

Road Safety Support Enforcement Strategy 'Raising the Game'

Road Safety Support Ltd

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Table of Contents

Road Safety Support (RSS)	3
Foreword	5
Overview	6
Enforcement – Introduction and History in the UK	7
Legislation	9
The Importance of Government and Stakeholder Support	10
West London Speed Camera Demonstration Project	12
National Safety Camera Programme 2000 to 2007	13
Road Safety Partnerships 2007 Onwards	14
Safety Camera Deployment Guidance	15
Publication of Information Related to Speed Cameras	17
The French Connection	18
Wide Area Enforcement	25
Cumbria Random Road Watch Case Study	26
Random Road Watch Explained (Safety Cameras)	28
The Layered Approach – Raising the Game	29
Enforcement Steps to Casualty Reduction	31
The Effect on Road Policing	32
Conclusion	33
Recommendations	34
References	35

Road Safety Support (RSS)

Road Safety Support (RSS) is unique in the world, in that it is the only company that offers the following services as part of a single integrated unit. It is a not-for-profit company that provides a range of specialist services to Police/Local and National government organisations in the UK and overseas that share a common commitment to road casualty reduction. RSS has already been retained by and is regularly assisting over 90% of Police Force, Local Authority and Safer Roads Partnerships etc. in England and Wales in the common goal to reduce road deaths and injuries. It supports a National and International communication network and provides opportunities for members to meet together at events throughout the year so that best practice can be shared.

It is fully recognised and appreciated that there are distinct variations between certain aspects of the various administration and prosecution processes within various countries as compared with those applied in England and Wales. Notwithstanding these, RSS has, for some years, been consulted about and provided invaluable assistance and guidance in connection with a wide range of legal, technical, enforcement and procedural matters for a variety of organisations from across the globe. RSS employ a team of leading specialists to provide support in all day-to-day casualty reduction activities in a number of areas, including:

Enforcement

- Advice on enforcement technology capabilities
- Assistance with the operation of technology
- Enforcement device testing
- Analysis of enforcement device evidence
- Advice on “back office” offence processing requirements
- Information on “back office” software capabilities and performance
- Guidance on outsourcing of “back office” functions
- Review of “back office” procedures.
- Calibration of speedometer devices
- Calibration of speedometers
- Evidential trails

Justice

- Swift advice on legal challenges
- Auditing of legal processes
- Assistance with the preparation of Prosecution cases
- Provision of expert reports with difficult Defence challenges
- Provision of expert court witnesses in legal challenges
- The support of, or prosecution of speeding and other motoring cases if required

Strategy

- Development of data-led enforcement strategies
- Enforcement technology deployment
- Assistance with the production of policies and guidance documents

- Support in the procurement of enforcement technology and services
- Support with data analysis techniques and software
- Guidance on data-led enforcement and communications campaigns
- Advice on effective working between data and communications teams
- Support in using data to develop effective road safety enforcement strategies
- Support in developing targeted communications strategies
- Advice in the creation of media and marketing campaigns
- Advice on promoting road safety activities
- Guidance on and assistance with media relations
- Access to a secure members' website containing a range of information and legal advice
- Support in implementing targeted communications strategies
- Support with road safety media relations and assistance with writing effective news releases

In July 2018, the company was awarded ISO 17025 accreditation, the single most important standard for calibration and testing laboratories around the world.

The facility has been approved by the United Kingdom Accreditation Service (UKAS) to test the accuracy of speed cameras and other devices, either at its dedicated testing track or on any road across the world. It is one of just a small number of accredited laboratories of its kind worldwide.

As a company we are incredibly proud to achieve this accreditation. It reflects the high standards, knowledge and professionalism of Road Safety Support and our team responsible for the testing and calibration process.

ISO 17025 specifies the competence and quality management system requirements for laboratories that provide testing or calibration services. It ensures that the enforcement technology in use on our roads is effective and reliable. It gives confidence that the validity of the results provided and the accuracy of the measurements undertaken can be relied upon and are traceable to national standards.

For a number of years Road Safety Support has been responsible for testing the reliability and accuracy of new road traffic enforcement technologies in the Type Approval process, on behalf of the Home Office. RSS add value to the calibration of devices by also checking the integrity of devices in an operational setting. We assist police forces, enforcement authorities and road safety organisations with evidential trails, providing a robust mechanism to ensure that the devices have been fitted according to a countries governmental rules and guidelines, this provides reassurance to the enforcement authority that they will not face any potential legal challenge, which could result in reparations, which could potentially include the repayment of fines and penalties issued incorrectly because of the incorrect installation.

For further information on our services, please visit www.roadsafetysupport.co.uk

Foreword

Road Safety Enforcement: Raising the Game

UK road deaths are no longer reducing in any meaningful way. After many years of successful initiatives to reduce the number of people killed and seriously injured, we have stagnated.

“There were 1,793 reported road deaths in 2017, similar to the level seen since 2012. There were 39% fewer fatalities in 2017 compared with 2007.”¹

Worldwide, this is not the case. Emerging economies are often facing increasing death tolls, but where there is a political will to do so, reductions can be delivered rapidly through better engineered roads, safer cars, driver training and often through attention to pedestrian issues and protecting two wheeled riders.

These are not obvious avenues for us. We have already delivered so many improvements in these areas. Many countries are embracing the concept of the self-explanatory ‘Vision Zero’ and looking at ideas around a ‘Safe Systems’ approach to further casualty reduction. We, too, need to fully embrace this.

Recognising that enforcement plays a key role in casualty reduction, we have re-considered our current enforcement picture for speeding offences. This crucial area of road safety is ripe for review and change. We believe that we are not making the most effective use of the assets available to Road Safety Partnerships and that we are clinging on to out-dated ideas that do not allow us to do more at a time when there are fewer alternatives available.

This report, therefore, offers ideas on how we can use safety camera technology in a more effective way. Change often requires courage and determination to achieve it. This report offers strong evidence to support a different speed enforcement strategy across the UK, which can help to deliver the casualty reductions we all seek.

This document, and the enforcement model contained within it, is the culmination of all the hard work and expertise of the Road Safety Support staff and specialists, including the learning that is afforded to us by our members. We would like to thank all of those who have poured over this document, peer-reviewed it and offered their feedback and advice.

Some special thanks go to:

Antonio Avenoso, Executive Director, European Transport Safety Council;
Dovile Adminaite-Fodor, Project Manager, European Transport Safety Council;
Teresa Ciano, Partnership Manager for GoSafe Wales, Wales Casualty Reduction Partnership, Chair of Road Safety Wales and Trustee PACTS;
Barry Smith, Partnership Manager for South Yorkshire Safety Cameras;
Jon Farr, Partnership Project Manager, Peninsula Road Safety Partnership.

¹ DFT: Reported Road Casualties in Great Britain: 2017 Annual Report

Overview

The equivalent of two passenger planes of people are dying on EU roads every two weeks.² This puts into context the issue that road safety professionals across Europe are facing. It further enhances the necessity for casualty reduction efforts and road safety to continue to be a priority for both national and local government.

Traditional methods of roads' policing have changed over recent years. No longer are most police forces fortunate enough to have the capacity to deploy patrol cars on every major route or highway. To supplement and enhance the efforts of roads' policing units, forces turned to technology and the safety camera programme was born.

Whilst the safety camera programme has had a significant effect on the reduction of road casualties within the UK and other countries (e.g. France) the road safety community is now finding it harder to achieve further reductions in the numbers of people being killed and seriously injured. In essence, the strategy has stagnated.

Generally - with only a few exceptions - the UK has continued to use the same enforcement strategy since the introduction of the programme in 2001, initially using fixed 'Speed and Red-Light' cameras, and latterly, mobile cameras. The current strategy appears only to maintain the reductions achieved during the first years of the programme.

We in Road Safety Support (RSS) believe the road safety community needs to 'raise the game' and revise the enforcement strategies to have any significant effect on casualty reduction. Across the Channel, France continues to review its road safety legislation and enforcement strategies, introducing new and innovative methods of speed enforcement designed to increase general deterrence. Already they are starting to reap the benefits.

The evidence gained over many years demonstrates that speed cameras are extremely effective at reducing road casualties, especially those of a higher severity. The time has come to develop robust enforcement strategies that enhance not only casualty reduction, but can also link into crime and community safety strategies – denying criminals the use of the roads as well as detecting those who are intent on trying to harm our communities through terrorism.

Safety cameras need, therefore, to be used in a more effective way, one that intensifies their deterrent effect on drivers over a wider area. For too long we have restricted their use to areas known as 'collision cluster sites'. These sites either no longer exist or are difficult to find using the existing criteria. The reason for this is due to the original success of the system. Safety cameras are now a known deterrent to offending drivers. By enhancing the strategy and making them effective over a wider area, the evidence from elsewhere suggests the road safety community will be able to provide a further step change in casualty reduction.

² Avenoso, A, (2019) 'Two passenger planes crash, killing everyone on board – This is how many people die on EU roads every week' ETSC available at <https://etsc.eu/two-passenger-planes-crash-killing-everyone-on-board-this-is-how-many-people-die-on-eu-roads-every-week/> accessed 08/04/2019

This document is primarily aimed at senior managers who are responsible for strategic planning within a Road Safety Partnership or roads' policing setting. That said, this document should form a core understanding for those working within roads' policing / traffic / collision investigation departments, Road Safety Partnerships and local authority settings, on how safety cameras started, and became, a fundamental addition to the road safety toolkit on both the strategic road network and local roads.

Enforcement – Introduction and History in the UK

“In an ideal world, there would hardly be a need for enforcement. However, it is obvious from the extent to which vehicles are travelling at excessive speed in all member countries, such a world does not exist. Enforcement is, therefore, an important and necessary measure for speed management purposes.”³

A report by the World Health Organization (WHO), suggests that excessive or inappropriate speed contributes to one in every three road traffic fatalities worldwide.⁴ It truly is a global pandemic.

Speed enforcement is universally recognised as an essential component of speed management. Driver education alone cannot deliver compliance, and excess speed is recognised as one of the most significant factors in fatal collisions. Without effective enforcement there can be no progress towards safer roads. Despite the technological advances in drivers' aids, (e.g. adaptive cruise control), it continues to be necessary as an essential activity which has a major impact on safety outcomes.

“The basis of traffic law enforcement is legislation and the aim is to achieve compliance with this legislation. Whether drivers comply with traffic rules depends on the advantages and disadvantages of doing so and their relative value.”⁵ In many cases, sound legislation is sufficient to make them comply. For those who will not comply, police enforcement is the only response.

Philosophically, regulation and enforcement are reliant on the concept that those subject to the regime will amend their behaviour to avoid sanction. For this to be effective, actual enforcement must take place. This leads to an objective risk of detection. This objective dread of detection – evident in all crime enforcement – also leads to a non-evidence based subjective dread of detection, i.e. the risk people believe there is. This subjective dread of detection can be increased by specific enforcement strategies and by publicity campaigns, and attention to enforcement activities in the media. Without actual enforcement, however, the subjective perception rapidly dwindles. There is no substitute for reality.

