

# Policing Road Risk: Enforcement, Technologies and Road Safety

PARLIAMENTARY ADVISORY COUNCIL FOR TRANSPORT SAFETY

dedicated to improving transport safety for the public benefit

SEPTEMBER 2005

# Executive Summary

Road traffic enforcement is an essential tool for preventing unnecessary road death and injury and deterring illegal and dangerous driving behaviour. In recent years, new methods and technologies have transformed the enforcement process. This research project aims to give an independent analysis of the changing role of the police service in the context of rapid and accelerating technological change and emerging operational developments. It provides a focus on roads policing, and seeks to identify where emphasis should be placed to maximise casualty reduction.

Roads policing is at a critical juncture. On one hand, there has been a long-term marginalisation of roads policing within the police as a whole. As policing changes to match changes within society and reconfigures its methods, priorities, discourses and strategies, roads policing has lost the prominence and position that it previously held. There are fewer dedicated roads policing officers; a smaller proportion of resources being dedicated towards roads policing; less priority at both national and local levels and a progressive shedding of roads policing tasks to other groups and agencies. On the other hand, there are also signs of a belated recognition of the essential role that roads policing plays in reducing road casualties, and of the ways in which road crime overlaps with other forms of criminality. Policing - and roads policing in particular - are adopting new approaches aimed at the more effective management of risk and better use of intelligence. Roads policing has also been transformed through the use of new tools and technologies that radically reconfigure the capabilities of individual police officers.

The collective implications of these changes have been far-reaching. This report posits that new enforcement technologies have assisted and accelerated movements in roads policing towards the policing and management of risk. This implies a move away from a focus on deviance and enforcing the law for its own sake. Instead, there is a move towards an 'intelligence-led' approach based upon developing knowledge and intelligence about risk, and applying interventions to minimise its impact. This intertwines with related trends including the increased importance of information management and communication in policing, the 'diffusion' of enforcement to include other agencies, the expansion of surveillance and the development of preventative and situational means of securing compliance with the law.

Within all of these developments technologies have played a key enabling role. They contribute to road safety and risk management through fulfilling a number of functions, including managing information, detecting illegal or dangerous driving behaviours, establishing impairment, and altering the in-car environment to increase compliance with road traffic law.

First, technologies help to manage information and transform information into intelligence. Computerised records of driver and vehicle licensing and insurance enable the creation of a system of entitlement to drive. Through recording information about drivers and vehicles, databases both allow other forms of automated enforcement to take place and enable police to target enforcement towards offenders that operate outside this system and present a particularly high level of risk. Research indicates that minor traffic offenders are both more likely to commit serious traffic offences and to be involved in other types of criminality. By focusing enforcement on these offenders, these technologies help to enable an intelligence-led approach to roads policing. Automatic Number-Plate Recognition (ANPR) is a particularly significant example of this strategy and is viewed by many to be among the most important new policing technologies. ANPR intercept teams have achieved significantly higher arrest rates than other types of police. They may also contribute to road safety by providing a visible police presence and enabling offences to be detected through observation as well as automated methods. Information management technologies are also used to collect and

analyse collision data in order to better understand patterns of road risk and to enable police resources to be better targeted.

Second, surveillance technologies enable a concentration on specific driving behaviours linked to risk, such as speeding and red-light running. This allows enforcement to be focused on these violations, but more importantly it enables the creation of an effective deterrent against these specific risky behaviours by making drivers aware that their behaviour is being monitored. Speed cameras are among the most prominent and significant of these new technologies and have been extraordinarily successful at reducing speed and casualties at camera sites. Red light cameras have also been successful in reducing red light violations. Some surveillance technologies including closed circuit television (CCTV) have enabled increased civil enforcement of traffic offences (e.g. box junction violations) by non-police bodies such as Local Authorities. Other surveillance technologies such as 'video cars' contribute to supporting mainstream roads policing. In future, camera technologies may also be able to detect and enforce a wider range of offences including seatbelt violations and close following.

Third, technologies contribute to evaluating aptitude to drive at a particular point in time – i.e. assessing impairment. They may focus on a particular cause of impairment, such as alcohol, drugs or fatigue, or they may assess impairment more generally through addressing aspects such as response times. These technologies make impairment laws more effective through quantifying and measuring levels of impairment. With alcohol this is well-established – alcohol levels are taken as a direct indicator of level of impairment, based upon research developed over a number of years. With drugs and fatigue, this relationship is less-well known, and so technologies may be less precise or less effective on their own – observational techniques and medical procedures are also currently used to determine impairment. Although breathalysers are well-established, there have been considerable improvements to the technology, and current barriers to effective use of alcohol testing may be legislative rather than technological. New techniques and technologies also assist in detecting impairment from drug use, although there remain difficulties in using these technologies in roads policing. In the longer term, technological developments may transform the way that drug, alcohol and impairment testing is approached. In each of these cases, impairment technologies work through a risk-management approach: they single out categories of drivers most likely to cause crashes – those who are impaired through alcohol, drugs or fatigue – and enable enforcement resources to be targeted accordingly.

Finally, technologies play a major role in changing the environment to limit risk and control opportunities for offending. Methods of ensuring compliance with road laws go far beyond police enforcement to include modification of the vehicle and road environment to prevent dangerous or illegal driving behaviour. Enforcement through this sort of technology does not depend on intervention by the criminal justice system and may therefore help make some roads policing tasks 'redundant'. Existing technologies for self-enforcement include 'self-enforcing roads', traffic calming, 'psychological traffic calming' and seatbelt reminders, among others. Future technologies may include Alcolocks, Intelligent Speed Adaptation (ISA), and in-car fatigue and impairment detection devices. These technologies have potential not only to significantly reduce casualties but also to alter the focus and scope of roads policing in the UK.

While new enforcement methods and technologies have contributed to major road safety gains, there remains considerable scope for making better use of new technologies and for improving the effectiveness of roads policing. This report has identified a number of areas where improvements could be achieved. It is essential to ensure that roads policing is

adequately resourced and supported at a national level, and a better understanding of the role of roads policing in road casualty reduction is needed. Driver and vehicle databases underpin road traffic enforcement, and steps towards improving access to and accuracy of existing sources of data need to be made. Surveillance technologies could become more effective through a reassessment of the guidelines that govern their use. Similarly, legislation prevents extensive use of impairment testing, and revision to breath testing rules as well as support for new and emerging impairment detection technologies would be welcome. Active support for the development of new in-vehicle compliance technologies is also needed. In all of these cases, these technologies will need to be supported with an enabling legislative framework including innovative funding mechanisms to assist their deployment. A strategic approach with a clear focus on road casualty reduction will be necessary.