

# Safety Framework | 2011

for the Strategic Road Network





# Foreword

Earlier this year we launched the Strategic Framework for Road Safety, setting out our commitment to further improve road safety and reduce road casualties on Britain's roads. Road safety is a priority for this government.

This document supports the national strategy, setting out the Highways Agency's approach for the strategic road network. In support of the localism agenda, the Agency will work closely with partners and safety stakeholders to identify priority road user groups, targeted engineering interventions on specific roads and share best practice and technical expertise with other groups. Its Aiming for Zero vision, that no one is hurt as a result of working on the road network, is also an important aspect of the framework.

With this safety framework, it is our intention to continue the downward trend in casualties and keep our roads amongst the safest in the world.



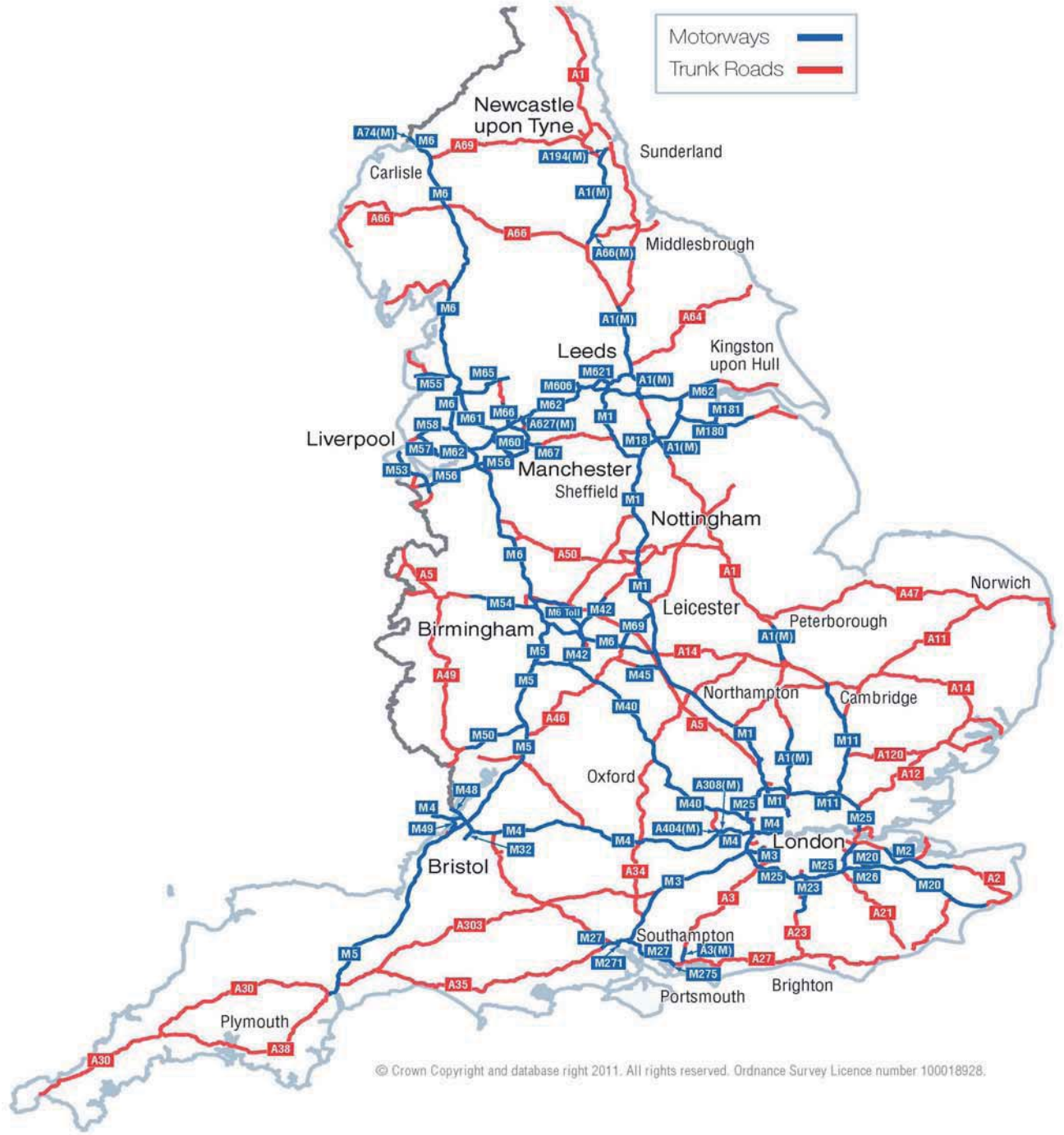
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Highways Agency Strategic Road Network



# Introduction

In our strategic plan 2010-15 the Agency sets out how we will continue to reduce deaths and serious injuries on our network through on-road systems, targeted improvements to our roads, and better provision of information.

