 to 50 per cent (Milne, 1979). By May the following year, five months after the laws came into effect, 75 per cent of Melbourne drivers wore seatbelts. This proportion rose steadily so that by the end of the 1970s nine out of ten were complying (see Figure 7.1). Wearing rates have remained relatively constant since this time.

Figure 7.1: Seatbelt wearing rates in Melbourne, 1971-78



Source: Milne (1979).

This does not mean that education and law enforcement have become redundant. Even though seatbelt use is currently up around 95 per cent, advertising campaigns and police presence remain fundamental to maintaining compliance. For example, some Australian states experienced a drop-off in wearing rates after the laws came into effect, requiring an increase in promotional and enforcement efforts to reverse the trend (Campbell & Campbell, 1986). A 1980 Australian government report warned that 'unless trends in wearing are continually monitored to determine the need for additional engineering, enforcement and/or education, the full potential benefit…
may never be realised' (Boughton et al., 1980, p. 16). Nowadays the TAC and police remain active in terms of publicity, education and law enforcement, with five separate advertisement campaigns addressing the issue since 1992. This precedent provides an important context for understanding the likely pattern of change in hand-held phone use.

Emerging data from around the world on illegal mobile use and compliance rates has reflected the patterns observed with seatbelt regulations and their effect on driver behaviour. Reporting on the longer-term effects of New York's laws on hand-held use, McCartt and Geary (2004) found that, despite an initial decline immediately after regulations were introduced, usage rates had returned to pre-law levels one year later. In Connecticut, an adjacent state with no restrictions, usage rates did not alter significantly. The authors concluded that in the absence of 'substantial and highly publicized enforcement efforts,

compliance is likely to be quite low' (2004, p. 14). They also pointed out their finding was consistent with other road laws, such as mandatory seatbelt wearing.

A similar trend is evident in the United Kingdom. Hand-held mobile phone use dropped by almost half after laws were introduced. Comparing the proportion of drivers on hand-held phones ten weeks before laws were enacted (and prior to publicity campaigns), to ten weeks after, Johal et al. (2005) interpreted a statistically significant fall as a consequence of legislation. Broughton and Hill (2005) reported a 20 per cent drop in hand-held use between October 2002 and September 2003 (this was during a time when the issue received attention in terms of the associated risks and in advance of the new laws which were to take effect in December 2003). A follow-up survey showed a 21 per cent decline in hand-held use between 2003 and 2004 (Hill, 2005). The authors speculate that this may have been due in part to the introduction of legislation, but a survey conducted before and after the bans by the Royal Automobile Club cast doubt on longer-term changes. A spokeswoman for the RAC said:

> We have done some more research in August [2004] to get a feel for how effective the ban was and, to our surprise and horror, the figure has gone up… It's difficult to figure out why this is happening. The only reason we can conclude is that people have tried to see how many people are being caught and realised there just aren't enough police on the roads. (Dalton, 2004, n.p.)

This trend is not restricted to the United Kingdom and the United States. Self-report data from Finland shows that, after laws were introduced in early 2003, the proportion of drivers on hand-held phones dropped from 56 to 15 per cent (Rajalin et al., 2004). By the first half of 2004 this had risen to 20 per cent, a statistically significant increase, but still lower than pre-law rates. In South Korea, where hand-held use while driving became an offence in 2000, police carried out a crackdown throughout Seoul in 2006 after they felt that a 'lapse in enforcement [had] made motorists forget about the dangers of using their cell phone while driving and decided it was time to remind them' (*Chosun Ilbo*, 2006, n.p.).

In Victoria it is not possible to attribute changes in driver behaviour to the effect of legislation alone. Regulations have been in place since 1988 (see Chapter Four), yet reliable statistics did not become available until a decade or so after this. One rough

indicator is the number of TINs issued for the offence. After peaking in 2002 at 30,532, the number dipped to around 23,000 in the following two years before climbing back up to 30,485 in 2005 (see Figure 5.1).

