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145th session, 24-27 June 2008,  
agenda item 6.

*Department for*  
**Transport**

## MOTORCYCLE HELMETS: CONSUMER SAFETY INFORMATION

# *SHARP*

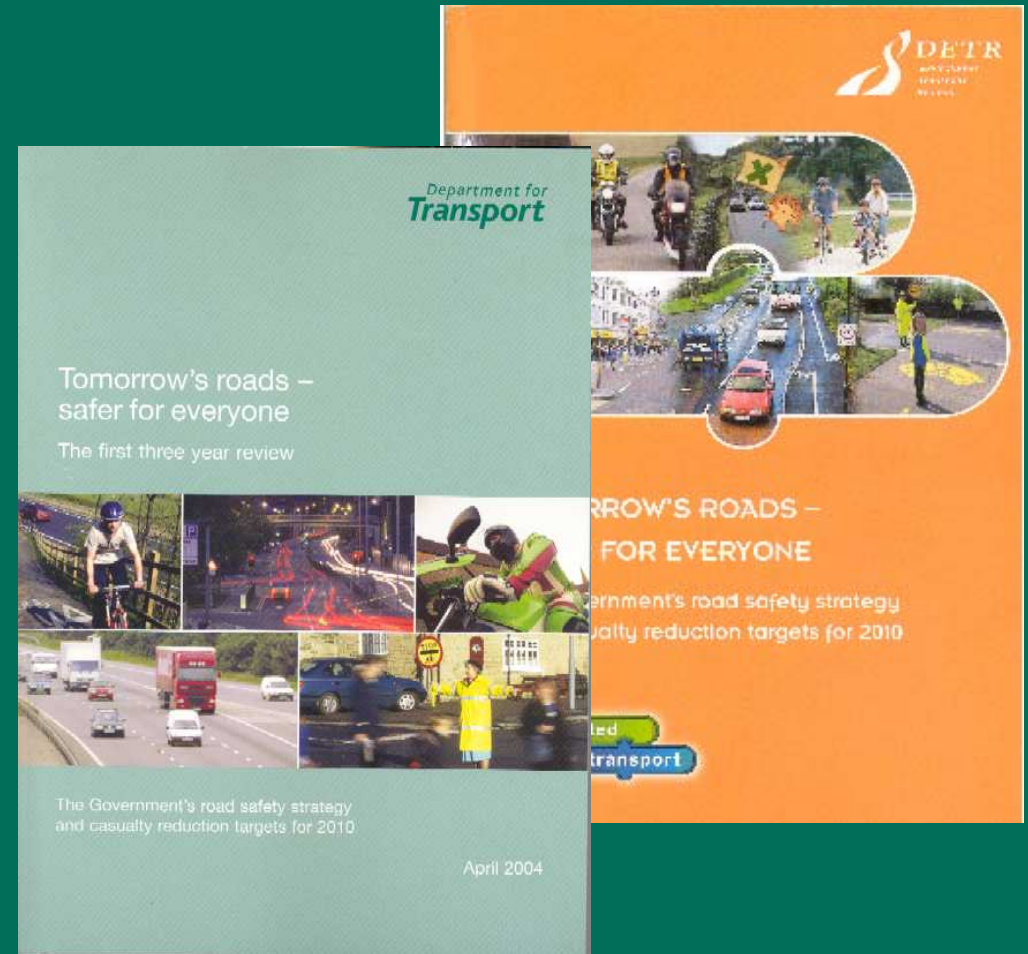
World Forum for Harmonization of Vehicle Regulations  
145th session

June 2008

UK Department for Transport

# Road Safety Policy

- *Tomorrow's roads – safer for everyone*
- Strategy launched in March 2000
- First review published April 2004
- Second review published mid 2007



# The Casualty Reduction targets

By 2010:

