A decorative graphic consisting of overlapping yellow, red, and blue squares with a black crosshair.

# **ITS in the United Kingdom Road Safety, Casualty Reduction, Enforcement and Security**

**Neal Skelton  
Head of Professional Services  
ITS United Kingdom**





# Government Casualty statistics

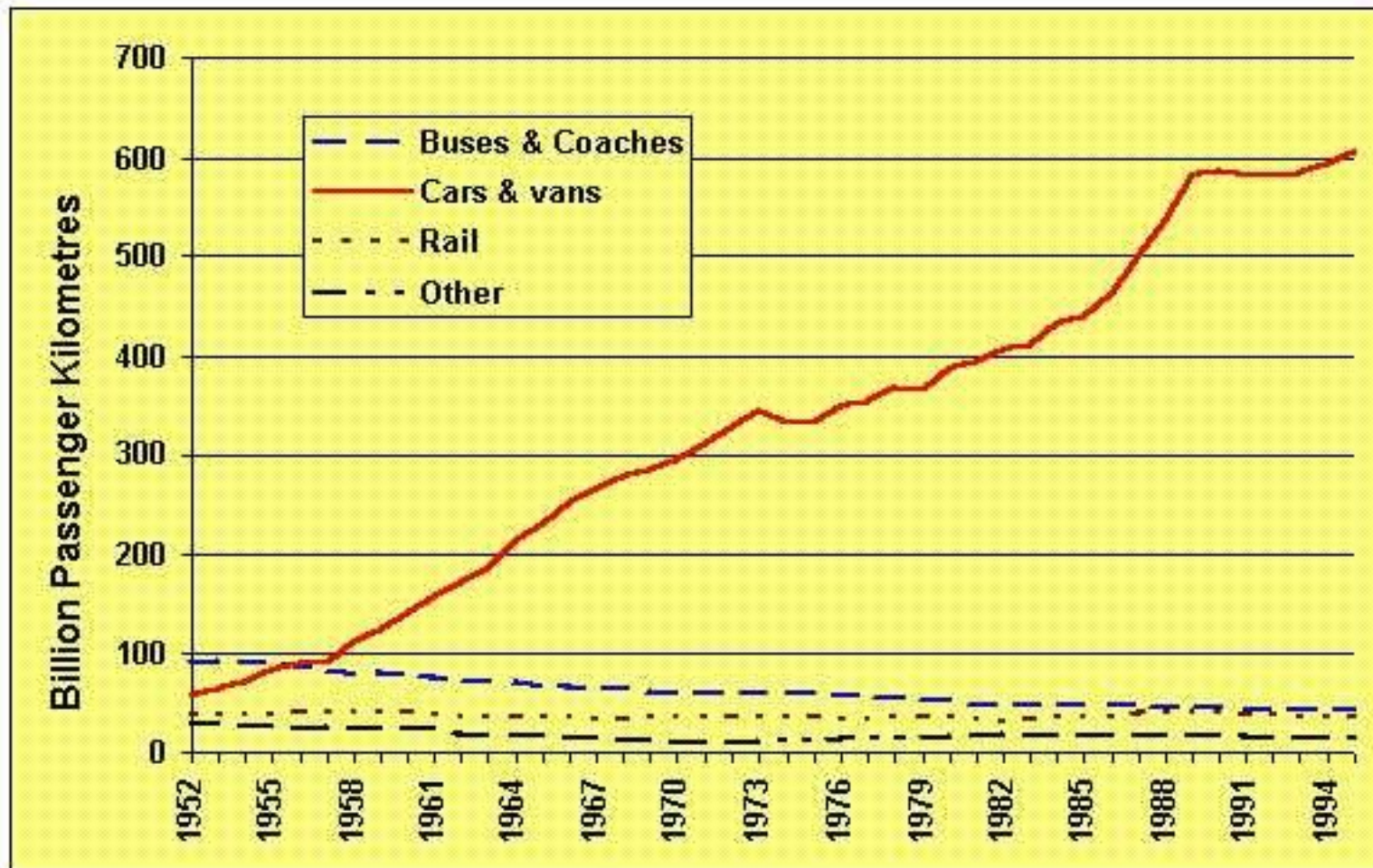


(Source – Road Casualties in Great Britain: Main results: 2007 – DfT 2008)