Some caution is necessary in interpreting these figures. Police statistics are not likely to be the most robust measure of compliance, as police will target various offences with differing intensity. Senior Sergeant Coles said as much when he stated that Victoria Police had been targeting speed and alcohol rather than mobile phone use in 2004 (Bunce, 2004). Thus fines may reflect more active enforcement, rather than higher rates of use (see Wardill, 2004). As Assistant Commissioner Hastings explained, the fluctuation in TINs was due more to 'enforcement effort, not necessarily [because] …less of it was happening' (Road Safety Committee, 2005a, p. 5). In addition, as Chapter Five illustrated, there are many difficulties in enforcing the laws. In turn, this data is of limited value because it is not statistically representative of the driving population.

Nevertheless, Victoria is internationally renowned for its strong enforcement regime. At the driver distraction inquiry in 2005 Assistant Commissioner Hastings pointed out that, whereas other countries have relied more on engineering and car design, Victoria has emphasised law enforcement. He reported that when he spoke to people overseas there was a notable appreciation of the state's strategy: 'they all say to me, "If we had what you have got in Victoria as an enforcement regime, we would really kick some goals in terms of road safety"' (Road Safety Committee, 2005a, p. 16). Reflecting this, along with speeding, drink-driving, failing to wear seatbelts and unregistered vehicles, mobile phone use is one of the state's most common traffic offences (TAC, 2004b). Yet despite the large number of TINs issued, it appears that the expectation of getting caught is low. Research conducted by the George Institute for International Health found that 70 per cent of Australian drivers felt that they were unlikely to be caught by police for using a hand-held phone while driving (McEvoy et al., 2006). This prompted Suzanne McEvoy, one of the authors of the report, to suggest: 'Drivers are aware of the law against hand-held mobile phones, but believe that enforcement is quite low. These data clearly demonstrate the need to enhance enforcement of this legislation' (George Institute for International Health, 2006, n.p.).

Responding to the release of figures which showed over 25,000 Victorian motorists had been fined in 2005, the RACV felt people were not perturbed by fines because of a belief that police rarely caught talking or texting drivers. The RACV's Ken Ogden said drivers 'don't appreciate the high level of risk, and they don't think the level of enforcement is very great, which I think is a valid assumption because people are still doing it' (McRae, 2005, p. 4). In light of this, he called on police to exercise zero tolerance and issue more fines.

As Mr Ogden's comment suggests, for some drivers the perceived risk of having an accident is low. Indeed, part of the problem of relying on a message of risk is that if there are no tangible consequences it is hard to generate motivation to change. As Gregerson (1996, cited in Cairney, 2003) contends, the process of learning to drive is complex and prolonged, and bad habits can become established if there are no adverse consequences such as a crash. In reality, the chances of being involved in an accident are low, most drivers don't feel vulnerable to death under normal driving conditions and, significantly, most think they are a better than average driver (Jennings, 2002; Joubert, 1979, p. 5; Lajunen & Summala, 2003; Wheeler & Wilson, 1997). In terms of specific attitudes to mobile telephones, a study conducted by the University of Sydney found that, even though 68 per cent of those interviewed considered safety to be an important factor when using a mobile phone, 'most people believed they were better than average drivers and sufficiently skilful to compensate for the extra risk' (Jennings, 2002, n.p.).

Some situations are conducive to using a phone safely. As Cairney says, 'driving under light traffic conditions on freeways or other high-standard roads is relatively undemanding, and it may be that phone use would have little if any impact on crash risk in these circumstances' (2003, p. 22). According to Horberry et al., 'it is possible that tasks found to be relatively more distracting in the laboratory may not compromise safety in the real world if they are performed infrequently, or in low demand situations' (2006, p. 190). It may be, for example, that most of the drivers who read text messages do so in low demand situations, such as waiting at traffic lights. People get to know their driving environment, and if someone is driving in peak hour and knows they will be waiting at a particular set of lights for two minutes, then it is for all intents and purposes 'safe' to type and send an SMS. As I have argued above, although legal

penalties (according to VicRoads) 'provide a significant deterrent to this deliberate and dangerous habit', and in spite of publicity campaigns which stress the risks, there are reasons why drivers continue to phone and drive.