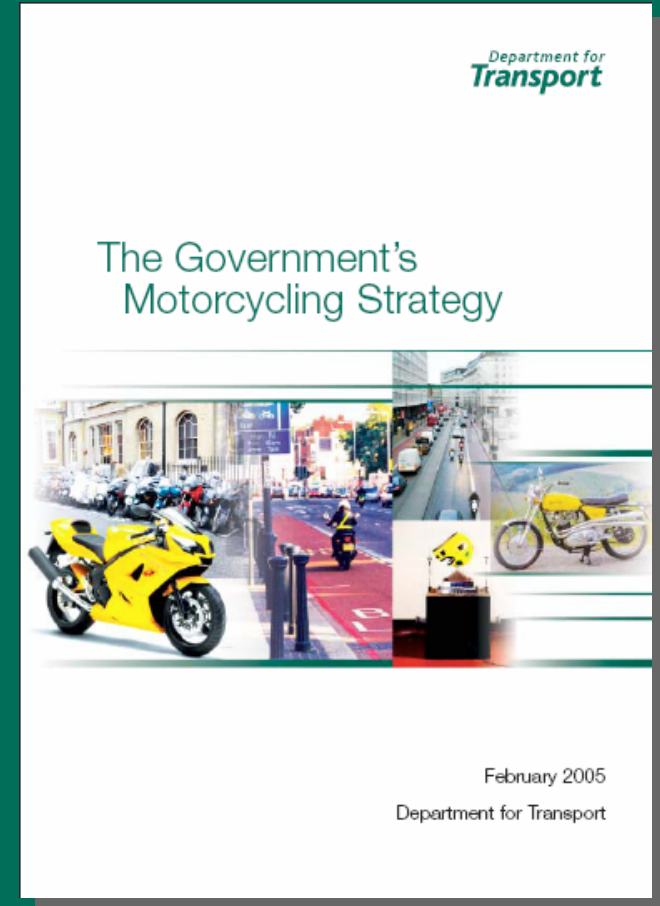
- 40% reduction in all KSIs
- 50% reduction in child KSIs
- 10% reduction in the rate of slight injuries

...and tackling the significantly higher incidence in disadvantaged communities

*compared to the average for 1994-1998*

# Motorcycling Safety

- Is a key issue for UK – separate strategy published in Feb 2005
- Motorcyclists are one of our most vulnerable groups of road user – comprising just 1% of traffic in the UK but represent 19% of all road deaths.
- 80% of all motorcyclist fatalities and 70% of those with serious injuries, sustain head injuries.



# Research

- COST 327 European research brought together experts from France, Germany, Hungary, Italy, Netherlands, Switzerland, Finland and United Kingdom and completed in 2001.
- Key outcomes included:
  - Location and frequency of blows to the head,
  - Determining the speed range of survivable head impacts
  - Recommendations for future test methods and criteria.



# Research

- UK commissioned further studies to understand the protection provided by current helmets conforming to ECE Reg. 22.05.
- Results showed noticeable differences in the safety performance of approved helmets available in the market.
- Developed tests to establish which helmets provided greater safety potential than others, and objective assessment to provide purchasing information to motorcyclists.



# SHARP – The Helmet Safety Scheme

Department for  
**Transport**

- **SHARP** – the **S**afety **H**elmet **A**ssessment and **R**ating **P**rogramme – was launched in November 2007.
- Helmets are rated from 1- 5 stars depending on how well they perform in the laboratory tests.
- The tests are based on the science - reflecting current state-of-the-art in design, as well as user exposure and injury risk (COST 327).



# SHARP Tests

## Linear Impact:

- twin-wire guided test based on British Standard BS 6658:1985 Helmet standard. The rig minimises the effect of energy dissipation through helmet rotation and rebound.
- Head forms of variable mass, as prescribed in UN-ECE Reg 22.05.
- Impact sites based around Reg 22.05 points, tested using flat and kerb anvils.
- Including one higher and one lower impact speed compared to Reg 22.05

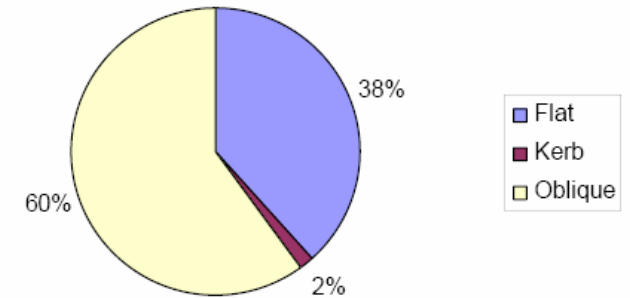
**Oblique impact:** Reg 22.05, METHOD A.