The Highways Agency is an executive agency of the Department for Transport (DfT) and has responsibility for improving the safety of the strategic road network - motorways and major A-roads, in England. In May 2011 the DfT published the 'Strategic Framework for Road Safety', which sets out a series of actions that central government will take to continue to improve road safety. The framework clearly articulates that road safety is a priority for the government and sets out the Agency's responsibilities to deliver road safety priorities for the strategic road network.

This document outlines the role the Agency has in supporting the national framework. The Agency manages and maintains the strategic road network on behalf of the Secretary of State for Transport and our roads are among the safest roads in the world. We will work towards reducing the number of collisions by targeting interventions based upon analysis of collisions that result in

injury. As much of the strategic road network is now of a modern standard, we will refine our prioritised safety risk approach to the improvement of infrastructure, maintenance and other operational interventions. This approach will be driven through data collection, intelligence led and delivered within the budgets set for the next four years. It sets out how the Agency will continue to improve



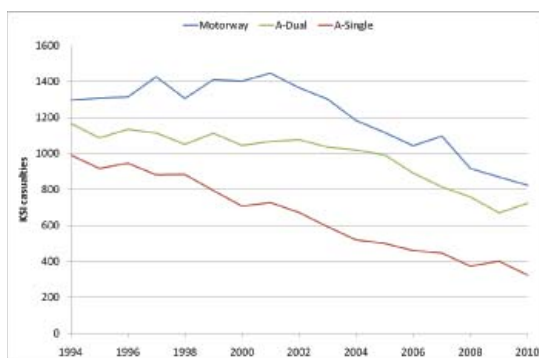
road safety on our roads and the approach we will take in supporting the international community in raising awareness of road safety. In addition, we are supporting the UN Decade of Action, which sets out a target reduction of road deaths by 2020 of 50%.

# Performance and trends

The Agency met its contribution to the national road safety targets in 2010 and continued to achieve the decline in killed and serious casualties on the strategic road network, which has been maintained over the last ten years.

In 2010 there were 11,372 road traffic accidents on the Agency's strategic road network involving 24,142 vehicles and resulting in 17,967 casualties, of which 247 were killed and 1,622 were seriously injured. These 17,967 casualties accounted for 8.6% of all reported road casualties in Great Britain. The provisional estimate of overall casualty rate is 220 per billion vehicle miles, a 4.2 % reduction from 2009.

**Figure 1: killed and seriously injured casualties by road class and type**



As shown in Figure 1, the number of casualties killed and seriously injured on motorways has reduced every year

since 2001 except for a small increase between 2006 and 2007. This was a change from 1994-2000 which showed a slight upward trend. Overall the number of killed and seriously injured casualties on motorways has reduced by 38% since the 1994-1998 baseline and by 21% since 2006. The number of killed and seriously injured casualties on dual carriageway A roads reduced every year between 2002 and 2009. The reduction has been most noticeable since 2006. Dual carriageway killed and seriously injured casualties increased slightly in 2010 but are still below the 2008 figure, 35% below baseline and 19% below the 2006 figure. The number of killed and seriously injured casualties on single carriageway A roads has reduced the most, and the most consistently, of the three road types with a reduction of 65% from baseline and 29% from 2006.

From the analysis of the road casualty statistics the cause of collisions shows that the major contribution in most cases is driver error. Between 2007 and 2009 there were 329 collisions resulting in personal injury which were attributed to road layout. These accounted for 1% of all personal injury collisions on the strategic road network.

# Agency approach over the next four years

The challenge for the Agency in delivering safer roads is to continue the reduction in killed and seriously injured casualties by working with others and within the budget. We will make best use of available funding as we look to maximise opportunities to deliver safety benefits in all that we do. We will be undertaking some local network management schemes (LNMS) which are specifically aimed at safety interventions. Additionally, many of the engineering improvements and operational interventions we make, while primarily aimed at improving reliability or improvements to the environment, can also have safety benefits.