³ Organisation for Economic Co-Operation and Development (OECD) (2006) 'Speed Management' OECD Publications

⁴ World Health Organisation (WHO) (2017) 'Managing Speed', World Health Organisation

⁵ Organisation for Economic Co-Operation and Development (OECD) (2006) 'Speed Management' OECD Publications

This leads to the second requirement – effective sanctions on those apprehended. Criminal research shows that higher penalties are no substitute for effective detection of crime, but inadequate penalties, or no sanction, prevent effective detection from altering behaviours. Applying this to speed enforcement, we see that increasing the perceived level of detection, coupled with retaining effective penalties, offers the best way to maximise the results of enforcement and give the best effect on fatality levels.

So, we are not calling for increased sanctions, merely deriving the maximum benefit from current enforcement levels and current sanctions. There is no need to change enforcement thresholds or to talk of zero tolerance. What is needed is to drive greater results from existing parameters, existing enforcement resources and existing penalties.

The greatest effect on driver behaviour is that caused by increasing general deterrence. A robust and random enforcement strategy increases the perceived perception of enforcement levels to the driver, thereby increasing the subjective risk of apprehension and the likelihood of being detected. Like them or loathe them, safety cameras are proven to increase compliance.

Enforcement, detection and the resultant speed management, is therefore, widely recognised as one of the key pillars of safer roads and is specifically included in both the ‘Vision Zero’ and the ‘UN Decade of Action’ initiatives to reduce fatalities worldwide.

Indeed, many organisations and countries across the globe are embracing the ‘Safe System’ approach, also known as ‘Sustainable Safety’.

Road Safety Support firmly believes in supporting all types of road safety, because, in order to make our road transport systems ultimately safe, we need safer vehicles, safer people, safer roads and safer speeds. The ‘Safe System’ is being used increasingly to help shape and articulate powerful and co-ordinated strategies for road safety. Enforcement, and the integration of speed management to reduce casualties, forms part of the ‘Safe System’ methodology and creates a vital link between the enforcement authorities and the agencies who are responsible for the highways. For it to be successful, true partnership working between various stakeholders needs to work in tandem.

At its core the safe system has three basic principles:

1. human life and health are paramount;
2. humans make mistakes;
3. humans are fragile.

We also have the issue of speed limits and whether these need to be reviewed. The Road Safety Management Capacity review states, “The lack of alignment with Safe System is evident particularly on the single carriageway rural network where 60 mph is the national speed limit for road use by low and highspeed vehicles, motorised and non-motorised vehicles, farm and leisure traffic. Here, inappropriate speed by users within the posted speed limit is typically cited as a regular contributory

factor in road crashes, rather than inappropriate road design and speed limit, which does not encourage appropriate speed.”⁶

Nobody said this would be easy. Road death is without doubt one of the most pressing public health challenges we face. The cost to family, friends and society is great.

Legislation

Automated, and other digital speed enforcement requires robust road safety legislation to support it. Legislation makes our road network a safer place to travel as it provides rules for road users to comply with. There will always be those who disobey those rules either through a lack of judgement at the time or by deliberate action.

The use of automated speed enforcement on UK roads required changes to the Road Traffic Regulation Act so that speedometer devices could be used on the road network for enforcement purposes. Legislation under Section 89 of the Road Traffic Regulation Act 1984, as amended, stated that it is an offence to exceed the speed limit.

Under the chairmanship of Dr Peter North, the Road Traffic Law Review started in 1985 and the final report was published in 1988.⁷

The “North Report” recommended that greater use should be made of technological innovations to promote compliance with road traffic law, including modern camera technology.⁸

The necessary legal framework to support that recommendation was put in place by Sections 23 and 40 of the Road Traffic Act 1991. The former substituted a new Section 20 into the Road Traffic Offenders’ Act 1988, allowing evidence collected by automated speed cameras to be used in proceedings for a speeding or red-light offence. The latter inserted Section 95A into the Highways Act 1980 to give Highway Authorities the power to install and maintain, on or near the highway, structures and equipment for the detection of traffic offences. Taken together, the legislation provided for:

- local authority powers to install and maintain roadside camera equipment;
- police powers to require information about the identity of a driver that became known as section 172 of the Road Traffic Act;⁹
- provision for evidence generated by speed and traffic light cameras to serve as the sole evidence against an offender (without corroborative evidence from

⁶ Breen, J., McMahon, K., Robertson, E., Stephenson, C. (2018) ‘Road Safety Management Capacity Review’ Department for Transport

⁷ Butcher, L. (2013) ‘Roads: Speed Cameras’ House of Commons Library Note SN350 accessed 08/05/2019

⁸ ibid.

⁹ ibid.

police officers) ***providing that the technology used was type approved by the Home Secretary;***

- the conditional offer of a fixed penalty which could be sent through the post, thus allowing increased volumes of recorded offences to be dealt with.

These changes provided the means that allowed the technology to be used on the roads.

In the United Kingdom the registered keeper of the vehicle is identified as the owner of the vehicle, but they may not be the driver of the vehicle at the time of an offence. A further amendment to the Act, Section 172, was added because many registered keepers of vehicles issued with Notice of Intended Prosecutions (NIP) failed or refused to nominate the driver of the vehicle at the time of the offence. Section 172 made it a duty to provide information as to the identity of the driver in certain circumstances. The penalty for not providing that information is higher than that of a speeding offence.

The Importance of Government and Stakeholder Support

“Without a strong, sustained public commitment to robust enforcement of speed limits on the network by government, senior police officers and managers, speed management programmes are unlikely to be effective.”¹⁰

A lack of knowledge of the enforcement system - how it works and its overall aims – is detrimental to the overall casualty reduction system. An absence of senior leadership support can have a significant effect on the reductions that could be obtained if a robust strategy, efficient processes and full organisational support are forthcoming. Staff at all levels need to understand that road collisions, while having awful and unconceivable consequences for the individual victims, also have wider social and financial implications for the local community. The Department for Transport (DfT) estimates that the economic cost of a fatal road collision is currently £2.06 million (DfT Reported Road Casualties in Great Britain: 2015 Annual Report).¹¹

Road Safety Support understands the difficulties that face Road Safety Partnerships, local authorities and police forces. As everyone is aware, in the current economic climate, significant cuts have been made to public funding. Every area is vulnerable and there are competing demands within organisations, as well as between them. Cost reduction measures often have knock-on effects in other bodies, and every service is now experiencing difficulty in delivering effective public services at a local, regional and national level. Road Safety bodies are no exception and are facing tough challenges to deliver what is essentially a statutory obligation, often with many conflicting demands on the resources. Delivering exceptional value and ensuring economies of scale is therefore vital.

¹⁰ U.S. Department of Transportation National Highway Traffic Safety Administration, (2008) ‘Speed Enforcement Program Guidelines’ U.S. Department of Transportation National Highway Traffic Safety Administration.

¹¹ Department of Transport (DfT), (2016) ‘2015 Reported road casualties Great Britain: 2015, annual report’, Road Safety Statistics, Department for Transport

“Her Majesty’s Chief Inspector of Constabulary reports that the police workforce has been reduced by 18% from 243,900 officers in 2010 to 200,600 in 2016. However, the reduction in traffic officer numbers has been particularly sharp, doubling that percentage cut. The National Police Chiefs’ Council reports that since 2010, traffic officer numbers have reduced by around 36% from 5,500 to 3,500. Policing levels have declined due to budget cuts, local decision-making and increasing use of automation. Currently, there is no separate traffic police function in some police forces although many forces have retained a discrete traffic policing role.”¹²

Working with decision makers at the highest levels, we need to ensure that road safety remains a high priority on the political agenda. Active road safety enforcement can promote economic activities and can contribute to crime reduction through denying criminals the use of the road. Additionally, in a world where the threat of terrorism is severe, the road network is the one place that we can look and seek out those who may want to disrupt our way of life. A holistic view of these policing priorities can, therefore, be beneficial and should continue to be incorporated into any road enforcement strategy.

Internal strategy documents often act as ‘internal marketing’ to senior managers, politicians and ultimately members of the public in garnering support. Stakeholder support is imperative to the introduction of enforcement strategies that are known to reduce road deaths and serious injuries.

Stakeholders can be divided into the following groups:

- Key Influencers: Chief Officers, Councillors (district and community), Government, Local Authorities, Devolved Governments (NI, Scotland, Wales) NHS, Police (including Chief Constables, Police Area Commanders, Designated Area Inspectors / Sergeants, Designated PCSOs, BikeSafe Instructors), Local Institute of Advanced Motorists’ Groups, Driving Instructors, Motorcycle Action Group, RoadPeace, Brake, Parliamentary Advisory Council for Transport Safety;
- Offenders: those that have offended, work to change driving behaviour and attitudes;
- General Public: working with all members of the community to encourage compliance with road traffic laws including speed limits, seatbelt wearing and mobile phone use etc. while driving;
- Community (pro-active supporters): those members of the community who have actively raised issues of speeding at sites of community concern, or have taken positive steps to establish community speed watch groups themselves;
- Media: working with those who can have direct influence on target groups and who can sway public opinion and include regional / local media and freelance journalists.

Collaborative working between key partners is vital and this will become even more important if we are to ensure that, together, we keep the numbers of people being killed or seriously injured moving in the right direction.

¹²Breen, J., McMahon, K., Robertson, E., Salter, E., Stephenson, C., Thomas, P, (2018) ‘Road Safety Management Capacity Review’, Department for Transport.

West London Speed Camera Demonstration Project

Automatic speed enforcement cameras were first introduced into the UK in 1992 in what became known as the *West London Speed Camera Demonstration Project*.¹³ Other countries had followed a similar path to that of the UK with regard to speed camera operations, with earlier lessons of implementation providing guidance on setting up the project.¹⁴

The project became operational on 15 October 1992. The presence of enforcement cameras on trunk roads was signposted throughout the area. A before-and-after study analysed changes during the 36-month period of collisions on non-trunk roads in the boroughs involved in the project.

Here is a summary of that report.

- Fatal accidents showed an overall reduction from 62 in the before period to 19, a decrease of 69.4%. When tested relative to control, a highly significant reduction of 55.7% is indicated to have been attributable directly to the cameras. All routes in the study area showed reductions in fatal accidents.
- Slight accidents showed an overall reduction of 7.9%. However, tests relative to control data indicate that what would otherwise have been a small increase in slight injury accidents, was turned into a highly significant reduction of 8.1% as a result of introducing the cameras.
- Overall, the results show that while the introduction of cameras resulted in significant reductions in total accidents, they are seen to have been most effective in reducing the specifically targeted higher severity collisions.
- Collisions which had been assigned as contributory factors (224 & 225) '*Going too fast with regard to the road environment or other road users*' (Page 16), showed an overall reduction of 64.7%. When tested relative to control, a highly significant reduction of 58.7% is indicated to have been attributable directly to the cameras.
- Accidents with Contributory Factor (204) '*Disobeyed automatic traffic signals*' (Page 19), showed an overall decrease across the study area of 29.5%. When tested relative to control, a decrease of 16.0% was identified as being attributable to the cameras, but this was not statistically significant.

¹³ London Accident Analysis Unit Environment and Transport Studies, Department London Research Centre (1997) 'West London Speed Camera Demonstration Project', Department for Transport (DfT) or can be accessed through <http://webarchive.nationalarchives.gov.uk/20090104005813/http://www.dft.gov.uk/pdf/pgr/roadsafety/speedmanagement/nscp/nscp/westlondonspeedcamerademonst4601>

¹⁴ Delaney, A., Ward, H. and Cameron M., (2005) 'The History and Development of Speed Camera Use', MONASH University, Accident Research Agency.