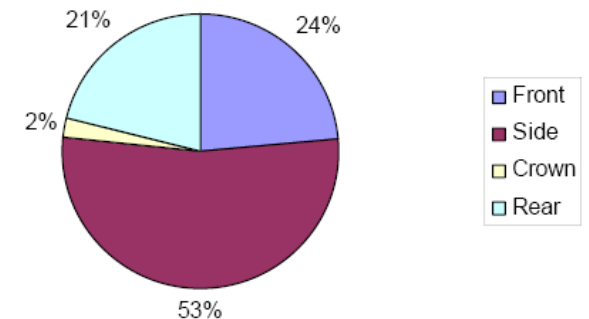


# SHARP Assessment

- Reg 22.05 underpins the SHARP assessment, therefore SHARP tests at ambient conditions. SHARP does **not** perform tests on retention systems or chin bars.
- Peak g recorded over 32 individual impacts performed on 7 helmets at 3 velocities.
- Overall helmet rating is weighted to take account of the frequency and direction of real world impacts.

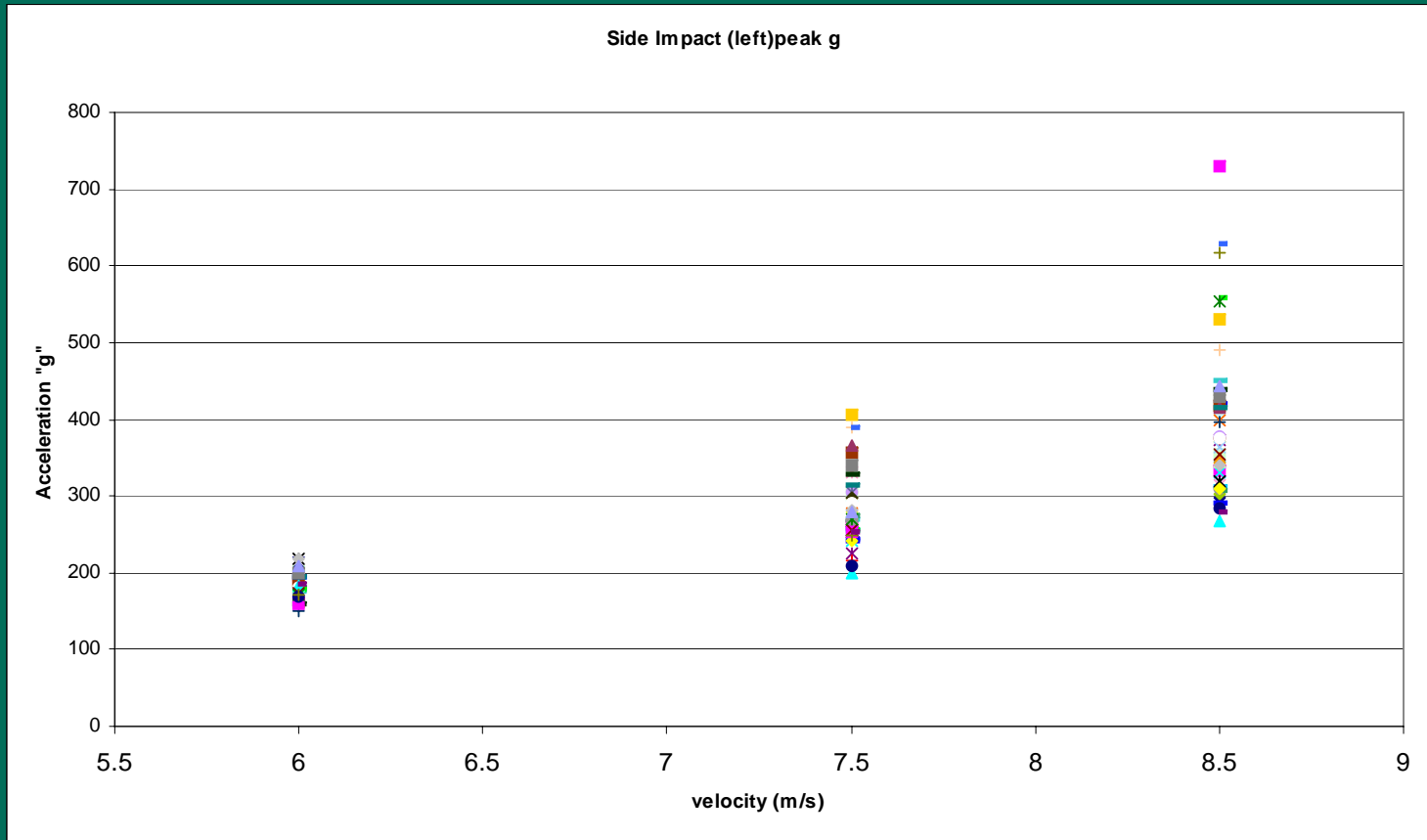


Impacts by surface type, COST 327




Impacts by helmet location, COST 327

# Performance Differences



# Dissemination

- Priority message is for motorcyclists to get a helmet that provides the best fit.