Reflecting the debates about the empirical evidence concerning the dangers of mobile phone use while driving covered in Chapter Three, this section highlights the driving public's uncertainty about the level of risk. Does attention to the practice reflect an over-reaction to a trivial risk, or is it a justified alarm about a real danger (albeit in specific circumstances)? No doubt different people have different responses to this question. In light of this uncertainty, it is understandable that many drivers may not be sufficiently convinced of the risks to change their behaviour. Attitudes and behaviours are not easily altered, and changes may take many years.

Policy initiatives for the future

Given the current situation, what might a productive way forward look like? As argued in this chapter, it is important to develop a specific and practical set of acceptable behaviours and to create a consistent and focused message for those who remain non-compliant. In a review of road user behaviour, Johnston questions the widely held belief that 'faulty attitudes' are a 'basic' cause of accidents, suggesting that the focus should be on specific, not general, attitudes (1989, n.p.). This resonates with current campaigns which tend to bemoan drivers' general ignorance and flouting of the law, but fail to adequately engage with the specific reasons for the attitudes that underpin and affect their actions. Terms which frequently appear, such as 'not getting the message', 'ignore', 'flout', 'don't listen or don't care' (ABC Premium News, 2005, n.p.), are much too general and lack any purpose or cohesion. They tend to overlook the powerful motivation for people to use phones (as outlined in Chapter Two), as well as the mixed messages that drivers are receiving as a result of various vested interests.

Without losing sight of the number of people who *do* break the law, we must also bear in mind that a majority *do not*. In turn, there should be a clearer focus on the minority who continue to phone and drive. In this regard, the profile of non-compliant drivers provides a foundation from which to tackle the issue. Sociological variables reveal significant contextual factors that are correlated with driver behaviour. Consider the

following data. People who make calls while driving are more likely to be male and younger (AAMI, 2004; Beirness et al., 2002; Laberge-Nadeau et al., 2003; Sullman & Baas, 2004), and higher rates of use are associated with driving more kilometres (Poysti et al., 2005) and driving regularly for work purposes (Laberge-Nadeau et al., 2003). Those who prefer a higher driving speed (Sullman & Baas, 2004), take more risks, are more aggressive (Rakauskas et al., 2004) or hold a higher perception of their driving skills (Poysti et al., 2005) are more likely to use a mobile phone in the car. In fact, it has been suggested that there may be a distracted driver personality type (Rakauskas et al., 2004; Smith, 2003), with one survey indicating that, compared to non-users, people who used a phone in the car were more inattentive in general. That is, they were more likely to be distracted by thoughts of what to eat, relationship and family issues, work and money (Smith, 2003). There is also evidence to suggest that mobile phone users are less likely to wear seatbelts (Eby & Vivoda, 2003) and that this may indicate 'manifestations of a person's general willingness to take risks while driving, or indifference to or ignorance of these risks' (Broughton & Hill, 2005, p. 10).

Put together, this set of findings reveals a profile of drivers prone to using a mobile while driving. As Beirness et al. observe, 'the pattern of characteristics of those who use a cell phone when driving…resemble[s] that of high risk drivers' (2002, p. 16). Of particular salience is Sullman and Baas' research which found that, once the contributions of demographic and descriptive variables were accounted for, 'the relationship between crash involvement and mobile phone use was no longer significant', raising the possibility of a spurious variable (2004, p. 95). That is, increases in crash risk may not be a function of mobile phone use in cars as much as *driver characteristics* of users. This has implications for the development of policy, as Wilson et al. (2003, p. 52) found:

> cell phone users have more violations for speeding, impaired driving, seat belt non-use, aggressive driving, and non-moving violations. These differences likely reflect differences in lifestyle, attitude, and personality. The fact that cell phone users are inherently riskier drivers has implications for public education and information campaigns aimed at educating drivers to use 'safer' cell phone practices while driving. These campaigns urge drivers to reduce conversation length, avoid conversations while in heavy traffic, or pull over to make a call.

> Drivers who normally speed and drive aggressively are the ones least likely to heed such messages, yet they are also the ones most at risk. The cell phone may also be an important tool for their business and their lifestyle. These factors need to be considered in the design and targeting of public awareness campaigns.

