Road Safety Targets – 2010 and beyond

based on a presentation by
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Transport for London
Remember please drive carelessly

Car Accident Repair Centre

Mark Lewis
All Killed/Severely Injured Casualties in Great Britain (1973 to 2005)

- 1981-1985 average
- 1994-1998 average
- 2000 target
- 2010 target
Total vehicle kilometres and all KSI casualties in Great Britain indexed to 1980
All pedal cycle KSI casualties in Great Britain (1973 to 2005)
All slight casualties in Great Britain (1973 to 2005)
All child KSI casualties in Great Britain (1989 to 2005)

- 1994-98 average
- Target reduction 50%
- 2010 target
DfT 3rd Road Safety Review

- Fatals not falling
- Bad Driving Behaviour – single vehicle collisions
- Drink Drive increasing
- Not wearing seat belts
- Speed
- Motorcyclists
- Young Drivers
- Driving for Work
Fatals not falling

Fatal vs KSI Casualties in Great Britain (1973 to 2005)
Drink Driving

Number of breath tests carried out and number of drink drive fatalities:
Index 1994: 100

![Graph showing the number of breath tests conducted and drink-drive fatalities from 1994 to 2003.](image)
Young Drivers

Car user death – rate per 100,000 population

- Rates
- Age

0-4
5-7
8-11
12-15
16-19
20-29
30-39
40-49
50-59
60-69
70-79
80-99
Road Safety - London

The majority of Killed and Seriously Injured (KSI) are outside the car - 64% (51% GB)

Slightly more Killed and Seriously Injured (KSI) are in the car - 51%
### Casualties in 2005

<table>
<thead>
<tr>
<th>Category</th>
<th>KSIs</th>
<th>%age Redn</th>
<th>New Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>All KSIs</td>
<td>3,650</td>
<td>- 45%</td>
<td>50%</td>
</tr>
<tr>
<td>Pedestrian KSIs</td>
<td>1,224</td>
<td>- 43%</td>
<td>50%</td>
</tr>
<tr>
<td>Pedal cyclist KSIs</td>
<td>372</td>
<td>- 34%</td>
<td>50%</td>
</tr>
<tr>
<td>P2W user KSIs</td>
<td>845</td>
<td>- 9%</td>
<td>40%</td>
</tr>
<tr>
<td>Child KSIs</td>
<td>355</td>
<td>- 62%</td>
<td>60%</td>
</tr>
<tr>
<td>Slight casualties</td>
<td>28,180</td>
<td>- 28%</td>
<td>25%</td>
</tr>
</tbody>
</table>

Collisions cost London > £1.2B
Casualty trends

Greater London - All killed or seriously injured casualties

- Target line
- 45% decrease by year 2005


Casualty trends
Lower Speeds using Road Safety Engineering

- Reduce casualties by about 40%
- 100% FYRR
Road Safety Engineering

- Spent £40M in 2004/05
- KSI fall 57% in 20mph Zones
20mph Zones work

- Spent £10M in 2005/06
- TRL Report – 57% reduction in KSI
- 60% reduction in child KSIs
Road Safety Education cradle to grave

- Children’s Traffic Club
- Junior Road Safety Officers
- A-Z Tales
- School Crossing Patrol
- Theatre in Education
- Teen Campaign
- Walking buses
Hit at 40mph
There is an 80% chance I'll die.

Hit at 30mph
There is an 80% chance I'll live.

It's 30 for a reason.

*80% is an approximate figure.
Teen Campaign

- Sarah Rivers
- Scott Smith
- Shattered Dreams

on TV and in cinemas

“Don’t die before you’ve lived”
Teenage Casualties

Teenage casualties (13 to 19 years) killed or seriously injured,
Greater London (1994 to 2005)

Year

KSI casualties
0 100 200 300 400 500 600 700 800

Target reduction
50% (Nominal)

45% reduction by 2005
Greater London - Pedal cyclist killed or seriously injured casualties

- 1994-98 average
- Target reduction 50%
- 34% decrease by year 2005
Radial 24 hour pedal cycle movements in London, both directions combined, 1980-2005
Powered Two Wheelers

Campaigns

- cinema adverts (2)
- theatre in cinema
- TV advert
- Award winning
Powered Two Wheelers

Powered two wheeler killed or seriously injured casualties

9% decrease by year 2005

1994-98 average

Target reduction 40%

Target line

Casualties

Year

Cameras

- Over 350 speed cameras and 250 red-light cameras
Effectiveness of Partnership Cameras