- Then consider the SHARP rating; the more SHARP stars a helmet has, the more protection it can provide.
- Several strands targeting manufacturers, retailers and consumers.




**SHARP**  
www.direct.gov.uk/sharp  
THE HELMET SAFETY SCHEME

★★★★★

**GETTING THE RIGHT FIT**

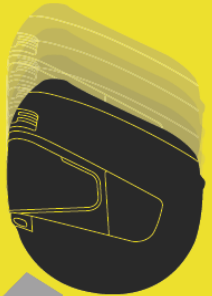
HELPING YOU PROVIDE THE SAFEST CHOICE OF HELMET FOR YOUR CUSTOMERS

Including the first safety ratings for full face motorcycle helmets – spring 2008



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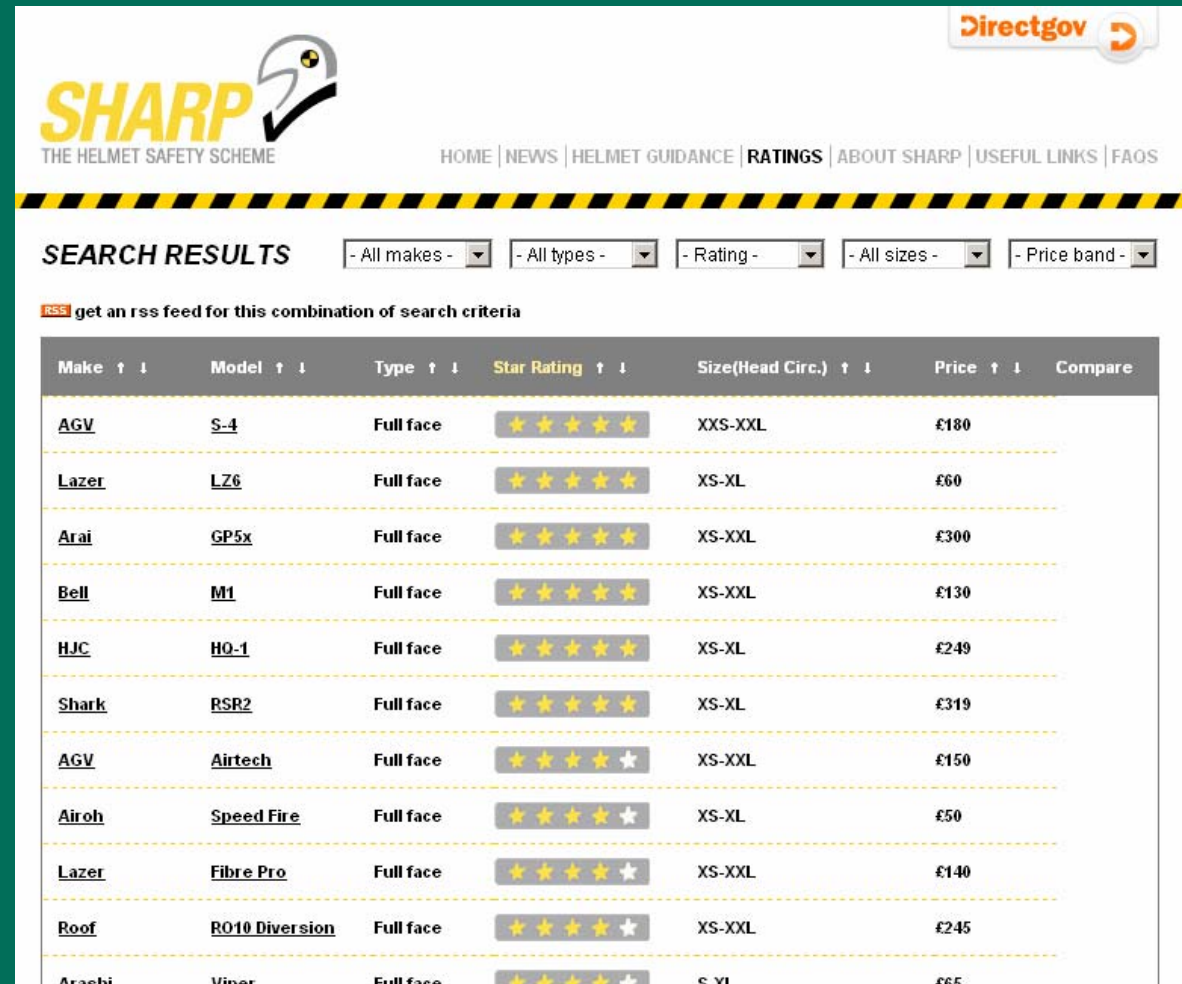
★★★★★