- A highly significant increase relative to control data was found in collisions having Contributory Factor (216) *'Driving too close to the vehicle in front'* (Page 21). A further study showed that such collisions formed a higher proportion of all collisions in the study area, as has occurred to a lesser extent throughout the rest of London, and that they did not negate the overall benefit of the Demonstration Project.
- Single vehicle, non-pedestrian accidents, which are often indicative of loss of control of the vehicle, showed an overall reduction of 29.1%. When tested relative to the control data, a highly significant decrease of 30.3% across the study area was also identified.
- There were commensurate reductions in casualties within the study area following introduction of the cameras, with an overall reduction of 12.2% in total casualties, but with fatal and seriously injured casualty totals combined reducing by 30.1%.
- Vulnerable road users were indicated, with overall decreases in casualties of 40.6% for pedestrians, 12.8% for pedal cyclists, and 19.9% for powered two-wheeler riders.
- Car occupant casualties, who form by far the largest casualty group, showed an overall reduction of 10.9%.
- The second part of the study did not identify any evidence of accident transfer to non-trunk roads because of the introduction of speed cameras on trunk roads in the West London Demonstration Project area.

The demonstration provided evidence that speed cameras were an effective tool at reducing road casualties, especially those of a high severity.

National Safety Camera Programme 2000 to 2007

The study from the previous safety camera pilot, the 'West London Demonstration', provided the evidence that speed cameras worked.¹⁵

In 2000, a system was introduced that allowed eight pilot areas to recover the costs of operating speed and red-light cameras (safety cameras) from fines resulting from enforcement. In 2001, legislation was introduced that allowed the system to be extended to other areas. A national programme was then gradually introduced across most police force areas.

In Feb 2003, the Department for Transport (DfT) published a report, 'A cost recovery system for speed and red-light cameras two-year pilot evaluation', that analysed the effectiveness of the system in twenty-four areas over the first two years.¹⁶

¹⁵ London Accident Analysis Unit Environment and Transport Studies, Department London Research Centre (1997) 'West London Speed Camera Demonstration Project', Department for Transport (DfT)

¹⁶ Department of Transport (2003), 'A Cost Recovery System for Speed and Red-Light Cameras - Two-Year Pilot Evaluation' Road Safety Division, Department for Transport.

This report was later updated to include the analysis of all thirty-eight areas that were operating within the programme over the four-year period from April 2000 to March 2004.¹⁷ Only areas operating within the programme for at least a year were included in the analysis.

High level results were as follows:

- Vehicle speeds were down. Surveys showed that vehicle speeds at speed camera sites had dropped by around 6% following the introduction of cameras. At new sites, there was a 31% reduction in vehicles breaking the speed limit. At fixed sites, there was a 70% reduction and at mobile sites there was a 18% reduction. Overall, the proportion of vehicles speeding excessively (i.e. 15 mph more than the speed limit) fell by 91% at fixed camera sites and by 36% at mobile camera sites.
- Both casualties and deaths were down. After allowing for the long-term trend, but without allowing for selection effects, there was a 22% reduction in personal injury collisions (PICs) at sites after cameras were introduced. Overall, 42% fewer people were killed or seriously injured. At camera sites, there was also a reduction of over 100 fatalities per annum (32% fewer). There were 1,745 fewer people killed or seriously injured and 4,230 fewer personal injury collisions per annum in 2004.

Road Safety Partnerships 2007 Onwards

The Safety Camera Programme ran from 1999 to 2007, initially as an eight-force pilot to test the criteria and funding arrangements known as hypothecation and subsequently in 38 areas. The funding arrangement allowed fine costs to be paid back to the local police force or Highway Authority on offences detected at those enforcement sites that met the criteria of the programme.

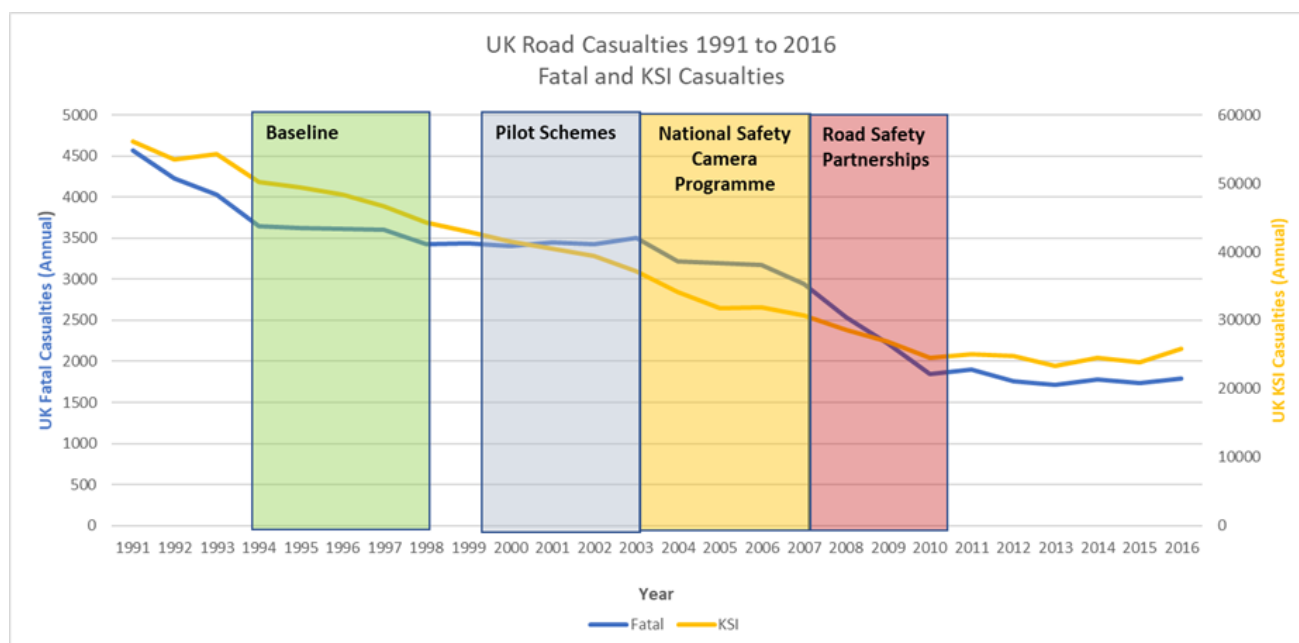
The Safety Camera Programme ended in 2007. Police forces and Road Safety Partnerships lost funding through hypothecation of the fine which was replaced by a formula-based, fixed grant. This formula was calculated dependent on previous funding and the number of killed and seriously injured casualties within the police force area. The fixed grant then ended in 2010. Funding was no longer ring-fenced, resulting in an almost catastrophic end to Road Safety Partnerships and casualty reduction activities in the UK. As predicted by road safety campaigners and RSS, road safety funding was cut by more than £34 million nationally in 2010.

An alternate source of limited funding became available through an educational diversion to prosecution for low end offenders known as the National Driver Offender Retraining Scheme (NDORS). It is a scheme unique to the UK, where a motorist who has been caught committing a low-level traffic offence (e.g. speeding only a few miles per hour over the speed limit), can be offered the opportunity to attend a course focusing on re-education to achieve greater compliance with the Road

¹⁷Department of Transport (2005) 'The National Safety Camera Programme: Four-Year Evaluation Report', Department for Transport

Traffic legislation. This scheme also served to provide a mechanism for Road Safety Partnerships to continue, albeit with a much smaller funding solution, solely based on cost recovery. Originally the scheme started with a speed awareness course and now offers a total of seven courses covering various low-level motoring offences. An independent evaluation of the scheme in May 2018 found that participating in a Speed Awareness course was more “effective at reducing speed re-offending than a Fixed Penalty Notice (comprising a fine and penalty points) over a period of 3 years.”¹⁸

The effects on casualty reduction utilising the Safety Camera Programme model, followed by the Road Safety Partnerships, can be seen in the chart ‘UK Road Casualties 1991 to 2016’. This showed that a co-ordinated partnership approach, utilising data analysis, enforcement and communications, was a very effective tool for reducing road casualties, with significant reductions seen especially of those of a higher severity.



Safety Camera Deployment Guidance

Guidance on the use of speed camera technology was first introduced in 1992 in the issue of a DfT publication, ‘Roads Circular 1/92: Use of Technology for Traffic Enforcement: Guidance on Deployment’.¹⁹ The guidance provided the first information on how speed cameras were best placed to reduce casualties. It was later updated in a consolidated copy of the ‘Handbook of Rules and Guidance for the National Safety Camera Programme for England and Wales

¹⁸ Barrett, G. & The Institute for Transport Studies, University of Leeds (2018) ‘Impact Evaluation of the National Speed Awareness Course’. Ipsos MORI Social Research Institute

¹⁹ Department for Transport (1992) *Roads Circular 1/92: Use of Technology for Traffic Enforcement: Guidance on Deployment* Department for Transport

for 2005/06'.²⁰ It was last updated in January 2006. In 2007, when national governance of the programme ended, the guidance was revised and summarised in the 'DfT Circular 1/2007: Use of Speed and Red-light cameras for traffic enforcement: Guidance on deployment, visibility and signing'.

21

National guidance in the use of enforcement technology between 2000-2007 provided a nationwide strategy to police forces and partnerships on how to deploy speed camera enforcement assets. This was achieved by concentrating deployment on locations where there was seen to be a high incidence of collisions, especially collisions of a higher severity. This would encourage partnerships to deploy safety cameras to the best effect to reduce road casualties.

That strategy was very effective and became known as the Red, Amber, Green (RAG) enforcement strategy. As expected, generally throughout the UK, casualties reduced where fixed speed cameras had been installed and mobile enforcement cameras had been deployed. The guidance provided a standardised approach that could be monitored and evaluated across the UK. It applied, usually, only to new sites introduced after the guidance was first distributed. It did not apply retrospectively, although Road Safety Partnerships were required to review regularly the need for each camera site.

Separate handbooks covered England and Wales, Scotland and Northern Ireland. The guidance represented good practice, which Road Safety Partnerships were expected to consider, but it was not mandatory.

The aim of the guidance was to specify the situations when areas should install cameras, how to select sites, monitor and evaluate them. Following the end of the National Safety Camera Programme in 2007, the handbooks and other guidance were superseded by the above mentioned DfT Circular 01/2007, which took effect from 1 April 2007.²²

To be clear, in terms of enforcement the guidance had no bearing on the enforcement of offences. Non-compliance with the guidance did not provide any mitigation of, or defence for, an alleged

offence committed under current UK law. This served to identify conditions for which operational costs could be applied for.

Specifically, the introduction states:

“This circular provides guidance and best practice advice on the deployment of speed and red-light cameras after 1 April 2007. The guidance does not restrict or fetter the police’s discretion to enforce covertly anywhere, at any time.”

²⁰ Department of Transport (DfT) (2006), 'Handbook of Rules and Guidance for the National Safety Camera Programme for England and Wales for 2005/06', Department for Transport

²¹ Department of Transport (DfT) (2007), 'Use of Speed and Red-light Cameras for Traffic Enforcement Guidance of Deployment, Visibility and signing'. DfT Circular 01/2007, The Stationary Office

²² Ibid.