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- **GB Road Casualties, 2007**
- **2,946 – Killed**
- **27,774 – seriously injured**
- **247,780 – casualties in total**
  
- **Vulnerable road users**
  - **pedestrian and pedal/motor cyclists = 51%**

# UK - Passenger Kilometres Statistics



- Source – 'Integrated Transport' White Paper (1997) – Office of National Statistics

# Road Traffic – Vehicle Types

<u>Year</u>	<u>Cars Taxis</u>	<u>Motor Cycles</u>	<u>Buses Coaches</u>	<u>Light vans</u>	<u>Goods vehicles</u>	<u>All motor vehicles</u>	<u>Pedal cycles</u>
<b>1949</b>	<b>20.3</b>	<b>3.1</b>	<b>4.1</b>	<b>6.5</b>	<b>12.5</b>	<b>46.5</b>	<b>23.6</b>
<b>1975</b>	<b>181.6</b>	<b>5.1</b>	<b>3.2</b>	<b>23.5</b>	<b>18.3</b>	<b>231.7</b>	<b>4.4</b>
<b>1985</b>	<b>250.5</b>	<b>7.4</b>	<b>3.7</b>	<b>28.6</b>	<b>19.6</b>	<b>309.7</b>	<b>6.1</b>
<b>1995</b>	<b>351.1</b>	<b>3.7</b>	<b>4.9</b>	<b>44.5</b>	<b>25.4</b>	<b>429.7</b>	<b>4.1</b>
<b>2005</b>	<b>397.2</b>	<b>5.4</b>	<b>5.2</b>	<b>62.6</b>	<b>29.0</b>	<b>499.4</b>	<b>4.4</b>

- Volumes - Billion vehicle kilometres
- Source – Department for Transport - Transport Statistics Great Britain (2006)

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## **Role of ITS in UK**

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- **Improve safety**
- **Extend traveller information**
- **Increase integration**
- **Manage congestion**
- **Improve journey time reliability**
- **Reduce vehicle emissions**
- **Aid crime reduction strategies**

# Incident management

- **Early Detection**
- **Quick Reaction**
  - **VMS, Media Report**
  - **Internet/WAP/3G**
- **Liaison**
  - **Police,**
  - **Ambulance**
  - **Fire**



# (MIDAS) - Motorway Automatic Incident Detection

- Reports motorway congestion
- To reduce collisions by 18%
- Messages automatically removed once normal traffic flow restored
- 10 year plan to extend use of MIDAS to all congested motorways