Our short term measures will be focused on the highest priority sites while we plan for medium to long term interventions that provide strong economic and casualty reduction performance on the road network. There is no single answer to preventing collisions; it is about the need to identify long term measures that will reduce the risk to road users within an affordable and achievable framework.

Over previous decades there have been demonstrable improvements in road safety, as a result of treating collision cluster sites identified through reactive safety studies. In anticipation of the need for a more refined approach to road safety, which recognises the risks to the road user and those who work on the roads, the Agency has developed a safety risk model for the strategic road network. We also plan to complement this by setting out a clearer approach to safety risk management and appraisal. This identifies three population profiles:

Population	Safety Risk
Road Users	Driving / riding / walking Breaking down on a road
Traffic Officers	Working on or adjacent to the road
Supply Chain Workers	Working where live traffic is present Working on sites on or adjacent to live traffic

The strategic risk model will enable the Agency to identify the different safety risks that we can mitigate. From the analysis of the risk model, the Agency can directly control only a relatively small proportion of overall safety risk in the design, maintenance and operation of its roads; the main contribution to this safety risk comes from the behaviour of road users.



# Safe infrastructure

## **a. Major projects**

We have a national programme of major road improvement projects. Over the next four years we will be starting the construction of 14 projects, 11 of which are managed motorway projects. The latter predominantly target congestion, but all projects have engineering safety benefits.

The aim of managed motorways is to manage the flow of traffic through specific lengths of heavily used sections of the network at peak times. Managing speeds in congested conditions provides safety benefits by a reduction in collisions resulting from stop/start driving and close following. Other important benefits of managed motorways include less disruption from road works, reduced environmental impacts, better information for drivers and a faster, more effective response to accidents.

The analysis of the first three years of safety data from the first managed motorway project on the M42 showed that there was a 55.7% reduction in casualties. Whilst this percentage may vary depending on the existing motorway at each location it is anticipated that these projects will make a significant contribution to the safety performance of motorways.

Of the three improvement projects on the all purpose trunk roads at A11, A23 and A556 the safety benefits will come from improved standards on these routes.

## **b. Smaller projects**

Local network management schemes (LNMS) comprise a large number of smaller improvement projects, each costing less than £10 million. These projects deliver significant local benefits across a number of areas including improving safety, providing congestion relief, improving accessibility to our road network, enhancing the environment and improving integration with different modes of transport.

The Agency has a series of smaller local network management schemes that are primarily aimed at safety related issues. With thorough analysis of collision data, risk weightings and historical trends, the Agency can continue to identify issues on individual routes which offer the most safety benefit to the local area. Programmes for these types of schemes are produced on an annual basis.

## **c. Road infrastructure safety management**

The Agency already has a comprehensive system of road infrastructure safety management, but will be seeking to enhance this by providing further guidance on Road

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Safety Audits, whose role is to ensure road features in projects are safe.

In order to further reduce the risk to road users on our roads, we will continue to develop the principles of making the use of roads easy to understand (a new initiative in Europe describes this as “self explaining roads”) and to reduce the obstacles at the side of a road to limit the risks when drivers lose control of their vehicles. We will continue to update design advice to take into account learning about the safety performance of roads.

The effectiveness of a road in safety terms is dependent on both its geometry and how it is signed. We need to ensure traffic signs on the network perform as intended and that a proliferation of signs is avoided. The Department for Transport is undertaking a review of the guidance on traffic signs and the Agency is considering how best to make use of variable message signs to support the safe operation of our roads.

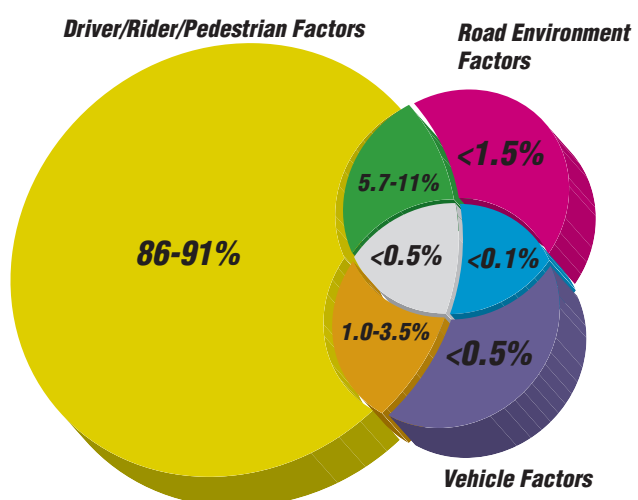
### d. Maintenance

Within the requirements for maintaining roads those specifications relating to keeping the road safe have been reviewed and updated for the new maintenance contracts the Agency is rolling out over the next four years. These take into account the risk assessments that allow the repair and replacement of features such as safety barriers to be prioritised.