The RAG enforcement strategy has been in existence for 27 years since the first guidance was published in 1992. It provided a means to identify quickly 'collision cluster sites' that were known for a high number of collisions and then prioritise them, based on the severity of the casualties involved at the different locations. Treatment was either through mobile or the more expensive fixed, automated and average speed cameras, dependent on the number of casualties at the site.

Site treatment through enforcement generally resulted in a reduction in collisions at that site based on a three-year, before-and-after criteria, and monitored thereafter. The National Safety Camera programme, and the processes involved, identified those areas of most concern and resulted in the 42% reduction of Killed and Seriously Injured (KSI) casualties on the sites selected by 2010.

As time moves forward, identifying further sites, using the same criteria, becomes much harder to achieve. Its suitability for inclusion in present day enforcement strategies, therefore, needs to be questioned. There is no doubt, however, that this strategy achieved results and contributed for many years to casualty reduction efforts in the UK. It also provided hard evidence that speed cameras were an effective tool at reducing road casualties.

The reduction of road casualties, through enforcement at identified cluster sites diluted the national picture, with casualties becoming spread out over the wider area. The percentage of vulnerable road-user casualties, pedestrians and cyclists started to increase. This was because high-severity cluster sites had been treated and casualties reduced, thereby making those vulnerable road-user percentages higher in comparison.

Further casualty reduction gains utilising enforcement can only be achieved by looking at enforcement over the wider area and should no longer solely focus on concentrated sites with criteria that are no longer fit for purpose.

Publication of Information Related to Speed Cameras

In 2010, to achieve further acceptance and transparency from the public regarding speed camera operation, the DfT set up a working group to consider what site information could be published.²³ What was clear at that time, was that a few police forces were adopting different enforcement strategies from the RAG system that was operated generally. Publishing site data would be detrimental to those strategies; therefore, publication of mobile camera sites was not required. Police forces generally publish offence and casualty information on their fixed assets on an annual basis.

²³ Association of Chief Police Officers (ACPO) (April 2011) 'Report of a Working Group about the Publication of Information Related to Speed Cameras' Government Publishing Service available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/4359/working-group-speed-camera-report.pdf
Accessed 08/04/2019

The French Connection

The French Speed Camera Programme represented one of the most important and effective innovations in that country's road safety policy over the decade. An estimated 16,000 fatalities were avoided due to the Speed Camera Policy (SCP) between 2003 and 2010, as well as more than 62,000 light and severe injuries.²⁴

Speed enforcement in France is similar to that in the UK, except that, in the UK the driver of the vehicle at the time of the offence is liable. In France, it is the owner of the vehicle that is liable if the name of the driver at the time of the offence is not forthcoming. The UK system is more expensive to administer as the driver of the vehicle needs to be identified. Early problems with owners failing to do this led the UK Government, in September 2007, to increase the penalty in the Road Traffic Act of 'Duty to give information as to identity of driver' up to £1000 and six penalty points.²⁵ In France, the owner is liable for the penalty even if the driver cannot be identified, making the administration process easier.

"Before the implementation of the Automatic Speed Enforcement Programme (ASEP), France's traffic fatality rate was higher than that of several OECD (Organisation for Economic Co-operation and Development) countries. In 2000, France's traffic fatality rate was 136 per head 100,000 of population. Speed limit violations were a major concern for the authorities. Over 60% of all recorded speeds exceeded the prescribed speed limits: 40% by more than 10 km/h, 5% by more than 30 km/h. Part of the problem was the lack of effective enforcement."²⁶

President Chirac announced, on the 14th July 2002, that traffic safety was among the top priorities of his next five-year term. A few weeks later, three distinct traffic safety measures were announced:

- implementation of the ASEP;
- increased severity of penalties for traffic violations;
- creation of new traffic offences.

In the period between Chirac's announcement and the effective introduction of the ASEP, print and visual media provided wide and positive coverage of the new policy.

"The first photo radar devices were installed in November 2003, after a trial period between March and November 2003. Since then, roughly 500 radar devices have been installed each year. By 2010, more than 2,756 speed cameras — 1,823 fixed devices and 933 mobile ones — were operating throughout the public road and highway network. Warning signs alert drivers to the presence of fixed

²⁴ Carnis, L., (2008) 'The French Automated Speed Enforcement Programme: A Deterrent System at Work', Australasian Road Safety Research, Policing and Education Conference, Adelaide

²⁵ Sentencing Council, 'Offences for which penalty notices are available' available on <https://www.sentencingcouncil.org.uk/explanatory-material/magistrates-court/item/out-of-court-disposals/7-offences-for-which-penalty-notices-are-available/> accessed 08/04/2019

²⁶ Carnis, L. and Blais, E (2013), 'An Assessment of the Safety Effects of the French Speed Camera Program', Accident Analysis and Prevention 51 (2013) 301-309, Elsevier

photo radar devices but not to mobile ones and controls are conducted in unmarked police vehicles.”

²⁷ Warning signs were later removed to increase the subjected risk of apprehension.

“Fixed devices are generally installed close to ‘black spots’, or near to areas experiencing high levels of speed limit violations whereas location of the mobile radar devices used in various speed enforcement contexts will depend on police officers’ knowledge and strategy.

The ASEP can be considered as a combination of general and specific deterrence, since fixed photo radar devices should dissuade potential offenders from speeding whereas mobile devices should deter those who are caught and penalized. The expected effectiveness of the ASEP rests on three basic principles of deterrence theory.

The first invokes the certainty of punishment, which is the probability of being detected and sentenced for a speed limit violation. Building a credible ASEP means gridding the road network with enough speed cameras to yield a high probability of detection and punishment.

The second principle is one of swift punishment. The fine is sent to the car owner in less than 8 days following the detection of the offense and demerit points are then added to the driver’s record.

The third principle concerns the severity of punishment. Accordingly, the amount of fine and the demerit points added are proportional to the speed excess.”²⁸

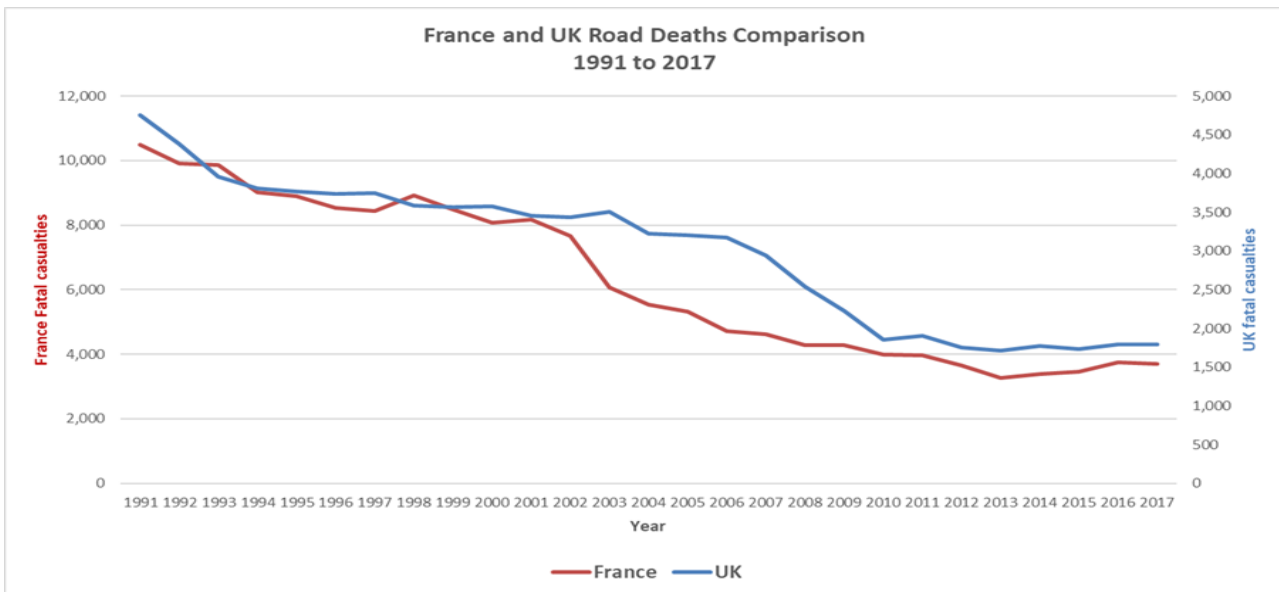
The introduction of a speed camera system saw similar declines in road deaths to that seen in the UK as shown in the chart below, ‘France and UK road deaths comparison 1991 to 2017’. The chart shows that the most dramatic decline in road deaths in France was that seen in the first year of operation. Much of this was due to the 14th July presidential announcement by the incumbent president, Jacques Chirac, as mentioned previously. It is calculated that this announcement contributed a 12.1% reduction in fatal casualties in that year alone, prior to cameras being installed, and highlights the benefits of effective communication and political leadership in support of enforcement.²⁹

In 2010, it is interesting to note that both the UK and France started to flatline, as highlighted in the chart.

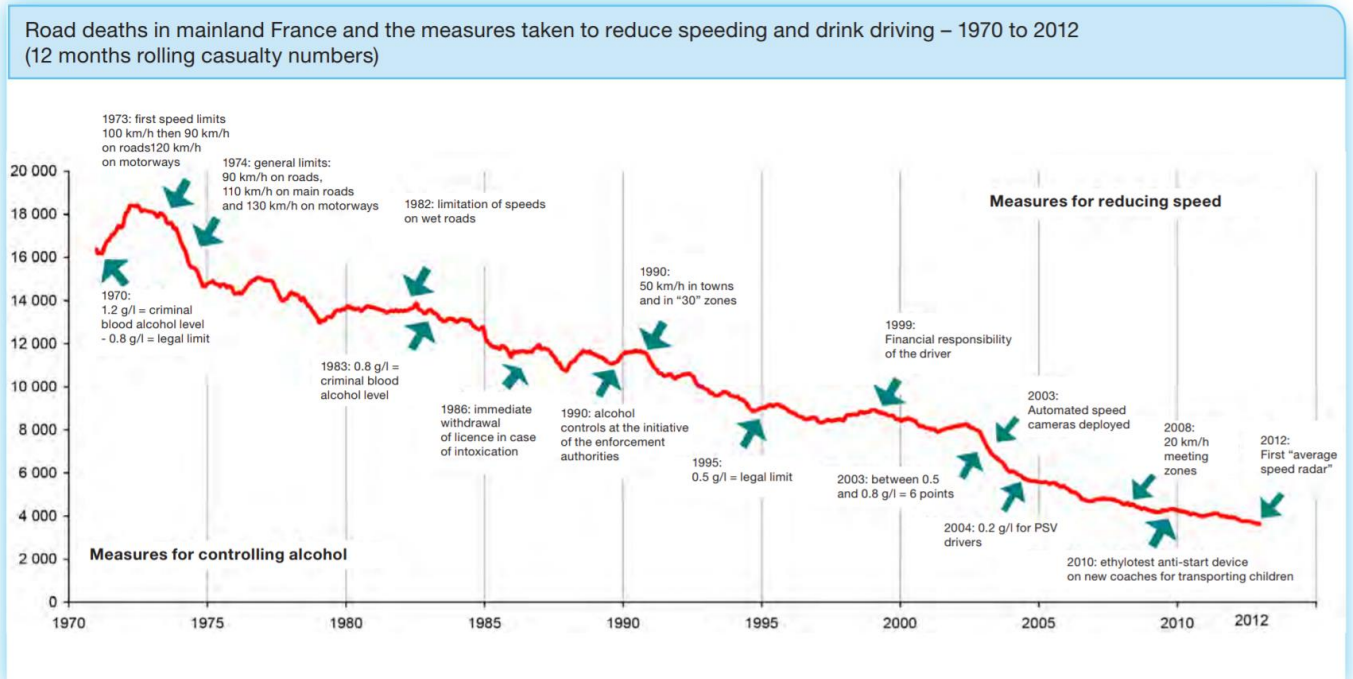
²⁷ Ibid.