In light of this, one approach has been to target younger drivers. In general terms, much attention, both overseas and in Australia, has focused on their disproportionate representation in road fatalities. In Victoria, road crashes are the leading cause of death amongst young people: 18- to 25-year-olds represent 27 per cent of all driver deaths (while making up 13 per cent of licensed drivers), and probationary drivers are involved in three times the number of casualty crashes as experienced drivers (Victorian Government, 2005g). Young people are more likely to think of phoning and driving as less dangerous: they have grown up with the technology, and their ability to identify risky driving behaviour is under-developed compared with experienced motorists. As Lamble et al. (2002, p. 226) propose:

> new age cohorts that learn to drive in the future will likely have had several years experience using a mobile phone in day-to-day life, and so it may seem quite natural to continue to use a phone inside their car.

Statistics from AAMI's 2005 *Young drivers index* (2005b, p. 2) reinforce this view:

> Young drivers are one-and-a-half times more likely than other drivers to have used a mobile phone without hands-free accessories while driving (77 per cent versus 50 per cent). They are two-and-a half times more likely to have sent or read a text message while driving. (68 per cent versus 25 per cent)

Compounding this state of affairs is the fact that younger drivers are, it seems, less able to self-regulate. As Michael Regan from MUARC states:

> There are lots of things that will determine whether you are going to succumb to the effects of distraction and by how much. One of them obviously is the amount of time that you are distracted for. This is a problem for younger drivers because they tend to be the ones who actively engage willingly in distracting activities,

> unlike older drivers who we find from research tend to what we call 'self-regulate'. They tend to know that using a mobile phone is going to distract them and hence they do not use the things for long or at all. We know…young novice drivers aged 18 to 22 years…are more vulnerable to the effects of mobile phone distractions. So we know that younger drivers who have less experience are more vulnerable to the effects of distraction. (Road Safety Committee, 2005c, pp. 10-11)

These research findings have real-world implications. Lamble et al. (2002), for example, found that younger drivers experienced the highest level of dangerous or risky situations while using the phone. The accidents involving young Victorian drivers (Ms Ciach and Mr Johnstone) further highlight the inability of those who are less experienced to self-regulate, along with the severe consequences.

As a result, younger drivers have become a focus of Victorian government social policy. Youth Central, a government website for young adults that provides information about schoolies week, addresses safe driving practices. 'How can you make a difference?', it asks, then advises: 'If your friend is driving stupid, had too much to drink or taken any drug, is speeding, [or] is using their mobile phone…tell them to stop!' (Victorian Government, 2005b, n.p.). It goes on to address phone use in more detail by outlining its effects and the associated increase in accident risk. The new graduated licensing scheme (which will be fully implemented by July 2008) also tackles the issue, whereby learners and stage one probationary drivers are not allowed to use any form of mobile phone, whether hand-held or hands-free.

Legislation, enforcement practices, education and publicity all work together in modifying motorists' attitudes and, significantly, behaviour. Tracking the effects of these regulatory strategies is difficult, and there are limitations to each. While people understand the risks and are aware of the laws concerning phone use in cars, the perceptions and actions of some drivers are hard to change. This can be attributed to several factors which have been overlooked or under-recognised. First, I suggest that the message being conveyed about what mobile phone activity is acceptable or unsafe is not clear. This is partly attributable to the competing interests of those involved in the network of negotiation (for example, government, private industry, research

organisations, road safety groups). Second, non-compliance needs to be understood in terms of the relationship between different strategies, recognising that behavioural change is a complex and lengthy process.

Chapter Eight

Conclusion: The road ahead

Exploring the debates and negotiations around motor telephony allows us to develop new insights into the connections between the social impact of technology, people's mundane practices and habits, and broader dilemmas of governance. As Chapter Two shows, cars and mobile phones have a significant historical legacy, yet their recent convergence has raised new tensions. In the introduction to *Technological visions: The hopes and fears that shape new technologies,* Sturken and Thomas (2004, p. 1) state:

> Technologies take on a special kind of social meaning when they are new. As they emerge in various social contexts, modern technologies become the focus of intense political, economic, cultural, and even emotional, investment. A so-called new technology is the object of fascination, hyperbole, and concern.