### e. Technology

We are working with the industry to further develop the capability to display variable speed limits to help manage congestion and improve safety. The introduction of variable speed limits in temporary traffic management is also being investigated further to help to manage the speed of traffic depending on what works are taking place.

The use of vehicle activated signs is an effective tool for highlighting hazards, particularly approaching rural and semi-rural settlements. Research shows a 5.6% reduction in collisions due to vehicle activated signs (indicating speed of vehicle) with further analysis indicating a 69% saving on speed-related collisions on entry to and through built up areas.



**f. Information**

The Agency is reliant on drivers complying with the ‘rules of the road’ as this directly affects safety and the performance of the network. Improved compliance will ultimately provide road users with a safer, more reliable journey. We will also provide them with timely, reliable information and good signing, to enable them to make informed decisions on their journey.

Much of the non-compliance is due to error rather than deliberate transgression of the law. In order to improve compliance we will provide roadside information that will be displayed such as traffic conditions or reminders such as ‘check your speed / distance’.



# Safe management of traffic

## **a. Traffic management**

The safe management of traffic is an important part of the Agency's role as a road operator. Traffic information services are provided by our national control centre; the contract for which is being renewed in September 2011. Working with the regional control centres it provides the strategic and tactical information that can ensure drivers have the best information before and whilst they are travelling.

On a network where over 200,000 incidents happen each year, it is important that the safe management of traffic is undertaken by our traffic officers on the road and in the regional control centres. Working with the emergency services, our contractors maintaining the roads and the vehicle recovery industry, the Agency is seeking to reduce the impact of such incidents.

## **b. Safety strategy for those working on our roads**

"Aiming for Zero" is the Agency's strategic approach to improving the health and safety for those who work on our roads. Our aim is that as an employer, designer and leading client,

nobody comes to harm as a result of work on our roads. The strategy considers four groups of workers:

- Office based staff
- Traffic officers
- Maintenance workers
- Road workers.

This strategy confirms the leadership role for the Agency in the industry and brings together health and safety work across the whole business.

We will work with our suppliers and safety partners to further improve compliance by drivers. By using the right package of safety measures at a local level we will reduce the significant risk that driver error poses to our workers.

The risk of injury or death from a collision for those who work on the road can be significant. Our traffic officers have detailed procedures and receive specific training to ensure that they have the necessary skills to operate safely in their role. The Agency is committed to making its staff an exemplar of good driving/riding practice. As such it has developed work related procedures and guidance to support all of its employees in enhancing their skills and abilities, to enable us to be a flagship employer in relation to driving at work.

# Monitoring and reporting

## a. Indicators

The business indicators identified below represent how the Agency will report progress annually. The performance will be monitored using 2010 baseline data<sup>1</sup>. In order to track our progress between annual reports we will provide updates based on available data. This will include reporting at regional level.

The Agency has identified seven key business indicators that relate to road deaths and we will monitor the key outcomes of the framework at a national level. These follow the indicators for all roads that are published by the Department for Transport. Progress against these indicators will be reported and published annually in our Annual Report. These are:

- Number of road deaths (and rate per billion vehicle miles)
- Rate of motorcyclist deaths per billion vehicle miles
- Rate of car occupant deaths per billion vehicle miles
- Number of deaths resulting from collisions involving drivers under 25
- Number of deaths resulting from single vehicle collisions
- Number of deaths resulting from collisions involving overseas registered

vehicles

- Number of deaths involving commercial vehicles under 7.5tonnes

At the local level, the number of road deaths is small compared to all casualties and subject to fluctuation. For this reason the Agency will be monitoring and reporting the following as key operational indicators in our regional safety reports that are produced by each of the Agency's regions:

- Number of killed or seriously injured casualties
- Rate of killed or seriously injured casualties per billion vehicle miles
- Number and rate of slight injuries per billion vehicle miles
- Number of collisions on the strategic road network
- Rate of collisions on the strategic road network per billion vehicle miles
- Number of collisions involving a personal injury
- Rate of collisions involving personal injury collisions per billion vehicle miles

In addition to the statistics on casualties given above, the Agency will also monitor a number of the indicators by road user groups, class of road and cause of collision. These are shown in Annex B. These are intended to monitor trends and patterns at the national level. They will be identified through data analysis and the refinement and application of a risk based management and operational decision making tool, undertaken within regional safety reports.