**SAVING LIVES FROM SPRING 2008...**

# SHARP ratings

- Results published for 60 full face helmets on June 12.
- Testing continuing through 2008 to complete full face helmets (representing ~ 80% of UK sales),
- Moving on to system / flip front helmets and then open face.
- Tests valid for all types/ styles of helmet



**SHARP** THE HELMET SAFETY SCHEME

Directgov

HOME | NEWS | HELMET GUIDANCE | **RATINGS** | ABOUT SHARP | USEFUL LINKS | FAQs

**SEARCH RESULTS** - All makes - - All types - - Rating - - All sizes - - Price band -

[RSS](#) get an rss feed for this combination of search criteria

Make ↑ ↓	Model ↑ ↓	Type ↑ ↓	Star Rating ↑ ↓	Size(Head Circ.) ↑ ↓	Price ↑ ↓	Compare
<a href="#">AGV</a>	<a href="#">S-4</a>	Full face	★★★★★	XXS-XXL	£180	
<a href="#">Lazer</a>	<a href="#">LZ6</a>	Full face	★★★★★	XS-XL	£60	
<a href="#">Arai</a>	<a href="#">GP5x</a>	Full face	★★★★★	XS-XXL	£300	
<a href="#">Bell</a>	<a href="#">M1</a>	Full face	★★★★★	XS-XXL	£130	
<a href="#">HJC</a>	<a href="#">HQ-1</a>	Full face	★★★★★	XS-XL	£249	
<a href="#">Shark</a>	<a href="#">RSP2</a>	Full face	★★★★★	XS-XL	£319	
<a href="#">AGV</a>	<a href="#">Airtech</a>	Full face	★★★★☆	XS-XXL	£150	
<a href="#">Airoh</a>	<a href="#">Speed Fire</a>	Full face	★★★★☆	XS-XL	£50	
<a href="#">Lazer</a>	<a href="#">Fibre Pro</a>	Full face	★★★★☆	XS-XXL	£140	
<a href="#">Roof</a>	<a href="#">R010 Diversion</a>	Full face	★★★★☆	XS-XXL	£245	
<a href="#">Arashi</a>	<a href="#">Viper</a>	Full face	★★★★☆	S-XL	£65	

## Further information

Department for  
**Transport**

- Available from the SHARP website [www.direct.gov.uk/sharp](http://www.direct.gov.uk/sharp)
- or direct from [sharp@dft.gsi.gov.uk](mailto:sharp@dft.gsi.gov.uk)

