Central London Congestion Charging key factors in successful delivery

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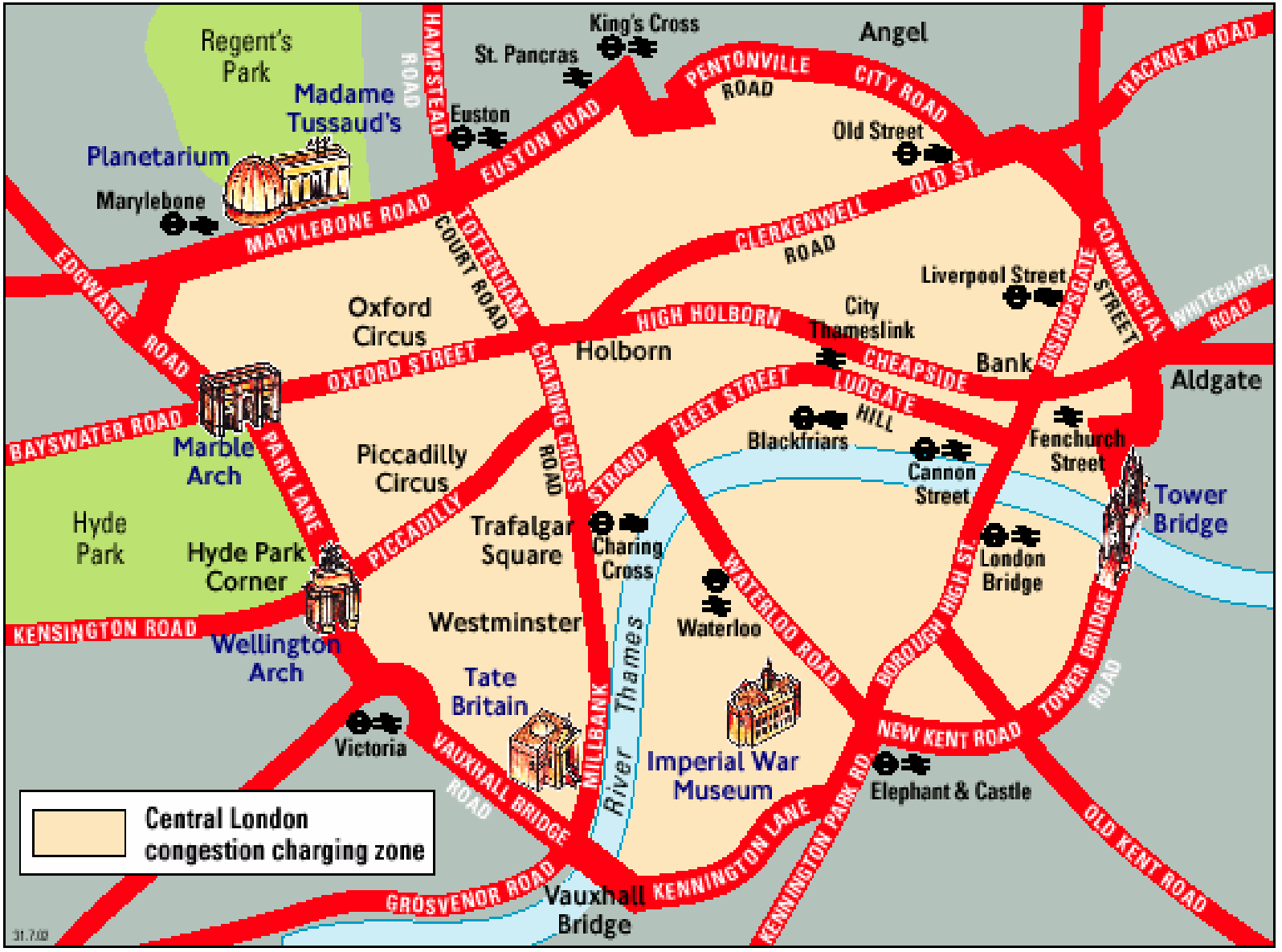
Transport for London
2000 - 2003

Outline of talk

- Brief description of scheme
- Impacts of the scheme
- Delivering the scheme
- Key factors in delivery and lessons learnt

Where is the congestion charging zone?