<sup>1</sup> Stats 19 Data – Relate to personal injury collisions on the HA SRN that are reported to the Police. Figures for death relate to persons killed immediately or who have died within 30 days of the collision.

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Strengthening the approach will lead to identifying better causal links and have greater impact from available resources.

### **b. Safer road users**

As part of our analysis of data to better target our activities, we have identified the types of collisions which cause the most casualties and fatalities on our roads:

- Collisions with vulnerable road users on A roads
- Head on collisions on A roads
- Collisions at junctions on A roads
- Shunt collisions on motorways
- Single vehicle collisions on motorways and A roads.
- Collisions on the hard shoulder on motorways

Using previous casualty data, we have identified the specific groups of people that are primarily involved in collisions on our roads. Using this information we will direct future interventions to further reduce the risk to these groups. These groups fall into three broad categories:

- Largest numbers represented in casualty groups:
  - car occupants
  - commercial vehicle occupants
  - motorcyclists
- High risk age groups:
  - children
  - young road users (16-19)
  - young drivers (17-24)
  - road users aged over 70

- **Vulnerable groups:**

- pedestrians
- pedal cyclists
- children

The Agency will continue to work with the Driving Standards Agency, other highway authorities and partners by providing technical input to driver education initiatives to improve behaviours and compliance.

By the use of an evidence-led approach to safety activities in the Agency we can ensure that resources are targeted at the priority areas. This intelligence-led model uses a wide range of data including STATS19 (the data collected by Police at the scene of collisions), command and control data from our regional control centres, research and other relevant sources.

### **c. Reporting**

In support of this safety framework we will produce a safety action plan for 2012-13 and associated regional safety reports, which will enable the Agency to report consistently against its plan. We will include breakdowns of the casualties on our network by customer group and collision type, and report on our performance indicators, which are important for the Agency.

Operational performance at regional level will be reported in the annual Operational State of the Network and quarterly updates<sup>2</sup>. In addition, the Safety Operational Folder is designed to encourage consistent analysis and working methods of staff working across the Agency including service providers. It includes information on the availability of data, analysis methodologies, reporting practices and the accident analysis cycle.

The Agency will continue to report on progress using a variety of means so that, both internally and externally, decisions can be made using accurate data. The Agency will produce an annual Reported Road Casualties on the HA Network report. This will include an overview of performance against our safety framework indicators, as well as figures summarising the reported road collisions and casualties. This will enable Agency staff to answer queries from government, colleagues and the public, as well as using the data as a platform for further collision and trend investigations.



<sup>2</sup> Operational State of the Network Report 2010 Q1-2

## Evaluation

Evaluation remains essential to delivering the continued justification for the safety work by the Agency. We will evaluate safety projects by using the most appropriate tools for the project being delivered and refining these over time as appropriate. All engineering safety work will use existing audit (road safety audits and non-motorised user audits) and evaluation methods such as our post opening project evaluation contract. Other initiatives can be more difficult to evaluate, so by using such tools as the Department for Transport's road safety evaluation process<sup>3</sup> we will develop our capability in this area and share best practice with our partners.



## Working in partnerships

While the Agency has prime responsibility for our own network, many measures, especially non-engineering initiatives, can also have an impact on non-Agency roads. In the same way, initiatives undertaken by others, for example by other road authorities, educational schemes or improvements in vehicle technology, can also have an impact on the safety of our network. The Agency needs to work closely with our partners, sharing best practice, technical expertise and experience in order to achieve common safety goals and outcomes at a local level.

Our partners include:

- Other government departments
- National THINK! road safety education team
- Casualty reduction partnerships
- Local highway authorities
- Emergency services, including the police
- Road user associations
- Motor industry
- Research organisations
- Construction and maintenance industry

Engineering, education and

<sup>3</sup> E-valu-it: The overall aims of this process are: to increase and improve the measures of effectiveness of road safety education, training and publicity (ETP) by 2012 and to improve the efficient use of road safety ETP resources. [www.roadsafetyevaluation.com](http://www.roadsafetyevaluation.com)



enforcement are three key factors in reducing road casualties. Our focus will remain on the engineering initiatives that can be designed to inform and direct drivers. Educational initiatives are often delivered by other government bodies, such as the DfT THINK!, Driving Standards Agency (DSA), Vehicles and Operator Services Agency (VOSA), safety partnerships and the police. We will support them with their work. Finally, enforcement is a matter for the police and we will work with them to enable improvement of compliance and behaviour on the network.