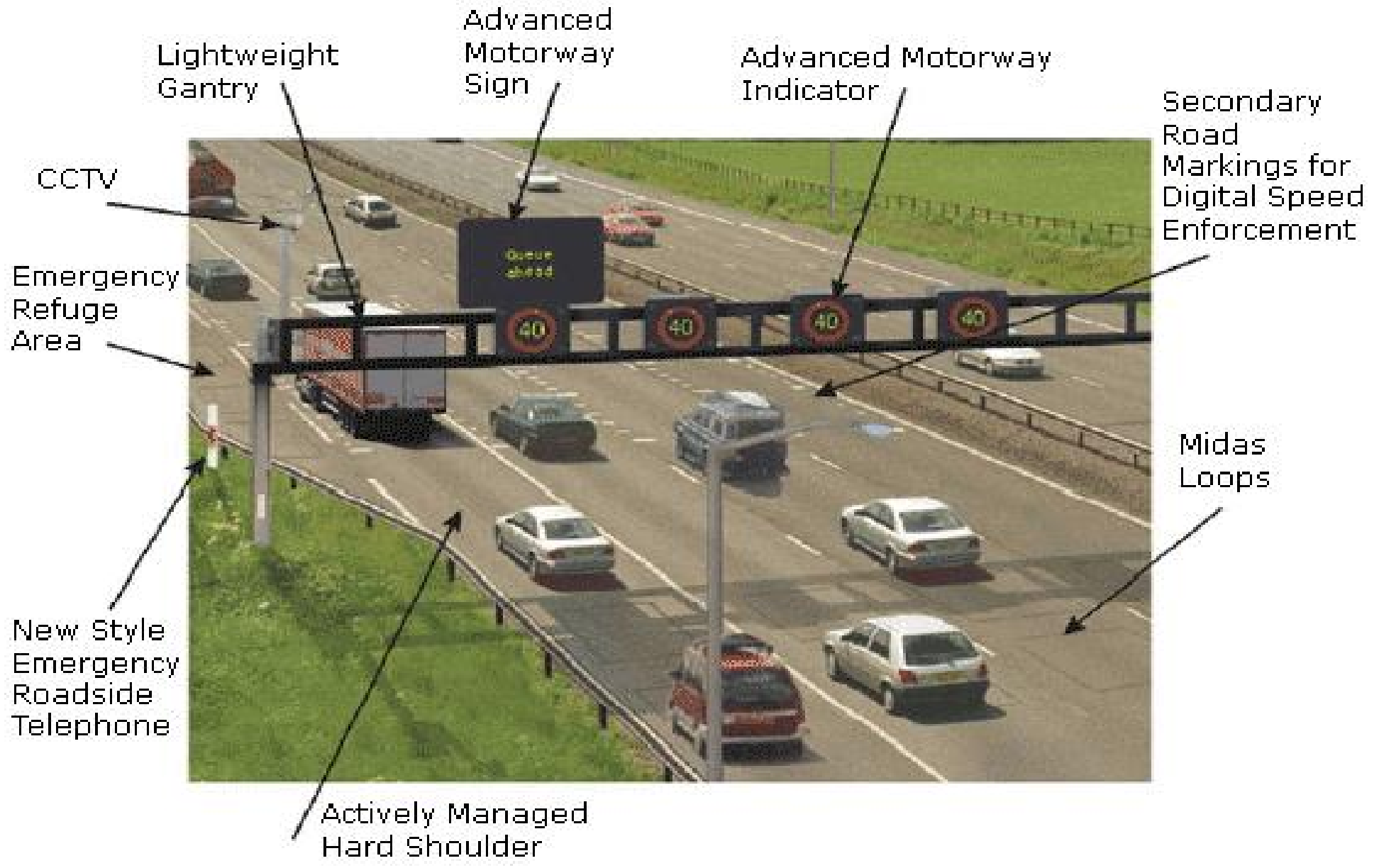
# M25 Motorway Lane Signalling / Speed Control



**Better use of Lanes**  
**Improved Safety**

**Less driver stress**  
**Reliable Journeys**

# M42 Active Traffic Management

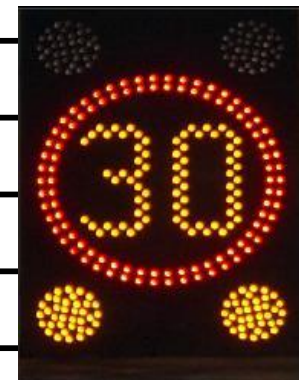


# Vehicle Activated Signs

- **Sends message to drivers re road conditions**
  - Bends    - Junctions - Speed
- **Advises on inappropriate speed**
- **TRL Study – speed reductions**



	Average Speed Before	Average Speed After
30mph roundel	34.5 mph	30 mph
40mph roundel	38.2 mph	35.1 mph
30/20mph change	31.1 mph	24.9 mph
40/30mph change	39.7 mph	30.8 mph
50mph roundel	52 mph	47.9 mph



# National / Regional Traffic Management and Control Centres

- **Collects data - linked to Urban Traffic Management Control systems**
- **Provides information to drivers**
  - Variable Message Signs (VMS)
  - Telephone, internet, media
- **Active monitoring**
  - 'Red Light' & 'Speed' Cameras
  - CCTV camera systems
- **'Park & Ride' schemes**