The use of mobile phones while driving has certainly captured the attention and investment of a broad range of social institutions, from government, media, private industry and research groups to the driving public. It is within this context that my work points to the importance of examining the emergent practices, programs, techniques ,policies and regulations which arise in response to technological innovation. Indeed, 'technological development is one of the primary sites through which we can chart the desires and concerns of a given social context and the preoccupations of particular moments in history' (Sturken & Thomas, 2004, p. 1). Motor telephony presents a valuable example through which to examine the social implications of technological innovation and the emergence of a new regulatory domain.

While this area has remained under-described, the concerns and consequences of motor telephony are instructive and point to broader issues. Mobile telephony is a technology in transition and does not lend itself to simple or generalised analysis. As shown in the localised descriptions throughout this thesis, it is difficult to manage how people will react to the technology, and regulating the practice of mobile telephone use while driving is complex. Since the 1920s the convergence of these technologies has presented a range of problems, yet there remain no easy solutions. The RACV suggested in 1936 that motor telephony was going to be a worry for the average driver,

and it is worth noting that in spite of over 70 years of debate and discussion on the topic, various responses have failed to make any significant impact in terms of addressing road safety concerns and have failed to seriously dent motorists' desires to phone and drive. The regulation of motor telephony is still a controversial and complex subject of negotiation and debate.

In describing a new regulatory domain, this thesis draws attention to the complexities and contingencies of the political problematisations which have been formed as a result of mobile phone use while driving. Some lessons from the past (such as laws on seatbelt use and drink-driving) prove useful in exploring this area, but the practice also requires a new kind of policy analysis. Problematisations, as Rose contends, 'may or may not be shaped by previous strategies of government…they do not speak for themselves [and] they must always be individuated and conceptualized in particular ways' (1999, p. 21). Accordingly, the previous chapters each describe particular concerns associated with motor telephony, showing how mobile phones and cars have come to be highly regulated technologies. Governments in Australia and overseas have continually increased regulation of mobile phone use while driving, raising new questions about the control of mobile communications. In this context, Victoria has been a valuable site of investigation, offering important insights into the desires, concerns and preoccupations associated with these popular technologies.

Throughout, I have been careful not to focus on the distinctions or dichotomies between public and private, or between technological and social, but instead to draw attention to the connections between the social, technological and political. In many ways, mobile telephones highlight the disorganised and complex interactions of individual actors and social institutions. This requires analysing their effects in an integrated and innovative way. 'It is a technology', Cooper says:

> which connects the global, in the form of a network of satellites and transmission points, with the most local of social interactions…it forms a juncture, a point of contact between different domains, each of which lend themselves to a different kind of analysis. (p. 29)

This dynamic is clearly observed here: the use of mobile telephones in vehicles involves broad systems which enable that use (for example, telecommunications and vehicle industries, roads, telephone networks), but it has micro-scale implications in terms of how people use their phone in an everyday setting (the car). In turn, it has been important to explore the habits, self-regulation and practices associated with motorists' identity and sense of privacy and freedom, as well as the rationales of government in addressing motor telephony. To do this I have used a range of conceptual and empirical tools and frameworks, drawing on public policy, history, media studies, legal studies, psychology and sociology, each of which form an important part of the story.

In examining and describing these practices and rationales, we see that people, technologies, organisations and social institutions – as well as notions of the public and private, or the state and the individual – should not be conceptualised as dichotomous or oppositional, but as intertwined and constitutive of each other. The relationships between these domains are captured in the network of negotiation that is described throughout each of the chapters and, as the previous pages illustrate, the interaction between social institutions (including government, industry, laws and regulations, research organisations, retailers, lobby groups, police and media) and the driving public is a complex one. There is an intriguing interplay of cars and phones as intimate, *private* technologies and their use in *publicly* regulated domains. Many strategies of public regulation involve efforts to change habits, attitudes and norms in the ostensibly private domain, whether through legal penalties, incentives or education campaigns. At the same time, individuals form part of the broader structures which limit and permit phone use in various ways. The hearings of the Victorian inquiry into driver distraction reveal the thoughts and rationales of individuals who themselves represent different social institutions, highlighting the personal and subjective dimensions of public organisations.