#### **a. National level**

The Agency is represented on a wide range of national road safety groups and committees, meeting to share good practice, and to actively engage with key stakeholders, as identified above. By working closely with these partners, we are well placed to support new research or pilot new road safety ideas on the strategic road network.

We look to extend the traditional approach to road safety by using these groups to explore innovative techniques or new technological improvements that benefit road safety as well as seeking greater opportunities to work with partners to further promote the important messages of road safety. We will continue to develop better information and road safety data to enable the Agency to meet its commitment to greater transparency and

accountability in all that we do.

#### **b. Local level**

Our regional teams are well placed to deliver improvements to safety through our local partners. Working closely with local highway authorities, the emergency services and local safety partnerships, we can identify key actions required and report progress through regional safety reports. These reports will be a continuation of existing route specific reports, which are produced within the regions, identifying collision and casualty trends, cluster sites, road user priorities and planned actions for the future. There will be associated guidance issued regarding the key requirements of these reports. These are intended as internal operational reports.

We will provide road safety forums and local road safety partnerships with information about our current safety measures and our future plans, and we will manage their expectations when either formulating plans or implementing them. By working together with local safety partnerships the Agency can support local decision making.

The Agency does not see safety cameras as the primary tool for improving road safety on the network. There are many situations where other measures, such as engineering solutions or information provision, are more effective than cameras. Encouraging compliance can be more

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subtle than a fine and points on a licence; it can be more cost effective and achieve a greater long term benefit via driver awareness schemes.

The Agency will continue to work in partnership with enforcement agencies to support their need. Consideration will need to be given to the alignment of the Agency and enforcing agencies' priorities. However, a targeted approach to the provision of information and engagement interventions may help to minimise the need for enforcement.

### **c. International groups**

At an international level, the Agency works with a number of multi-national safety forums to develop research, good practice and improved safety management techniques. These include:

#### **- Conference of Directors of Roads (CEDR)**

The Agency is an active participant in CEDR, which brings together the national road authorities across Europe. This group facilitates the exchange of experience and information to analyse and discuss all road-related issues on safety.

#### **- ERA-Net - Coordination and implementation of road research in Europe**

The Agency will continue to support the Trans National Joint Research Programme of "Safety at the Heart of Road Design" to improve road safety by increasing the awareness

and acceptance by road authorities of implementing joint road safety solutions. This includes the concepts of self-explaining roads and forgiving roadsides, taking human factors and human tolerance into consideration. It is envisaged that evaluation tools will be developed to assist in identifying feasible, valid and cost-effective solutions focused on rural roads.

#### **- EuroRAP**

The Agency works in partnership with the European Road Assessment Programme (EuroRAP) and the other organisations involved in the area of road risk mapping and road safety assessment. We will continue to provide technical assistance and data to produce safety ratings of the strategic road network based on the road design elements that correspond to each of the four main accident types; head-on collisions, vehicle run-offs from roads, collisions at junctions and collisions involving pedestrians and cyclists.

#### **- Other national road authorities**

The Agency has an established memorandum of agreement with its counterparts in the Netherlands and Flanders. We are actively engaged with them in knowledge sharing and collaboration on road user and road worker safety issues. We are sharing best practice on occupational safety of road workers and exchanging knowledge and information on the effective use of hard shoulder running on risk management and safety data, hazard identification and mitigation.

In the area of safety governance and risk management we are collaborating to achieve an understanding of each organisation's road safety obligations and approach to safety risks. This is to try to reach a consensus position on road safety risk policy for road users, road workers and third parties, which could be aligned with each organisation's safety policy. We will also seek to agree risk tolerance thresholds that underpin this consensus position.

The Agency will continue to work closely with our colleagues in the devolved administrations to share good practice and feed in coordinated responses for cross European working. The Agency will take the lead in a number of the forums identified above and this closer working with the devolved administrations will enable UK wide representation at these meetings.