²⁸ Ibid.

²⁹ Insurance Institute for Highway Safety Highway Loss Data Institute (IIHSHLDI) (2013), ‘Speed Camera Enforcement Cuts Fatality Rate 10 Percent in France’ Status report, Vol 48, No 6, available at <https://www.iihs.org/iihs/sr/statusreport/article/48/6/4> accessed 08/04/2019



France has always been proactive in road safety and to some extent has been ahead of the UK, introducing legislation around seatbelt wearing in cars and helmets for motorcyclists back in the 1970's. A long-term strategy was developed, which saw decreases in KSIs from the 1970s onwards. France has introduced step changes at various stages, which have aided in their casualty reduction efforts, with one of the most dramatic decreases resulting from the introduction of automated speed enforcement as demonstrated in the graph below.³⁰



³⁰ Salathé, M., (2012) 'Road Safety in France: 2012 Annual Report' French Road Safety Observatory (ONISR)

Like most of the EU, France has seen a gradual increase in road deaths since 2013. However, in recent years, France has increased the deterrence effect of enforcement. It has achieved this by introducing tighter legislation and more enforcement technology. By increasing the general deterrence effect through the introduction of covert in-car mobile enforcement vehicles and average speed technology, greater deterrence is provided over the wider area.

In 2017, France reduced road deaths by just 0.8% compared to 2016. However, a more significant breakthrough came in 2018 with a 4.9% reduction compared to 2017. 3,259 people are estimated to have died on French mainland roads in 2018, representing 189 people fewer than in 2017.³¹ Whilst the authors of this report believe that the introduction of covert cameras had a huge influence on this reduction, we accept that it was one of many measures that contributed to the overall success of the strategy. Alongside the introduction of covert speed cameras France also reduced the speed limit on rural single carriageways from 90 km/h to 80 km/h; the measure became effective on 1 July 2018. The reduction of the speed limit on rural roads, combined with speed enforcement, had a significant contribution to make to improve French figures in 2018. The recent 2019 ETSC PIN report states, “In the last four years France has struggled to reduce the number of road deaths. As a response to the lack of road safety progress, the French government had announced a series of new measures, including lowering the standard speed limit from 90 km/h to 80 on two-lane rural roads with no separating guard rail. The measure became effective on 1 July 2018. 63% of all road deaths occur on the country’s rural roads. The government estimates that the lower speed limit could prevent 350 to 400 deaths a year if substantially complied with.”³²

“A sound evaluation of the effectiveness of the lower speed limit will require several years of data, and will be done in two years-time. However, a preliminary study by the French Research Institute

Cerema and the French Road Safety Observatory shows that the measure has already started to bring positive results.”³³ “Based on provisional data, 116 fewer road deaths occurred on rural roads limited to the new 80 km/h speed limit compared to the 2013-2017 average on the same roads for months July to December. The same comparison for the rest of the French road network shows an improvement of only 11 deaths, which is not a significant change.”³⁴

Whilst covert cameras are not routinely used in the UK at the time of writing, it is the authors’ intentions to see this technology utilised in the future for enforcement purposes. We would envisage that this technology may be in use within the next five years subject to Home Office Type Approval.

There are many other countries that have implemented successful initiatives to reduce the number of people being killed and seriously injured, e.g. Ireland, Sweden and Netherlands. Often countries can use different approaches to automatic enforcement. Some countries identify the driver of the vehicle; some identify the owner of the vehicle. A report by ETSC found that “efficiency of automatic

³¹ Observatoire national Interministériel de la sécurité routière, ‘Accidentalité routière 2018 – estimations au 28 janvier 2019’ Observatoire national Interministériel de la sécurité routière

³² Adminaité-Fodor, D. and Jost, G. (February 2018) Reducing Speeding in Europe Pin Flash 36, ETSC

³³ Ibid

³⁴ Ibid

enforcement is higher if the vehicle owner and not the vehicle driver is held liable, since it is easier and faster to identify the owner than the driver.”³⁵

The use of a public communications strategy in road safety is essential in raising communities’ awareness of safety issues on the road network. Jacques Chirac’s announcement in 2003 highlights what effective communication can achieve, and it should not be underestimated.³⁶ For enforcement to be effective, those who use the road network need to be consistently reminded that enforcement exists and what the consequences are for them if they flout the rules that are in place to protect them. Road users need to believe that the level of enforcement is high, with the likelihood of detection great. Developing these perceptions is a key part of the communications strategy.

Road safety publicity, aimed at increasing both awareness of specific enforcement programmes and general public awareness of safety issues, has been integral to the implementation of many speed enforcement programmes. Such publicity is commonly run to increase the general deterrence effect associated with new or existing enforcement programmes.

Studies have shown that publicity supporting enforcement programmes has been statistically effective in magnifying the effects of the enforcement programme over a range of different road types.³⁷ The combined effect of speed enforcement programmes and publicity is highly cost-beneficial in terms of lives saved and financial cost.

Publicity supporting speed enforcement programmes is also more effective in reducing crashes when it is specific to the enforcement rather than when it encompasses more general speed-related themes.

Public support for the use of safety cameras is high and is extremely well documented, for example, within the National Safety Camera Programme Four Year Report.

“The level of public support for the use of cameras has been consistently high with 82% of people questioned agreeing with the statement that ‘the use of safety cameras should be supported as a method of reducing casualties.’ From the public attitude surveys there was strong evidence that there was overall positive support for the use of cameras and this stemmed from the belief that the cameras were in place to save lives – 71% of people surveyed agreed that the primary use of cameras was to save lives.”³⁸ It was also well documented by individual Road Safety Partnerships who carried out ‘tracking’ research on a quarterly basis, including public perception surveys. Support for speed cameras is also reported in the British Social Attitudes Survey 2017.³⁹

³⁵ Admainite, D., Jost, G., Stipdonk, H. and Ward, H. (June 2016) ‘How Traffic Law Enforcement Can Contribute to Safer Roads: Pin Flash Report 31’ ETSC

³⁶ Carnis, L. and Blais, E. (2013) ‘An Assessment of the Safety Effects of the French Speed Camera Program’, Accident Analysis and Prevention 51 (2013)301-309 available at https://www.atsol.com/wp-content/uploads/2013/04/2013_AccidentAnalysisAndPrevention_AssessmentOfFrenchSpeedCameraProgram.pdf Accessed 08/04/2019

³⁷ Delaney, A., Diamantopoulou, K. and Cameron, M. (March 2003) ‘MUARC’s Speed Enforcement Research: Principles Learnt and Implications for Practice’ report number 200, Monash University

³⁸ Gains, A., Nordstrom, M., Heydecker, B., Shrewsbury, J., Mountain, L., and Maher, M. (December 2005) ‘The National Safety Camera Programme: Four Year Evaluation Report, PA Consulting Group

³⁹ Department for Transport (July 2018) ‘British Social Attitudes Survey 2017: Public Attitudes Towards Transport’, Social Research Report, Department for Transport

High profile media activity has also been found to be effective in reducing collisions that cause casualties - even when enforcement levels are low - as this activity increases the perceived perception of enforcement.

Between 2003 and 2010, the UK Safety Camera Programme had dedicated Communication Managers whose roles were to raise awareness and increase the publicity surrounding enforcement to increase the perceived levels of enforcement, and ultimately, to save lives. It was highly effective and significantly contributed to the 50% reduction in road fatalities up to 2010.

From 2007 to 2010, there was a period of adverse publicity towards the Safety Camera Programme which was generated within certain parts of the media, although it could be said that it also contributed to the general deterrence of the camera system, since the publicity suggested that motorists were under constant siege from automated enforcement. This, however, has not been researched.

In 2010, during a period of uncertainty around funding issues, control of the safety camera system was devolved from national government to Local Authorities. Whilst each Local Authority implemented a road safety strategy under their statutory obligation, this has led to a more fragmented approach.

A lesson learnt from this period is that any publicity, good or bad, is effective at raising awareness and increasing the perceived perception of enforcement. It should, therefore, not be discounted or ignored. There remains national and international evidence over many years confirming that speed cameras are an effective tool at reducing road casualties.

With any enforcement strategy, stakeholders should be prepared for negative press comments from certain media outlets and sections of society. Media strategies can be utilised to counteract this including the use of the national and international evidence proving speed cameras work. It is imperative that the support for the police and their activity remains constant and consistent. This will strengthen the public's perception that the flouting of road safety laws will not be tolerated.

Since 2010, the road safety community has seen a decline in enforcement marketing. Communications concentrate on educating road users and raising driver awareness on road safety issues. However, changing driver behaviour takes a long time and road safety professionals will only start to see the fruits of their labour trickle through to the casualty figures in years to come. Whilst this is an important part of the system, it has resulted in reducing national awareness of the safety camera system and enforcement. In effect, it has reduced the perceived perception of enforcement i.e. people no longer perceive that they will be caught. It was documented in the vehicle speed compliance statistics for Great Britain in 2017 that:

- 48% of cars exceeded the speed limit on motorways;
- 9% of cars exceed the speed limit on national speed limit single carriageways;
- 52% of cars exceeded the speed limit on 30 mph roads;
- 86% of cars exceeded the speed limit on 20 mph roads.⁴⁰

⁴⁰ Department for Transport (September 2018) 'Vehicle Speed Compliance Statistics, Great Britain 2017' Statistical Release, Department for Transport
Road Safety Support Enforcement Strategy ©

This, therefore, gives a greater degree in confidence that people are not complying with the speed limit because they do not fear detection.

Target setting for road safety, which used to be normal procedure for Road Safety Partnerships, police forces and indeed at a national level, has not been undertaken for a number of years now. Targets united all of the different actors in the road safety community to be proactive and to work together. Whether that be to reduce KSIs by a certain rate, observe compliance rates on the roads or evaluate education interventions we need to monitor more closely what we do. “We cannot measure what we do not know!”⁴¹

It is imperative that enforcement communications are given a higher priority and that communication managers are imbedded closely within the enforcement teams so there is no delay in countering adverse publicity and spreading important enforcement and road safety messages.

Enforcement can have an instant effect, whilst education and behaviour change, as already mentioned, are a long-term goal. We need to raise our enforcement efforts whilst continuing to utilise behaviour change models, which will hopefully lead to a long-term culture change.

Education is of course valuable and road safety should be nurtured from a young age. Whilst most European countries signed the UNECE Convention on Road Traffic agreeing to commit to provide road safety education in all schools, at all levels, a report by ETSC of traffic safety and mobility education in Europe shows that in practice this is not always delivered.⁴² The report further highlights that road safety education is only provided in the Czech Republic, Ireland and Germany at all levels. ETSC believe that more should be done to improve the quality and quantity of evaluations of traffic safety and mobility of education programmes. They are keen to encourage those with responsibility for road safety education to engage actively in this activity and ultimately to share their findings.