# Total Journey Information

## ■ Travel Information

- Pre-journey, En-Route, At Destination

## ■ Internet and Mobile Data

- In-vehicle systems
- WiFi /Wireline
- WAP/3G /4G terminals
- GSM

## ■ Broadcast

- Digital TV/Radio
- RDS-TMC
- DAB

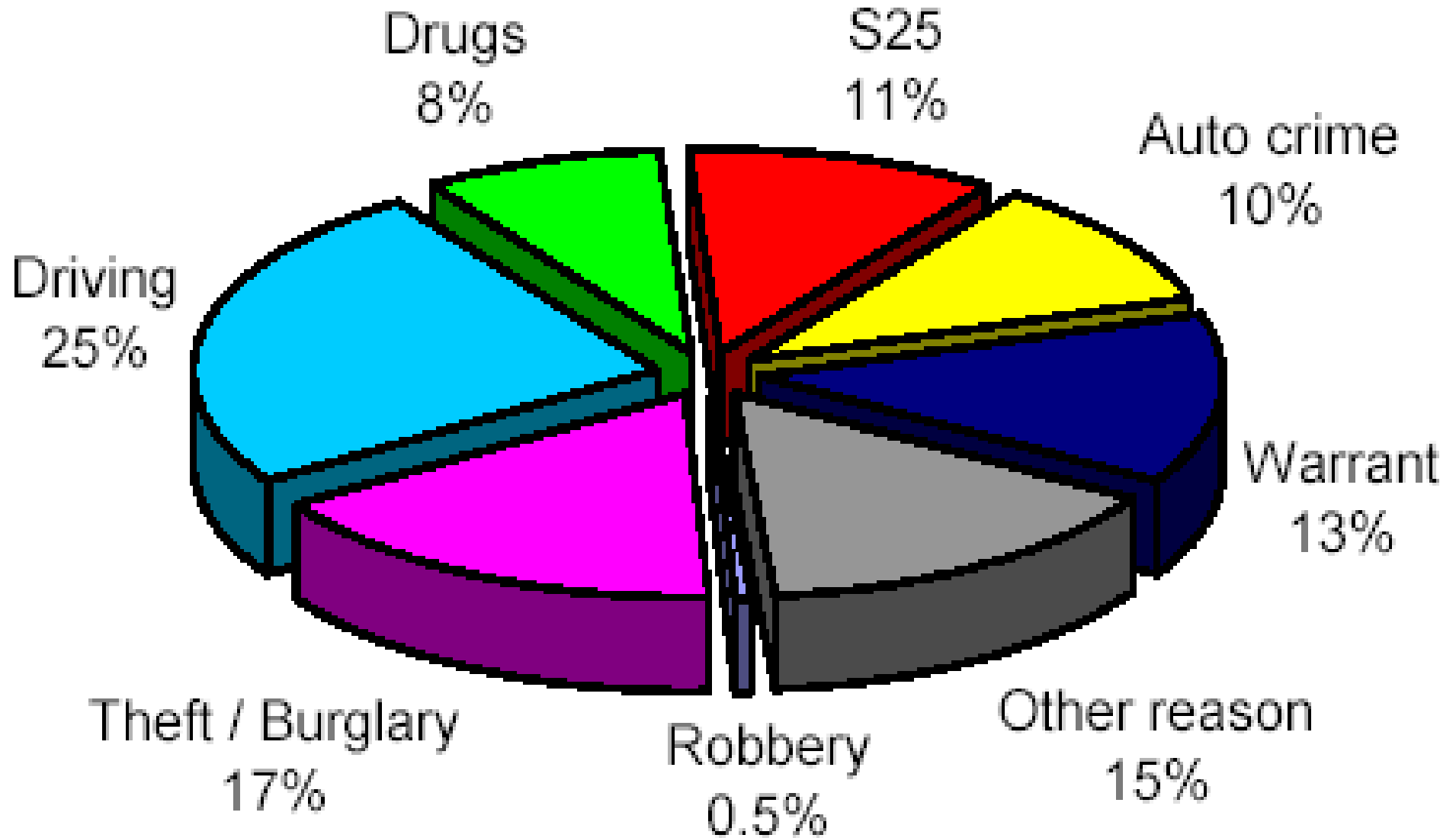


# ITS Technologies

- **ANPR = Automatic Number Plate Recognition**
  - **Terrorism/ Crime/ Intelligence**
- **EVI = Electronic Vehicle Identification**
  - **Crime Reduction/ Road User Charging**
- **CCTV = 'intelligent' CCTV/EPOS/ Facial Recognition/VoIP/WiIP**



# ANPR – Enforcement Categories



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# **'Going for Gold'**

## **Security and Infrastructure issues**

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### **London 2012 Olympic Games**

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# 2012 – London Olympic Games