At LSCP sites

- Over 50% reduction in KSIs
- At both speed and red-light sites

Cost of a fatal crash in London = £1.4M
Cost of Serious crash in London = £220K
People like cameras

LSCP Surveys

87% agree ‘cameras reduce casualties’

So why all the negative press?
Safety and Signal Timings

- Platoon traffic using ATS timings on Camden High Street
- A number of other options considered also
  - Build-outs
  - Ripple Strips
  - Reduce Speed signs for speeding traffic
  - Motorcycle and pedal cycle facilities
Future Innovations (1)

Time-Distance Cameras

- for main roads
- for 20mph residential zones

Future Innovations (2)

Intelligent Speed Adaptation

- Advise driver of speed limit, or control speed of vehicle
20mph Zone Cameras

- Time-distance cameras on Upper Thames St
- Trials in Camden of digital SPECs III technology: ongoing monitoring
20mph Zone Cameras

- No engineering works in the area
- Better streetscape
- Only affect through ‘rat-running’ traffic
- Popular with many Boroughs
- Can be more-or-less self financing!
- BUT need access to fine income
- Could do all 20mph zones in 10 years
ISA - Intelligent Speed Adaptation

- Need a Speed Limit Map
- Position known from global satellite positioning
- Information conveyed to the driver or used to control the speed of the vehicle
Intelligent Speed Adaptation

- **Advisory ISA**
  - No engine management, driver is made aware of the speed limit

- **Voluntary ISA**
  - Engine management is included, but driver controlled

- **Mandatory ISA**
  - Engine management “always on”
**Intelligent Speed Adaptation**

<table>
<thead>
<tr>
<th>System type</th>
<th>Best estimate of injury collision reduction</th>
<th>Best estimate of KSI collision reduction</th>
<th>Best estimate of fatal collision reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advisory</td>
<td>10%</td>
<td>14%</td>
<td>18%</td>
</tr>
<tr>
<td>Voluntary</td>
<td>10%</td>
<td>15%</td>
<td>19%</td>
</tr>
<tr>
<td>Mandatory</td>
<td>20%</td>
<td>29%</td>
<td>37%</td>
</tr>
</tbody>
</table>
Intelligent Speed Adaptation

• On-board processing combines map with vehicle position
  What happens if it fails?

• An in-vehicle Human Machine Interface (HMI)
  In-vehicle distraction?

• Linking to the engine management system (haptic throttle)
  Accelerator feedback

• A method of updating the on board map
  ("The London ISA pilot will be passive by design")
You don’t have to fit everybody

- There are around 5M vehicles in London every day
- One speed limited vehicle could influence 10-20 other vehicles, depending on inner/outer London
- Ultimate aim to fit 500,000 vehicles
- There are 20,000 taxis and 6,500 buses
ISA - DISBENEFITS

- Increased Journey Times – need to assess
- Possible Liability issues with a Mandatory System
- Some location problems with GPS
Intelligent Speed Adaptation

The next steps

• Technology for the vehicle to map its position.

Some more about GPS

• Current error in London ~5m (Oct 2006)
• (9.7m in 2004)
• Galileo (2010-2012)
Intelligent Speed Adaptation

- **What about emissions?**
  
  lower speed can = lower emissions

- **What about journey time?**
  
  lower speed can = longer journey times
Intelligent Speed Adaptation

Possible Incentives for the use of ISA

• Licensing of buses, taxis and private hire vehs
• Congestion charging discounts
• Reduced insurance premiums
• Less pollution
• Social acceptability
ISA – TIMESCALES

- Contract placed to produce speed limit map during 2007
- Make map available during 2007
- Plan pilot trial of 4-10 vehicles
- Run pilot trials in 2008
ISA - Are there Alternatives?

YES

‘Black Box’ technology fitted in vehicles can detect speeding etc.

Used to reduce insurance premiums for young drivers

Norwich Union and AXA trials underway

These can be additional to ISA
CONCLUSIONS

• Casualties are falling in London, but more needs to be done
• The ‘tried and tested’ methods will continue to be used
• New innovations are time-distance cameras in the short term, and Speed Adaptation longer term
Road Safety – Beyond 2010

• Targets work; so let’s have some more
• Need a strong vision; supported by National Government
• Need People and skills
• Need Money