Whilst education for young people is a long-term goal, the results of this work will not be seen for many years to come, particularly until there is a standardised approach which has been evaluated and proven to work. This is obviously too late for those who are already driving / riding and there are many educational interventions aimed at various road user groups, (e.g. elderly road users, motorcyclists) aimed at changing ‘bad’ habits through the use of behaviour change techniques. Again, these interventions need to be monitored and evaluated over time.

The ‘European Survey of Road Users’ Safety Attitudes’ (ESRA) researching road user perception about speed enforcement activities found that 22% of respondents from the UK think it is likely they can be checked for speeding on a regular trip compared to, for example, 55% in France.⁴³

Communication strategies should include sections on how enforcement works within the ‘Safe System’ and how the approaches adopted by the partnerships / police forces are trying to protect the communities they serve. They should also seek to re-adopt public perception surveys, which can

⁴¹Sowell, W., Dr. (2018) ‘International Road Safety and Innovation Forum’ International Road Federation, Bulgaria

⁴² Mütze, F. and De Dobbeleer, W. (January 2019) ‘The Status of Traffic Safety and Mobility Education in Europe’, ETSC, Fundación MAPFRE, VSV and LEARN!

⁴³ Yannis, G., Laiou, A., Theofilatos, A., & Dragomanovits, A. (2016). ‘Speeding. ESRA Thematic Report no. 1’. ESRA Project (European Survey of Road Users’ Safety Attitudes). Athens, Greece: National Technical University of Athens

be utilised to produce press articles, enhance social media coverage and provide valuable insights into the public's perspective of enforcement and safety cameras. Value will also come in preparing the public for more mobile enforcement activity rather than the historic fixed cameras they are so familiar with and will heighten the perceived perception of speeding being detected whilst on the road network.

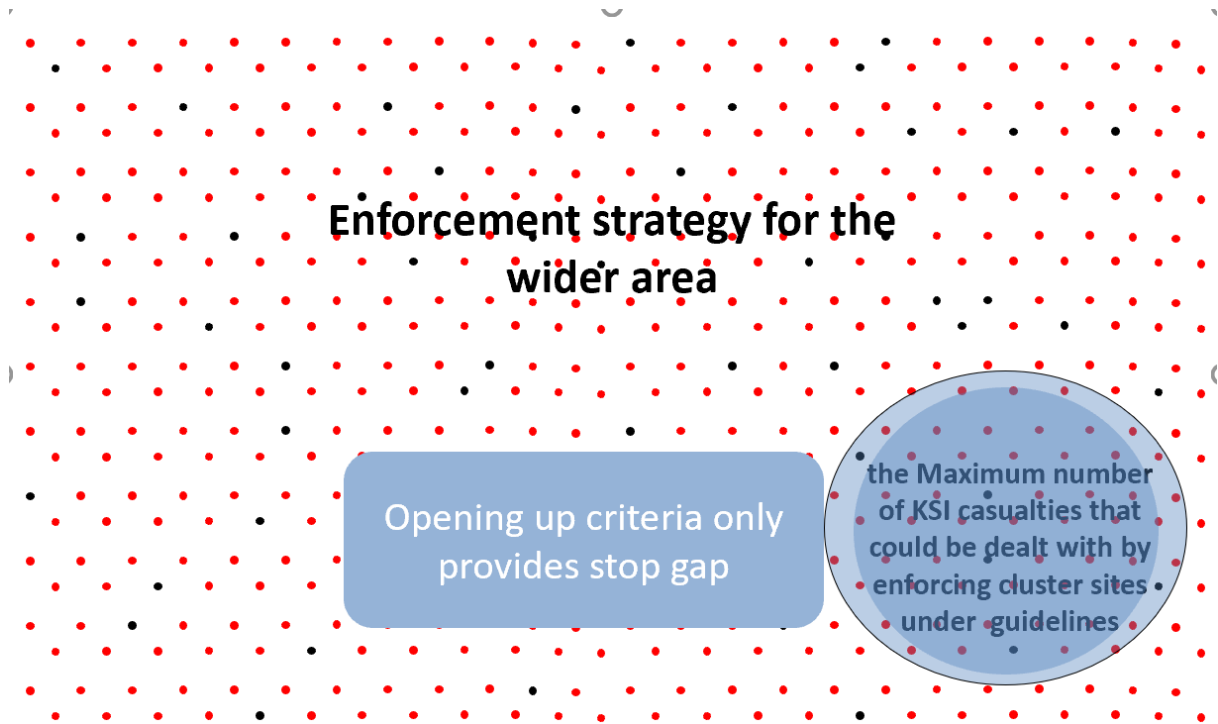
Wide Area Enforcement

Adopting the Red Amber Green (RAG) enforcement strategy has enabled Road Safety Partnerships and police forces to identify collision cluster sites using criteria that found the worst casualty locations. Those sites were then treated using enforcement to deter speed and hence reduce casualties using either fixed, mobile or average speed cameras.

Supported by communications, the UK saw a dramatic decrease in road casualties of all severities over a short period of time where cameras had been installed. The problem we now face is that gaining further casualty reductions from our current position becomes difficult. Identifying further sites using the same old criteria is harder to achieve as most have already been identified. Enforcing existing sites maintains the reduction already achieved over previous years at those locations but is unlikely to reduce the casualties any further. Modifying the existing site criteria could be an option so that further sites can be identified. However, that simply identifies further sites to add to the existing site portfolio and does not address casualties over the wider area.

The illustration 'Enforcement strategy for the wider area' is typical of the strategy that most police force areas implement. It illustrates casualties across the whole of the geographic area. Within this area, the blue circle highlights those casualties the cameras treat (selected through site criteria). The remainder in the wider area are left untreated. Supporting communications can help, but modifying the criteria to identify more sites only extends the effect as shown by the blue ring surrounding the blue circle in the diagram below. Removing the criteria altogether for some types of cameras (e.g. mobile cameras) may provide a solution. This will allow further sites to be selected over the wider area (visibility of the deterrence), therefore providing greater general deterrence to the driver.

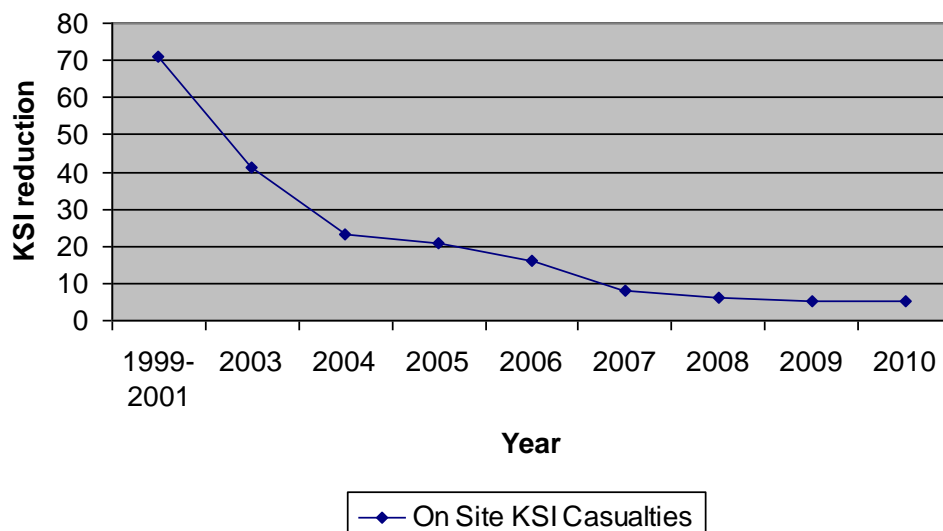
Modern digital enforcement technology, such as distributed average speed and digital mobile cameras, provide the means, method and capability to enforce over the wider area providing greater saturation of enforcement over the road network.



Cumbria Random Road Watch Case Study

Between 2003 to 2007, Cumbria operated the Red, Amber, Green model preferred by many forces, forming its enforcement strategy around it. By 2006, it was apparent that continuing with the same strategy would only maintain that reduction already achieved. It would not continue the reduction to a level previously obtained as on-site casualties had reduced to a level that further reductions would be insignificant.

On Site KSI Casualties



An enforcement strategy, based on the World Health Organisation Systems Approach⁴⁴ and an enforcement model from Queensland⁴⁵, was adopted in 2007 to expand the influence of cameras over the Cumbria wider area. The evidence from Queensland suggested that adopting a Random Road Watch strategy would have a greater influence over the higher casualty severities reducing them by up to 30% within 18 months. The table provides a summary of the strategy adopted by Cumbria in 2007.

2003 to 2007		2007 to 2011
Identify Problems	Cluster Collision Sites	Routes Expand the influence of casualty reduction effect of speed enforcement Tackle familiarity and complacency Maintain or reduce costs of enforcement
Form Strategy	Enforce Cluster Sites Enforce Complaint and Exceptional Sites Enforce Around Sites	Continue Cluster Enforcement Publish/Name/Enforce Routes on implementation Multiple Van on Route Enforcement Deploy in Accordance With Intelligence Tie In with National Intelligence Model Enforce Exceptional Sites
Targets	Dft LPSA stretched Targets Police Fiscal Year Targets	Agree Targets with All Agencies Agree Specific Targets (M/C, Rural, Urban, Young Driver etc) Agree Migration and Target Vectors on Annual Basis
Monitor & Evaluate	CCC Report to Steering Group	Monthly to CCC for CRSP Monthly to Steering Group Police Internal Reporting

Within 18 months of its adoption, Cumbria saw similar effects to that of Queensland, meeting its 2010 road casualty targets three years early.⁴⁶

⁴⁴ Peden, M., Scurfield, D., Sleet, D., Mohan, D., Hyder, A., Jarawan, E. and Mathers, C (2004) 'World Report on Road Traffic Injury Prevention', World Health Organisation

⁴⁵ Newstead, S., Cameron, L., Leggett M (February 1999), 'Evaluation of the Queensland Random Road Watch Programme', Report 149, Monash University Accident Research Centre

⁴⁶ Cumbria Safety Cameras, About Us, available at <http://www.cumbriasafetycameras.org/About> accessed 08/04/2019

Random Road Watch Explained (Safety Cameras)

“The randomness of enforcement is a major determinant of drivers’ subjective assessment of risk of apprehension.”⁴⁷ The exact location and time of speed enforcement should be unknown to drivers.

The unpredictability of enforcement actions will increase the sustainability of effects in terms of time and space. Enforcement activities are best rotated randomly. It is an enforcement resource management technique that randomly schedules levels of enforcement with the aim of realising long-term, widespread coverage of a road network.

Evidence from the Australian scheme showed benefit/cost ratio for the programme was estimated to be 55:1.

Sites are selected for maximum visibility at different times on routes and locations to increase *subjective apprehension* and hence the *general deterrence* of being detected and prosecuted.

Random Road Watch:

- is phased in over time on routes and sites;
- involves a public awareness campaign at the programme introduction;
- increases the perceived perception of enforcement using limited resources;
- is effective for mobile enforcement;
- randomises enforcement, enhancing the deterrent effect and giving the impression of a large-scale enforcement effort;
- implementation provides a further step change that aids speed and casualty reduction;
- is known to be particularly effective in reducing fatal casualties; (Australian evidence suggests 31% reduction in fatal casualties over 18 months) (Newstead et al);
- was effective straight away, due to the public perception of increased enforcement.