I have also argued that the politics of regulation are crucial to studying the localised, everyday practices of motor telephony. The ability to phone and drive produces many social and economic benefits, but it introduces a fresh challenge: it is about a risky behaviour and getting people to *restrict* their use of a technology in a specific context. This presents governments with a dilemma: on the one hand there is an imperative to encourage mobile phone use while driving (in the interests of efficiency, the economy,

productivity and so on), yet at the same time there is a duty to protect citizens from the associated risks (in the interests of public health and safety). As Rose states:

> the citizens of a liberal democracy are to regulate themselves; government mechanisms construe them as active participants in their lives…citizens shape their lives through the choices they make…government works by 'acting at a distance' upon these choices, *forging a symmetry between attempts of individuals to make life worthwhile for themselves, and the political values of consumption, profitability, efficiency, and social order*. (1989, p. 10; emphasis added)

In the context of motor telephony, there is a difficulty in reconciling the rights, interests and social responsibilities associated with a person as both consumer and user of car and mobile phone, with those of a citizen who is subject to various technologies of government (for example, laws and regulations). The political values of consumption, profitability and efficiency, as well as the social value of connectedness, need to be held in tension along with the negative effects of the use of mobile phones while driving. This is not an easy dilemma to address, and this thesis highlights the differences in political reasoning amongst various jurisdictions.

As outlined in Chapters Four and Five, the regulatory strategies adopted by various jurisdictions have differed substantially. Victoria made hand-held use illegal in 1988, the United Kingdom introduced similar legislation fifteen years later in 2003, while in New Zealand and most jurisdictions in the United States, no laws prohibit the practice. The description of Victoria's approach highlights some of the unique local conditions concerning the regulation of motor telephony. Radio telephone systems were installed in RACV roadside patrol vehicles in the mid-1950s, around the same time that telephone use in moving cars was prohibited in the state's motor car regulations, and from this point Victoria and Australia have pioneered legislation and enforcement addressing mobile phone use in vehicles. This is not to say that the process of introducing regulatory options has been straightforward. The rationales of various groups and organisations for greater or lesser degrees of intervention have different appeals to the imperatives of liberty, privacy and individuals' social responsibility.

One of the ways the network of actors argue their case is in terms of the need to balance the justifiability of state intervention and regulation for the sake of protecting the public good, and the need to protect individual rights and liberties. These forms of reasoning recur in debates about motor telephony. Australian – and in particular, Victorian – governments have a tradition of regulating drivers' behaviour via laws and enforcement in the interests of the public good. Other countries have a stronger history of protecting privacy and individual liberty: as a result, legislators tend to favour less formal approaches which emphasise personal responsibility, such as education, media campaigns, appeals to morality, and changing habits and social norms. But this distinction should not be over-stated: as Chapters Four and Five illustrate, even though Victoria has displayed more willingness than other jurisdictions to tackle the issue via legislative measures, this has not come without debate. In Chapter Five we see a complex relationship between the rationales of legislative development and the pedantic or arbitrary enforcement of laws. Moreover, there remain a diverse range of groups with differing opinions: public policy decisions are subject to a variety of interests. It is noteworthy, for example, that the general public does not tend to draw on the notions of the public good and private liberties. This style of reasoning is predominantly drawn upon by governments and by organisations which have a vested interest in the use of mobile phones while driving (such as the telecommunications industry). In this way, the description of deliberative processes in this thesis opens up new empirical and theoretical questions about the relationships between private industry, individual motorists, legislators, courts, government ministers and bureaucrats, who each maintain different roles, objectives and spheres of influence.

In Chapters Four through to Seven I described a number of technologies of government that have been adopted in regulating motor telephony. The relationships between regulatory options are multifaceted. 'Regulatory instruments', says Barry, 'operate in complex ways, for they do not act on individuals or firms as wholes, but through constituting and acting on their various parts' (2001, p. 47). As I have argued, the negotiations concerning regulation involve a diverse array of actors, and the demand for citizens to improve their technical and ethical capacities comes from various directions and has numerous motivations. Governments and the motor car and mobile phone industries, for example, have specific interests in motor telephony, and this is reflected in their styles of reasoning and the principles to which they appeal, and in how they

interpret and construe the available empirical research and associated arguments. The motor vehicle and telecommunications industries tend to emphasise the range of driver distractions, arguing that it is unbalanced to focus just on mobile phones. It follows that the emphasis, for law enforcement, should be on self-regulation. But as Chapters Four and Five indicate, the Victorian government has taken a proactive stance in addressing the practice via legislation and various penalties and sanctions.