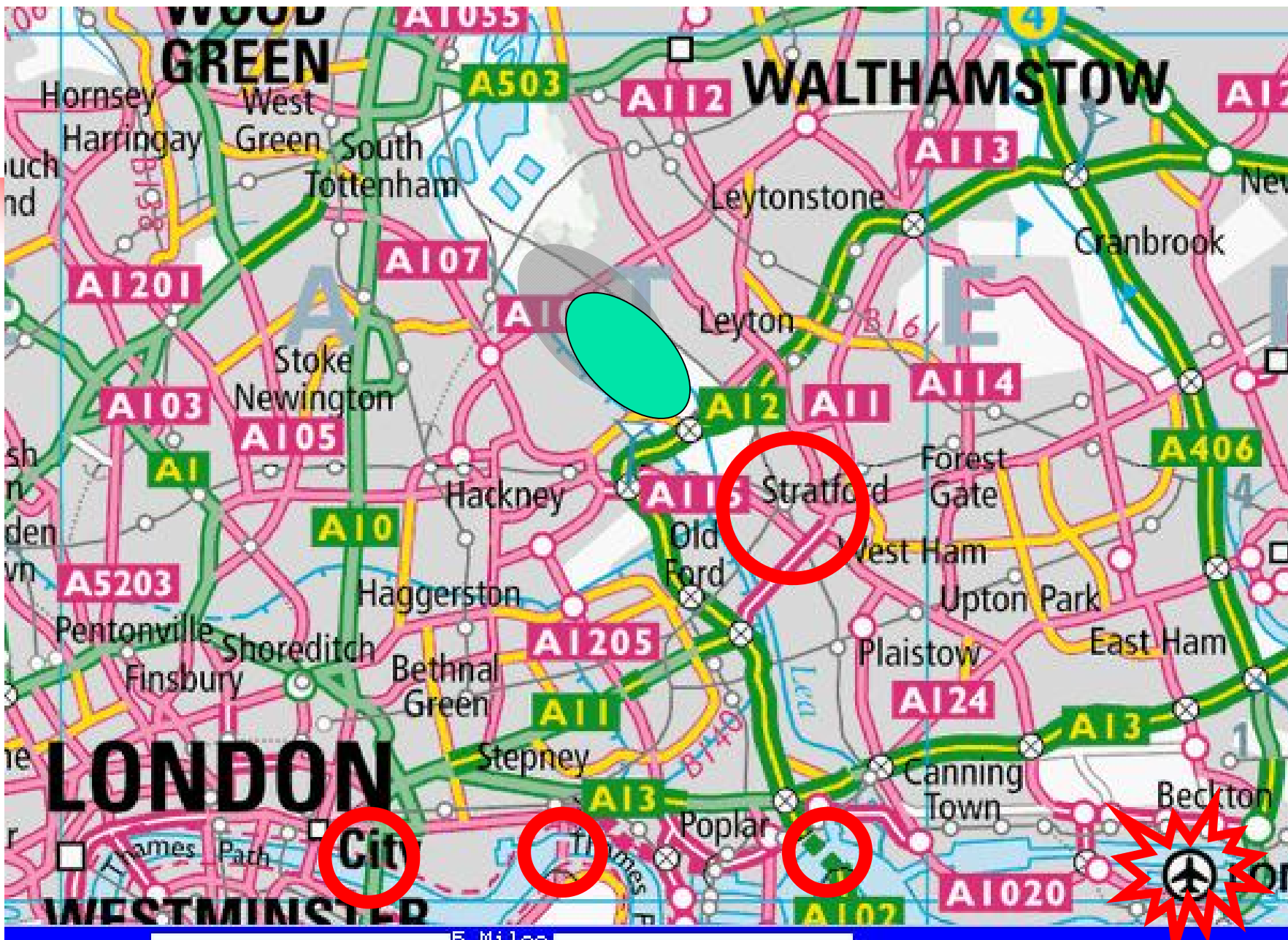
**Stratford 'Multi-modal' Hub**

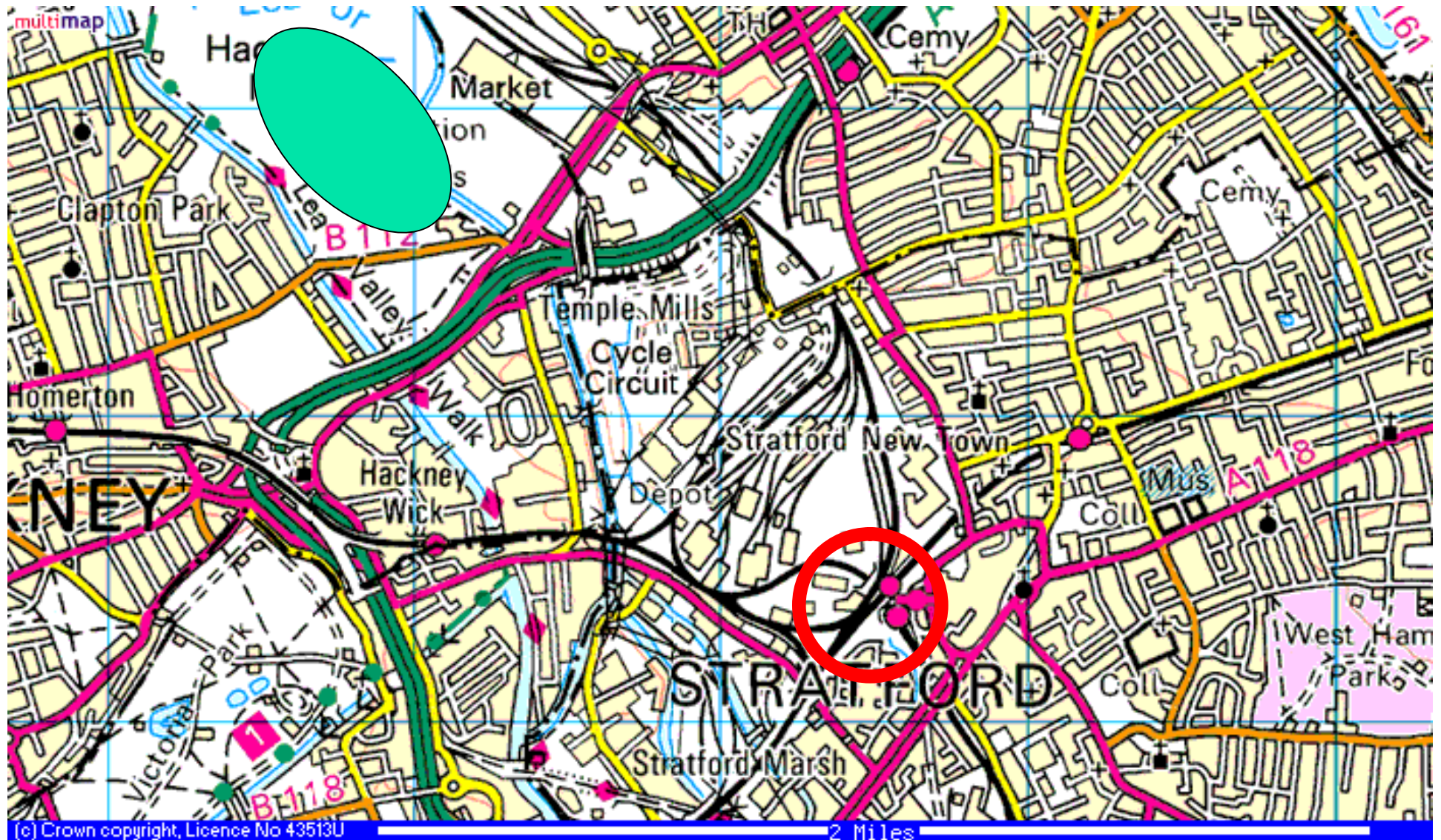


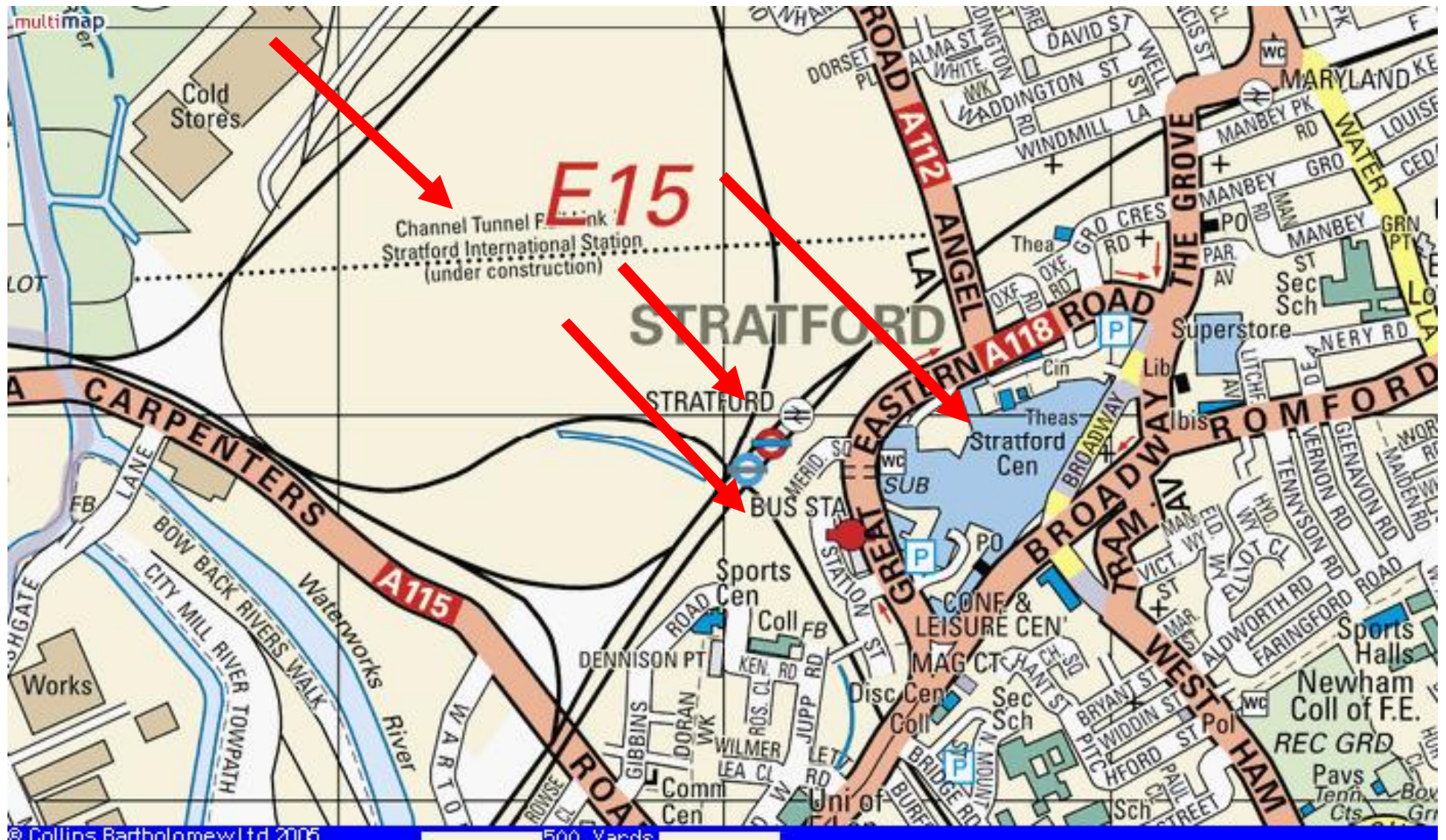
# Games - Transport Context

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- **Recent terrorist incidents – September 11<sup>th</sup>, Madrid and 2005/2007 London bombing attacks – transport - common denominator**
- **Security - athletes, officials and spectators**
- **Effect - congestion, overcrowding, safety**
- **ITS can play significant & effective role re transport and security**
- **High security on transport infrastructure**
  - **Particularly road, rail, air, water transport hubs**
  - **e.g. - Stratford Station – multi-modal hub**
- **Compromise security & traveller 'free-flow'**







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# Olympics Infrastructure

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- **Heavy reliance on existing infrastructure**
- **New rail and road infrastructure,**
- **Regional sporting facilities,**
- **Cycling facilities and pedestrian bridges,**
- **Disabled access**
- **Routing development strategies**
- **Car parking options**
- **Pedestrian management options**
- **Street lighting and CCTV improvements**
- **Strategic VMS – manage/direct travellers**

# Stratford 'Multi-Modal' Hub





# Challenge – Freedom-v-Security

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- **Simultaneously ensure participants / spectators enjoy Games & London - satisfy 'travel needs' and security requirements**
- **However also ensure safety/security**
- **Avoid 'bottlenecks' using technologies to**
  - **Screen Games visitors ('Smart tickets', CCTV facial recognition, ANPR, etc)**
  - **Track & guide persons/vehicle movements**
  - **Facilitate traveller information**
  - **Provide ready access / egress for emergency & security services – also monitor / delay public arrival / departure**

# ITS in the United Kingdom

## Road Safety, Casualty Reduction, Enforcement and Security

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