The Agency is also represented on the UK Road Liaison Group. This group brings together national and local government representatives from across the UK to consider roads infrastructure engineering and operations matters. It provides all governments across the UK with comments, guidance, and advice on strategic policy and management of highways.



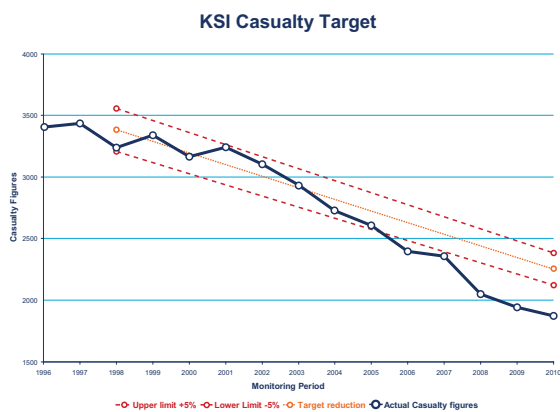
# Annex A - Road Safety Performance in 2010

There were 1,870 people killed or seriously injured in 2010, a reduction of 44.4% from the baseline (1994-98 average) figure of 3,366. A reduction of 1,496 killed or seriously injured in real terms. This equates to a reduction over the decade in;

Fatalities - from 416 to 248 - a reduction of 40% from baseline;  
 Serious - from 2950 to 1622 - a reduction of 45% from baseline.

## Figure 2: Killed and seriously injured casualties

Target 33% reduction by 2010. Performance in 2010 shows a reduction of 44.4%.



Killed and seriously injured casualty target		
94-98 average	3366.2	
Year	Actual	% reduction
2000	3157	6.2%
2001	3240	3.7%
2002	3113	7.5%
2003	2931	12.9%
2004	2728	19.0%
2005	2609	22.5%
2006	2399	28.7%
2007	2360	29.9%
2008	2053	39.0%
2009	1939	42.4%
2010	1870	44.4%

Further analysis of the killed and seriously injured casualties illustrates that:

- There were 305 killed and seriously injured motorcycle users in 2010. This is a decrease from the 2009 figure of 314, and is a reduction from the baseline of 10%.
- There were 123 killed and seriously injured casualties aged 16-19. This a substantial reduction from 166 in 2009, and represents a reduction from the baseline of 50%, which is a larger reduction than all killed and seriously injured casualties.
- There were 49 pedal cyclists killed and seriously injured in 2010, an increase from 38 in 2009, but a 55% reduction from the baseline.

- Numbers of car occupants killed or seriously injured have reduced from 1,291 in 2009 to 1,210 in 2010; in particular the number of fatally injured car occupants has reduced by 20% from the 2009 figure.

### Fatalities

Fatalities in 2010 were down to 248 from 250 in 2009, a reduction of 2 fatalities and a 40% reduction from the baseline of 416.

Of the 248 fatalities, 110 were on motorways (down from 116 in 2009) and 138 were on A-roads (up slightly from 134 in 2009).

Further analysis of the fatalities in 2010 by customer group has identified that the largest reduction from 2009 was for car occupants (20%) and the number of children and those aged 16-19 killed also reduced from 2009. The other customer groups showed no change or a slight increase from 2009.

### Serious injuries

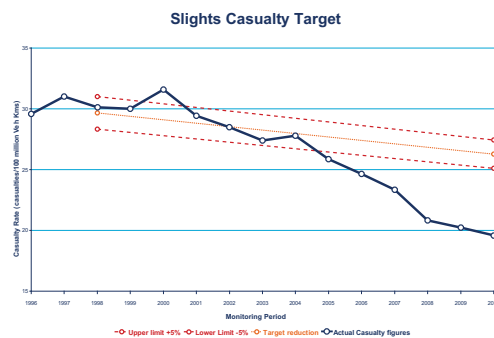
Serious injuries in 2010 were down to 1,622 from 1,689 in 2009; a further reduction of 67, and a reduction of 44% from the baseline of 2,950. Of the 1,622 seriously injured casualties, 714 were on motorways (down from 753 in 2009) and 908 on A roads (down from 936 in 2009).

### Slight casualty target

The Agency had to reduce by 10% the slight casualty rate, measured against the 1994-98 average (29.6 casualties per 108 vehicle-mile). The slight casualty rate in 2010 was 19.6, below the target value of 26.6 <sup>4</sup>, a reduction of 33.4%.