Governments, of course, also have an interest in developing the ability of citizens to modify their own behaviour. Education and publicity campaigns of the type outlined in Chapter Six are often funded and promoted by a range of institutions, including phone companies, road safety organisations and state governments. In this way we see evidence of Rose's contention that governments have promoted 'initiatives to regulate the conduct of citizens by acting upon their mental capacities and propensities' (1989, p. 2). Yet as Chapter Seven suggests, there are some distinct problems with these groups working together, resulting in mixed messages being conveyed to the driving public. The discrepancies between laws, advertising campaigns and empirical research are at least partly attributable to the (at times) competing interests of stakeholders. The motor and phone industries, for example, emphasise self-regulation, whereas road safety organisations call for tougher penalties. As a result, decisions about appropriate strategies are rarely straightforward. A mix of policy options is used in combination, yet (for various reasons) some of them are ineffectual.

Exploring the negotiations around the use and restrictions placed on mobile telephones while driving helps explain some of the factors behind this complexity. It also illustrates the non-linear nature of decision making. The logical process outlined by VicRoads chief executive officer David Anderson in Chapter Four (from a technology becoming available through to the emergence of research data to a policy response) does not match the reality. Decisions are often made on the run and in an arbitrary manner. It is not clear why, for example, hand-held devices are banned but CB radios are allowed, or why emergency services are legally exempt from penalties against mobile phone use while driving. In addition, these 'stages' are not mutually exclusive, but operate in tandem with one another. Chapter Four shows how Victoria's response (legal regulation) was initiated before mobile technology became widely used and how this legislation stayed the same while mobile phones dramatically changed form.

In this thesis I framed the regulation of motor telephony in terms of the assemblage of social institutions that have a say in the policy process. Courts, judges, legislators, police officers, bureaucrats, government ministers and committees each maintain different roles, interests and responsibilities in policy decision making, highlighting the cultural dimensions of politics. Although there are rationales and styles of reasoning that support modern liberal government, including the desire to achieve a symmetry between individual liberty and various political values (for example, consumption, profitability, efficiency, safety and social order), governance operates by yoking together disparate governing practices, agencies and forms of decision making. The social use of emerging technologies needs to be understood and analysed in this context.

Finally, it is important to recognise the transitional and temporary nature of mobile phone and automotive technology, and the effects this has on the implementation of regulatory options. As these technologies change form, certain problems will be overcome and others will emerge. The continuing development of in-vehicle telematics, for example, is likely to present opportunities for both the restriction and enhancement of mobile phone use in cars. The manner in which these systems are regulated and monitored will present a new set of issues for governments, industry and drivers to negotiate. Emerging empirical research and expertise will remain important in debates concerning mobile telephony and driver distraction, even if it does not provide neutral or comprehensive solutions.

This thesis has sought to place the particular debates associated with mobile phone use while driving within broader concerns of the politics of regulation and dilemmas of governance in relation to technological innovation. I have emphasised local conditions and the limitations and restrictions placed upon the use of mobile telephony, as well as describing the relationships between politics, government and technology in the context of the emergence of a new regulatory space.

I offer a detailed description that is attentive to the intellectual, technical and social interactions and practices concerning mobile phone use while driving. To date, the connections between these two pivotal technologies have not been thoroughly investigated. Cultural and sociological studies of mobile telephony have traditionally analysed the device's use outside of the car: this work moves the analysis *inside*

vehicles. Within this context I examined a range of 'moral, intellectual and practical techniques' that have been adopted 'in attempts to assemble pragmatic solutions to deal with specific exigencies and limited problems', in this case, the use of mobile phones while driving (Rose, 1999, p. 275). Victoria is an important site of exploration. The legal, social and political ramifications of the development and use of mobile phones in vehicles has been keenly felt, from the functions of early road safety fleets to recent road deaths and court hearings. Exploring the debates and controversies in such a grounded manner enables us to consider a specific set of practices and agencies which have fallen below the threshold of interest for most researchers of these technologies.