Cumbria identified safe enforcement sites within the wider area. Sites were selected for maximum visibility of the enforcement vehicles rather than a collision cluster site; previously selected sites were still being treated to maintain the reductions already achieved.

Enforcement time on site was reduced, with vans enforcing for a shorter period allowing more sites in the wider area to be enforced using the same assets. Marketing was essential to its success, with no adverse publicity seen during its introduction or since.

⁴⁷ Organisation for Economic Co-Operation and Development (OECD) (2006) ‘Speed Management’ OECD Publications

The Layered Approach – Raising the Game

In the UK, enforcement is carried out by police forces and Road Safety Partnerships using several methods including:

- traditional police enforcement, (e.g. using a police officer at the side of the road);
- fixed speed and average speed cameras;
- a safety camera van on the side of the road;
- a community concern check.

Each has a role to play and, overall, provide a blended enforcement solution to maximise the deterrent effect, especially that aspect known as ‘general deterrence’.

Traditional police enforcement using hand held enforcement devices can be targeted from intelligence and can be used at a specific location and time to provide a specific deterrence to targeted vehicles.

Mobile speed camera vans are highly visible and can be utilised over the wider area. They can detect offences over a greater range, delivering far greater general deterrence to the motoring public. Moving them around the wider area frequently gives the appearance of many enforcement vehicles, increasing the perception of enforcement.

Average speed cameras protect workers in roadworks or can be used on routes; they offer almost total compliance and are seen to be fair by members of the public. Modern average speed camera systems can be utilised as a wide area enforcement solution in urban areas and a number of UK forces are piloting this use already, (e.g. Lancashire⁴⁸, Bedfordshire⁴⁹).

Community concern programmes provide reassurance to local communities and significantly raise awareness of enforcement, especially in rural areas. All layers work together, increasing the subjective risk of apprehension to increase the general deterrence over the wider areas. In essence, we are moving to a strategy of ‘Unpredictable Visibility’.

Forces and Partnerships can utilise any layer and even add an additional enforcement layer.

The main enforcement aim is to be highly visible over the wider area, increasing the perceived risk of detection by the belief that there is robust enforcement against those who do not comply with the legislation.

⁴⁸ Lancashire Constabulary (2019) ‘Average Speed Cameras’ available at <https://www.lancashire.police.uk/help-advice/road-safety/average-speed-cameras/> accessed 08/04/2019

⁴⁹ Bedford Borough Council (2019) ‘Average Speed Cameras’ available at <https://www.bedford.gov.uk/parking-roads-and-travel/road-safety/speed-limits/average-speed-cameras/> accessed 08/04/2019



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The Layers can be described as follows:

Layer 1 Traditional Police Enforcement

- Intelligence Led
- Targeted (location and time of day)

Layer 2 Fixed / Average speed

- Core site
- Intelligence and criteria based

Layer 3 Mobile Enforcement (traditional – core sites)

- Safety camera van
- Core and legacy enforcement

Layer 4 Community Concern (camera sites)

- Intelligence led
- Community Involvement (request)

Layer 5 Community Concern (handheld devices - community volunteers)

- Community Speed watch
- Community involvement

Layer 6 Mobile (non-traditional, increased area, flexible deployment)

- Safety camera van
- Unpredictability visibility
- Wide area enforcement, intelligence led

Layer 7 Distributed Average Speed

- Route and wide area enforcement

Layer 8 Mobile Covert

- Unpredictable wide area enforcement (in car mobile).⁵⁰

Enforcement Steps to Casualty Reduction

The aim of any speed enforcement strategy is to reduce road casualties by altering driver behaviour in a positive way. However, its effect is limited over time, with any casualty reductions tapering off. The National Safety Camera programme made significant reductions in road casualties but further step changes now need to be considered and taken to continue that reduction.⁵¹ Continuing to do the same enforcement strategy only maintains the reduction already achieved with the likelihood that casualties will be seen to increase.

Adopting a wide area enforcement strategy that is supported through communication campaigns and robust enforcement, provides a further step that will lead to additional casualty reduction gains. However, it should not be a final solution. Further step changes are needed, with implementation and support through marketing, to achieve further reductions. The introduction of covert mobile enforcement vehicles, as a further enforcement layer, should be considered as part of a long term, stepped enforcement strategy, with further steps introduced over time.⁵²

⁵⁰ Hughes, M., Kelly, E., and Sjorup, J (June 2019) 'Road Safety Support (RSS) Enforcement Model, The DNA of Reducing Road Casualties' Road Safety Support.

⁵¹ Gains, A., Nordstrom, M., Heydecker, B., Shrewsbury, J., Mountain, L., and Maher, M. (December 2005) 'The National Safety Camera Programme: Four Year Evaluation Report, PA Consulting Group

⁵² Arotake, T., (April 2002) Bringing Down the Road Toll: The Speed Camera Programme, New Zealand Government

The Effect on Road Policing

One has to consider the effects of a wide area enforcement model that utilises a more random and covert approach to speed enforcement. A robust wide area enforcement model will not only increase the general deterrence over the wider area but will have beneficial effects for other areas of road policing.

In January 2005, the Department of Transport (DfT), the Home Office (HO) and the Association of Chief Police Officers (ACPO), issued a statement (Roads' Policing Strategy) regarding the use of Great Britain's roads.⁵³ In its statement, it identified five priorities of importance to make the UK's roads and way of life safer.

These priorities were:

- denying criminals use of the roads by enforcing the law;
- reducing road casualties;
- tackling the threat of terrorism;
- reducing anti-social use of the roads;
- enhancing public confidence and reassurance by patrolling the roads.

Priorities within policing have changed. Resources and traditional policing methods that were once the preserve of roads' policing have been diverted into other areas. Priorities within roads' policing have not changed though and, in some areas, the threat and risk has increased.

Digital camera technologies, that are now available to police forces, are much improved compared to those that were previously available. Increased capabilities, better communication and ease of process are all now in place within these technologies. Roads' Policing Officers have to become smarter and use these assets in a more effective way that does not just target one of those priorities, (reducing road casualties), but in ways which can increase our capabilities in the other priority areas too. Expanding the reach of camera technologies into the wider area can provide us with a deterrence benefit but also with further intelligence. Platforms that can be utilised in the other areas include:

- National security and counter terrorism;
- Serious, organised and major crime;
- Local crime;
- Community confidence and reassurance;
- Crime prevention and reduction.

There are several police force areas which already benefit from using a combined camera solution in their mobile camera vans' platforms, operating speed cameras and passive Automatic Number Plate Recognition (ANPR) cameras together. Distributed average speed systems can be used in a wide area speed enforcement strategy and provide further intelligence where they will help to detect, deter and disrupt criminality in an urban environment. Opening them over the wider area increases that impact.

⁵³ Brake (2016) 'Road Policing in the UK' available at <http://www.brake.org.uk/facts-resources/15-facts/493-road-policing-in-the-uk> accessed 08/04/2019

Conclusion

The UK has been very successful in its casualty reduction efforts and its use of camera technology in previous years, halving the number of deaths and serious injuries over a short period of time. Those reductions have stalled over recent years, although the UK does have better public acceptance of the systems that are in use. Continuing the existing enforcement strategies that have been in operation for over 28 years will not reduce casualties further but merely maintain the reductions that have already been achieved.

The Road Safety community must learn from the good practice achieved elsewhere and adopt those strategies nationally in a long-term, stepped approach to enforcement deterrence over the wider area, like that in operation in France, for example. For this strategy to work, it must be supported by proactive communication to achieve compliance on the road network through the deterrence of 'unpredictable visibility'.

It is of vital importance that this strategy is led from the top and support is garnered from all stakeholders. This will assist in ensuring a joined-up approach with a unity of purpose. Road Safety Support can provide police forces or Road Safety Partnerships who need assistance with developing a long-term strategy and can advise on engaging with relevant stakeholders. Holding internal workshops to disseminate this information is a vital component in 'raising the game' to take road casualty reduction to the next level. Road Safety Support has devised a short workshop, which members may wish to run in their respective areas or regions to capitalise on this strategy.

We need those in senior positions to connect road safety to organised crime, crime reduction, anti-terrorism and anti-social use of the roads' operations. Only by doing this can 'we' ultimately protect and serve communities.

Driver behaviour change and educational diversions are fundamentally important, but they are a long-term objective of the overall strategy. The fastest way to achieve casualty reduction is through general deterrence and police forces must not discount the use of random or covert enforcement to do that. There is mounting evidence to show that this is a very effective tool. Public support cannot be under-estimated. The silent minority let their voices be heard in 2010 when they thought that speed cameras were going to be switched off. Cameras make the roads safer for all road users and can be used to deter those members of our society who wish to cause us harm and disrupt the way of life that we take so easily for granted.

There are no legal barriers to covert or random enforcement. We are limited only by our own courage in introducing change.

'Behold the turtle. He makes progress only when he sticks his neck out.' ⁵⁴

⁵⁴ James Bryant Conant 1893-1978, American Chemist and President of Harvard University, 'The Yale Book of Quotations' edited by Associate Librarian and Lecturer in Legal Research Fred R Shapiro, pg. 167 original quote in 'The American Treasury:1455-1955,' ed. Clifton Fadiman (1955)

Recommendations

These recommendations are primarily aimed at road safety partnership managers, operational camera enforcement managers and senior police officers who are responsible for developing a road safety enforcement strategy.

Our aim within this document has been to provide insight and reference how and where the safety camera programme originated. In essence we have looked at the past, the present and touched on where the future of enforcement may seek to go. It is clear that over the last number of years KSI figures have stagnated. To have an effect we need to implement a new co-ordinated approach to enforcement. The recommendations below aim to help provide the steps required to make this step change a reality.

1. Introduce a long-term, stepped or layered enforcement strategy.
2. Adopt a wide area approach to enforcement.
3. Operate a flexible approach to mobile enforcement that is random over the wider area and not selected by rigid criteria.
4. Plan to introduce covert enforcement over the wider area to increase the general deterrence effect and the enhanced perception of enforcement – ‘unpredictable visibility’.
5. Include a proactive marketing strategy to support enforcement interventions.
6. Increase stakeholder support from the public, civic leaders and colleagues by proactive internal and external marketing, which links into other areas of policing.
7. Police Forces may want to consider adopting local and national enforcement plans with yearly targets for compliance levels, including on speeding, in line with the EC 2004 Recommendation of Traffic Law Enforcement.⁵⁵
8. Investigate a blended solution for camera technology that will benefit other areas of road policing that will make our roads safer.
9. Encourage Partnerships to work together to implement the strategies at the same time so as to gain maximum general deterrence and PR.