### Figure 3: Slight casualty target

Target 10% reduction – 2010 performance shows a reduction of 33.4% achieved.



The slight casualty rate is based on estimated traffic figures, and will be reported when the actual figures are available. The preliminary slight casualty rate in 2010 was 19.7 casualties per 100 million vehicle miles, which was 34% below the baseline figure of 29.6 and is lower than the 2010 target of 26.6 casualties per 100 million vehicle miles.

Slight injuries in 2010 were down to 16,097 from 16,909 in 2009. Of the 16,097 slightly injured casualties, 8,507 were on motorways (down from 8,700 in 2009) and 7,590 on A roads (down from 8,209 in 2009).

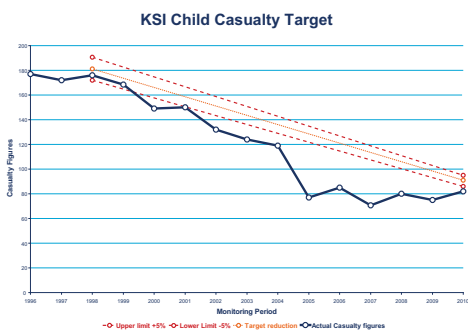
<sup>4</sup> Note that these figures include traffic or casualty rates in terms of 100 million vehicle-miles

**Child killed and seriously injured target**

The Agency reduced the figure for children killed and seriously injured in 2010 by 54.7%, from the 1994-1998 baseline, which was already lower than the 50% target reduction set for 2010. A total of 82 children were killed or seriously injured on the strategic road network in 2010 compared to 75 in 2009.

**Figure 4: Child killed and seriously injured casualty**

Target 50% reduction - performance shows a reduction of 54.7% achieved



The number of children killed or seriously injured in 2010 was 82, an increase from 75 in 2009 but still below the 2010 target of 91. In 2010 there were nine child fatalities, up one from eight in 2009. The majority of child casualties were car occupants. The child fatalities were six car occupants, two pedestrians and 1 bus/coach occupant.

Of all personal injury collisions on our network, 49.3% were on motorways and 50.7% were on A roads. Breaking the A road figure down, (50.7%) 37.3% were on dual carriageways and 13.4% were on single carriageways. The past trends we have already identified from analysis of the Stats 19 police collision data show that approximately nine in every ten casualties on our network are as a direct result of road user behaviour as identified in one of the primary contributory factors on the strategic road network. The Agency has used contributory factors data from previous crashes on our network to give an estimate of the proportion of collisions or casualties that result from errors or failings in each of these categories.

Over the last three years, the three most frequently recorded contributory factors were 'Failed to look properly', 'Failed to judge other person's path or speed' and Loss of control'.

## Annex B – Performance Indicators

Indicator	Sub groups/splits	Data source and issues
Number of fatalities Number of serious injuries	<ul style="list-style-type: none"> <li>- Age (children, young, other, elderly)</li> <li>- Car occupants</li> <li>- HGV involvement</li> <li>- Motorcyclists</li> <li>- Pedal cyclists</li> <li>- Pedestrians</li> </ul>	STATS19
Number fatalities, KSI, Serious and Slight on the English SRN network	<ul style="list-style-type: none"> <li>- Motorways</li> <li>- A-Roads</li> <li>- Single</li> <li>- Dual</li> </ul>	STATS19
Cost of road traffic collisions on the SRN		Local data and Government published figures
Number of fatalities and KSI single vehicle collisions involving a young driver (aged 17-24)		STATS19
Number and percentage of fatalities and KSI in collisions with a driver over the legal blood alcohol limit on the SRN		STATS19
Number of fatalities and KSIs in collisions with inappropriate speed as a contributory factor on the SRN		STATS19
The accident frequency rate of the Highways Agency's supply chain (Roadworker Safety)		Accident Frequency Rate is calculated on the basis of all incidents reportable under RIDDOR and presented as a 12 month rolling average, per 100,000 hours worked. The current performance measure is 0.15. <sup>5</sup>
To 'achieve a substantial reduction in the need for road workers to cross live carriageways by the end of December 2011'		AIRS database
'To eliminate the need for road workers to be on foot on the live carriageway by the end of December 2016'.		AIRS database

[5] The Accident Frequency Rate gives the accident rate per 100,000 hours worked and is calculated as the number of reportable incidents per year divided by the number of hours worked in the year multiplied by 100,000.

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