The road safety implications of mobile phone use while driving have received only passing mention in the academic literature. However, the practice offers a significant avenue through which to analyse the limitations placed on communications technologies. As suggested in Chapter Two, many of those writing about the mobile phone focus on its potentialities and affordances. Yet as this thesis shows, it is imperative to consider the technologies of government which restrict the choices of mobile users, as well as the role of self-regulation of people's use of technology. Fischer encapsulates this relationship between personal agency and constraining circumstances well:

> At either level of analysis, individual or structural, the centre of the process is the purposeful user employing, rejecting, or modifying technologies to his or her ends, but doing so within circumstances that may in some instances be so constraining as to leave little choice at all. (1992, p. 19)

The psychological and sociological literature around mobile phone use has tended to over-emphasise possibilities, choice, freedom and seamless use at the expense of exploring the ways in which the technology is regulated and controlled. Ling states that 'we are finding new and unexpected uses for…mobile telephones…we are making up the rules as we go along' (2004, p. 22). Most of the academic work has tended to focus on the *informal* rules and norms surrounding mobile phone use but, as this thesis shows, their operation in moving vehicles raises many questions and tensions which go beyond the typically ethnographic and descriptive content of this domain. Accordingly, this

analysis has assembled material from diverse fields of enquiry in offering a cross-disciplinary analysis of the regulation of phoning and driving.

In this way, I provide a fresh look at the uses of mobile phones and cars, as well as the regulation of these technologies. Motor telephony is altering much more than social mores and etiquettes. We see that laws and regulations (Chapters Four and Five), police enforcement procedures (Chapter Five), research programs, empirical data collection (Chapter Three) and road safety campaigns (Chapter Six) both affect, and are affected by, the practice. In turn, I have argued that it is important to consider the influence of governmental technologies and political rationales on the uses (and non-use) of both cars and mobile phones. Drawing on Haddon's terms, these influences 'shape "use" or may be considered to be a part of an expanded definition of "use"' (quoted in Goggin, 2006b, p. 38). Studies of this kind of detailed public policy analysis of emerging technologies are scarce, yet they offer a productive way forward when it comes to exploring the relationship between technological innovation and social and political practices.

This thesis has not canvassed all the policy debates or the entire network of actors who have invested in the negotiations regarding mobile use while driving. The driver distraction field is diverse and includes an array of institutions. While I have chosen to examine and frame the debates and controversies by looking at certain political and social contexts, there are other areas that warrant further analysis. There is a distinct lack of qualitative research in this domain, and more can be done in terms of understanding drivers' motivations for mobile phone use. Discussions about the impact of driver distraction are, in many respects, still in their infancy in terms of gathering robust empirical data to measure the effects on driver performance and road safety. This field of inquiry will mature in time. But this area of research is one part of a much broader system of decision making.

As I argue throughout this thesis, the ways in which empirical information is construed and drawn upon differ between various groups, organisations and jurisdictions, each of whom have particular interests. I suggest that the relationships between governments, road safety organisations and private industry need to be understood and critiqued. Social institutions, each with diverse interests, have (and will continue to) collaborate

on education or publicity campaigns addressing mobile phone use while driving, as well as the introduction of other regulatory options. In this context it is important to consider how these groups might reconcile their (at times competing) interests and rationales. Indeed, part of the reason that regulatory solutions have been somewhat ineffective is due to the mixed messages the public is receiving from groups who support institutional or social regulation in different ways.

It is clear that debates concerning regulatory options will continue. In early 2007 the United Kingdom increased fines and attached demerits points for mobile phone use while driving, senators in the United States persist in attempting to pass legislation addressing the practice, and calls for tougher penalties continue in Australia. This thesis aims to contribute to these ongoing debates in a constructive manner, highlighting some of the strengths and weaknesses of contemporary fields of analysis. Motor telephony shows there is a complex relationship between individual behaviour and choice, public policy decisions, social institutions and regulatory strategies for changing people's actions. A rich description of some of the important dimensions of this network of negotiation provides a framework for a more nuanced understanding of the political rationales and technologies of government involved in regulating mobile communications and vehicles.

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