⁵⁵ Official Journal of the European Union. EC COMMISSION RECOMMENDATION (6 April 2004) ‘on enforcement in the field of road safety 111/77 For the Commission Loyola DE PALACIO Vice-President’ available at <https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2004:111:0075:0082:EN:PDF>

References

1. DfT: Reported Road Casualties in Great Britain: 2017 Annual Report.
2. Avenoso, A, (2019) 'Two passenger planes crash, killing everyone on board – This is how many people die on EU roads every week' ETSC available at <https://etsc.eu/two-passenger-planes-crash-killing-everyone-on-board-this-is-how-many-people-die-on-eu-roads-every-week/> accessed 08/04/2019.
3. Organisation for Economic Co-Operation and Development (OECD) (2006) 'Speed Management' OECD Publications.
4. World Health Organisation (WHO) (2017) 'Managing Speed', World Health Organisation.
5. Organisation for Economic Co-Operation and Development (OECD) (2006) 'Speed Management' OECD Publications.
6. Breen, J., McMahan, K., Robertson, E., Stephenson, C. (2018) 'Road Safety Management Capacity Review' Department for Transport.
7. Butcher, L. (2013) 'Roads: Speed Cameras' House of Commons Library Note SN350 accessed 08/05/2019.
8. ibid.
9. ibid.
10. U.S. Department of Transportation National Highway Traffic Safety Administration, (2008) 'Speed Enforcement Program Guidelines' U.S. Department of Transportation National Highway Traffic Safety Administration.
11. Department of Transport(DfT), (2016) '2015 Reported road casualties Great Britain: 2015, annual report' , Road Safety Statistics, Department for Transport.
12. Breen, J., McMahan, K., Robertson, E., Salter, E., Stephenson, C., Thomas, P, (2018) 'Road Safety Management Capacity Review', Department for Transport.
13. London Accident Analysis Unit Environment and Transport Studies, Department London Research Centre (1997) 'West London Speed Camera Demonstration Project', Department for Transport (DfT).
14. Delaney, A., Ward, H. and Cameron M., (2005) The History and Development of Speed Camera Use', MONASH University, Accident Research Agency.
15. London Accident Analysis Unit Environment and Transport Studies, Department London Research Centre (1997) 'West London Speed Camera Demonstration Project', Department for Transport (DfT)
16. Department of Transport (2003), 'A Cost Recovery System for Speed and Red-Light Cameras - Two-Year Pilot Evaluation' Road Safety Division, Department for Transport.
17. Department of Transport (2005) 'The National Safety Camera Programme: Four-Year Evaluation Report', Department for Transport.
18. Barrett, G. & The Institute for Transport Studies, University of Leeds (2018) 'Impact Evaluation of the National Speed Awareness Course'. Ipsos MORI Social Research Institute.
19. Barrett, G. & The Institute for Transport Studies, University of Leeds (2018) 'Impact Evaluation of the National Speed Awareness Course'. Ipsos MORI Social Research Institute.
20. Department of Transport (DfT) (2006), 'Handbook of Rules and Guidance for the National Safety Camera Programme for England and Wales for 2005/06', Department for Transport.

21. Department of Transport (DfT) (2007), 'Use of Speed and Red-light Cameras for Traffic Enforcement Guidance of Deployment, Visibility and signing'. DfT Circular 01/2007, The Stationary Office.
22. Ibid.
23. Association of Chief Police Officers (ACPO) (April 2011) 'Report of a Working Group about the Publication of Information Related to Speed Cameras' Government Publishing Service available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/4359/working-group-speed-camera-report.pdf Accessed 08/04/2019
24. Carnis, L., (2008) 'The French Automated Speed Enforcement Programme: A Deterrent System at Work', Australasian Road Safety Research, Policing and Education Conference, Adelaide.
25. Sentencing Council, 'Offences for which penalty notices are available' available on <https://www.sentencingcouncil.org.uk/explanatory-material/magistrates-court/item/out-of-court-disposals/7-offences-for-which-penalty-notices-are-available/> accessed 08/04/2019.
26. Carnis, L. and Blais, E (2013), 'An Assessment of the Safety Effects of the French Speed Camera Program', Accident Analysis and Prevention 51 (2013) 301-309, Elsevier.
27. Ibid.
28. Ibid.
29. Insurance Institute for Highway Safety Highway Loss Data Institute (IIHSHLDI) (2013), 'Speed Camera Enforcement Cuts Fatality Rate 10 Percent in France' Status report, Vol 48, No 6, available at <https://www.iihs.org/iihs/sr/statusreport/article/48/6/4> accessed 08/04/2019.
30. Salathé, M., (2012) 'Road Safety in France: 2012 Annual Report' French Road Safety Observatory (ONISR).
31. Observatoire national Interministériel de la sécurité routière, 'Accidentalité routière 2018 – estimations au 28 janvier 2019' Observatoire national Interministériel de la sécurité routière.
32. Adminaité-Fodor, D. and Jost, G. (February 2018) Reducing Speeding in Europe Pin Flash 36, ETSC.
33. Ibid.
34. Ibid.
35. Adminaite, D., Jost, G., Stipdonk, H. and Ward, H. (June 2016) 'How Traffic Law Enforcement Can Contribute to Safer Roads: Pin Flash Report 31' ETSC
36. Carnis, L. and Blais, E. (2013) 'An Assessment of the Safety Effects of the French Speed Camera Program', Accident Analysis and Prevention 51 (2013)301-309 available at https://www.atsol.com/wp-content/uploads/2013/04/2013_AccidentAnalysisAndPrevention_AssessmentOfFrenchSpeedCameraProgram.pdf Accessed 08/04/2019
37. Delaney, A., Diamantopoulou, K. and Cameron, M. (March 2003) 'MUARC's Speed Enforcement Research: Principles Learnt and Implications for Practice' report number 200, Monash University.
38. Gains, A., Nordstrom, M., Heydecker, B., Shrewsbury, J., Mountain, L., and Maher, M. (December 2005) 'The National Safety Camera Programme: Four Year Evaluation Report, PA Consulting Group.

39. Department for Transport (July 2018) 'British Social Attitudes Survey 2017: Public Attitudes Towards Transport', Social Research Report, Department for Transport.
40. Department for Transport (September 2018) 'Vehicle Speed Compliance Statistics, Great Britain 2017' Statistical Release, Department for Transport.
41. Sowell, W., Dr. (2018) 'International Road Safety and Innovation Forum' International Road Federation, Bulgaria.
42. Mütze, F. and De Dobbeleer, W. (January 2019) 'The Status of Traffic Safety and Mobility Education in Europe', ETSC, Fundación MAPFRE, VSV and LEARN!
43. Yannis, G., Laiou, A., Theofilatos, A., & Dragomanovits, A. (2016). 'Speeding. ESRA Thematic Report no. 1'. ESRA Project (European Survey of Road Users' Safety Attitudes). Athens, Greece: National Technical University of Athens.
44. Peden, M., Scurfield, D., Sleet, D., Mohan, D., Hyder, A., Jarawan, E. and Mathers, C (2004) 'World Report on Road Traffic Injury Prevention', World Health Organisation.
45. Newstead, S., Cameron, L., Leggett M (February 1999), 'Evaluation of the Queensland Random Road Watch Programme', Report 149, Monash University Accident Research Centre.
46. Cumbria Safety Cameras, About Us, available at <http://www.cumbriasafetycameras.org/About> accessed 08/04/19
47. Organisation for Economic Co-Operation and Development (OECD) (2006) 'Speed Management' OECD Publications.
48. Lancashire Constabulary (2019) 'Average Speed Cameras' available at <https://www.lancashire.police.uk/help-advice/road-safety/average-speed-cameras/> accessed 08/04/19.
49. Bedford Borough Council (2019) 'Average Speed Cameras' available at <https://www.bedford.gov.uk/parking-roads-and-travel/road-safety/speed-limits/average-speed-cameras/> accessed 08/04/2019.
50. Hughes, M., Kelly, E., and Sjorup, J (June 2019) 'Road Safety Support (RSS) Enforcement Model, The DNA of Reducing Road Casualties', Road Safety Support.
51. Gains, A., Nordstrom, M., Heydecker, B., Shrewsbury, J., Mountain, L., and Maher, M. (December 2005) 'The National Safety Camera Programme: Four Year Evaluation Report, PA Consulting Group.
52. Arotake, T., (April 2002) Bringing Down the Road Toll: The Speed Camera Programme, New Zealand Government.
53. Brake (2016) 'Road Policing in the UK' available at <http://www.brake.org.uk/facts-resources/15-facts/493-road-policing-in-the-uk> accessed 08/04/2019.
54. James Bryant Conant 1893-1978, American Chemist and President of Harvard University,'The Yale Book of Quotations' edited by Associate Librarian and Lecturer in Legal Research Fred R Shapiro, pg. 167 original quote in 'The American Treasury:1455-1955,' ed. Clifton Fadiman (1955).
55. Official Journal of the European Union. EC COMMISSION RECOMMENDATION (6 April 2004) 'on enforcement in the field of road safety 111/77 For the Commission Loyola DE PALACIO Vice-President' available at <https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2004:111:0075:0082:EN:PDF>

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Meredydd is a former UK Chief Constable. His national responsibilities included leadership of major public and sporting events, roads policing, firearms, public order, and emergency planning.



Now Road Safety Support Executive Chairman, he works internationally as a consultant and lecturer in his specialist policing and security fields, bringing his 32 years of Policing leadership to bear on critical problems in road safety, counter terrorism, and major event command. He lectures on strategic leadership at the Indian National Police Academy in Hyderabad.

With two friends, Med founded Road Safety Support Ltd in 2007. They now employ specialist lawyers, scientists and technicians, and have an international reputation for road safety strategy and enforcement consultancy. Working worldwide, they have delivered projects for the UN, charities, and national governments. They partner with agencies in every continent to reduce road death.

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Emma works as an independent specialist for Road Safety Support(RSS) . Her role as the Development, PR and Advocacy Manager involves working with police forces, road safety partnerships and stakeholders in both the UK and internationally to develop robust road safety strategies. In addition, she advises on marketing and communications strategies. Previously, Emma was the Communications Manager for the Merseyside Road Safety Partnership and prior to this she worked within the community safety and crime reduction field. Emma has spoken at conferences and presented at a number of workshops on speed management, focusing specifically on the importance of a strong enforcement strategy and the critical function of ASE in reducing road death and injury. She was Invited to speak at a side event titled 'Excessive Speeding & Distracted Driving: Global Best Practices in Enforcement' in Stockholm around the 3rd Global Ministerial Conference on Road Safety, February 2020. Emma represents RSS on a number of working groups and expert panels, including autonomous vehicles and she has been invited to judge entries for road safety awards e.g. First Car Young Driver Awards.



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Jan has 40 years' engineering experience in electronics, telecommunications, data analysis and road safety strategy. His earlier career after leaving the Royal Navy (RN) was involved in the testing and



build of Submarine launched weapon systems preparing and producing analysis reports for the Ministry of Defense (MOD) and the US Department of Defense (DoD) with respect to the at sea nuclear deterrent. He has been involved with safety camera systems and speed enforcement since 2003, firstly as the Data Manager for the Cumbria Safety Cameras programme and later as the Project Manager.

Joining Road Safety Support (RSS) in 2009, he has acted as the partnership Liaison Manager for RSS, specialising in data analysis and enforcement strategies providing advice and support to forces, road safety partnerships throughout England Wales and Northern Ireland, and Highways England. He has acted on the behalf of the Department for Transport (DfT), Home Office (HO) and the Association of Chief Police Officers (ACPO). In 2010 he assisted the DfT, on behalf of ACPO, by auditing Road Safety Partnerships to identify best practice and areas of concern, providing recommendations to ACPO, DfT and the Government, for ministerial reports. With the UK Government decentralising road safety funding in 2010, he also prepared with his colleagues the business case for partnership continuation to provide a cost neutral sustainable solution for the future with the emphasis on education rather than enforcement alone. Since 2010 He has provided on-going support to UK forces and partnerships with detailed analysis of STATS 19 data, including Contributory analysis and trends for their force and district levels.

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