Central London only


Regent's Park
Madame Tussaud's
Planetarium
Marylebone
HAMPSTEAD ROAD
King's Cross
St. Pancras
Euston
EUSTON ROAD
PENTONVILLE ROAD
CITY ROAD
Angel
HACKNEY ROAD
Old Street
OLD ST.
MARYLEBONE ROAD
EDGWARE ROAD
LOTTENHAM COURT ROAD
CLERKENWELL ROAD
Liverpool Street
BISHOPSGATE
COMMERCIAL STREET
WHITECHAPEL ROAD
Oxford Circus
OXFORD STREET
HIGH HOLBORN
Holborn
City Thameslink
CHEAPSIDE
Bank
Aldgate
BAYSWATER ROAD
Marble Arch
PARK LANE
Piccadilly Circus
CHARING CROSS ROAD
STRAND
FLEET STREET
LUDGATE HILL
Blackfriars
Cannon Street
Fenchurch Street
Tower Bridge
Hyde Park
Hyde Park Corner
PICCADILLY
Trafalgar Square
Charing Cross
WATERLOO ROAD
London Bridge
KENSINGTON ROAD
Wellington Arch
Westminster
Waterloo
BOROUGH HIGH ST.
TOWER BRIDGE ROAD
Tate Britain
MILLBANK
River Thames
Victoria
VAUXHALL BRIDGE ROAD
Imperial War Museum
NEW KENT ROAD
Elephant & Castle
KENNINGTON PARK RD
KENNINGTON LANE
OLD KENT ROAD
GROSVENOR ROAD
Vauxhall Bridge
Central London congestion charging zone
31.7.08

Choice of scheme

- £5 daily area charge
- Camera-based enforcement
- Proven technology
- ➡ Drew on ROCOL (2000) - concluded that such a scheme would be effective and feasible to implement in first mayoral term

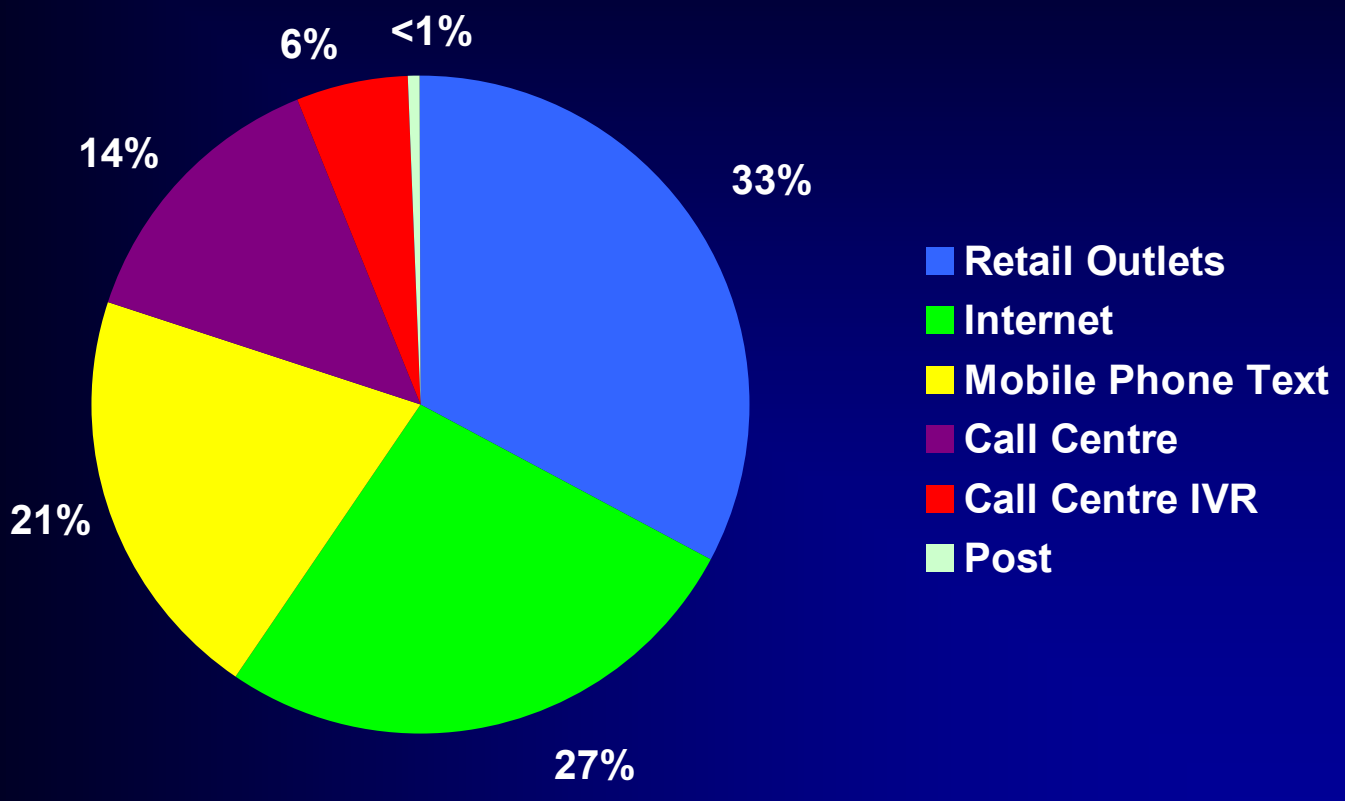
Charge Payment

- Daily, weekly, monthly or annual payment, for individual vehicle registration number

T 123 ABC

- Flat charge of £5 per day (Monday - Friday 7am - 6.30pm) for all vehicles
- Payment by post, telephone, internet, SMS, or at self service machines, retail outlets and some petrol stations
- Payment available up until midnight, but charge rises to £10 after 10pm

Payment channels



Camera enforcement


C

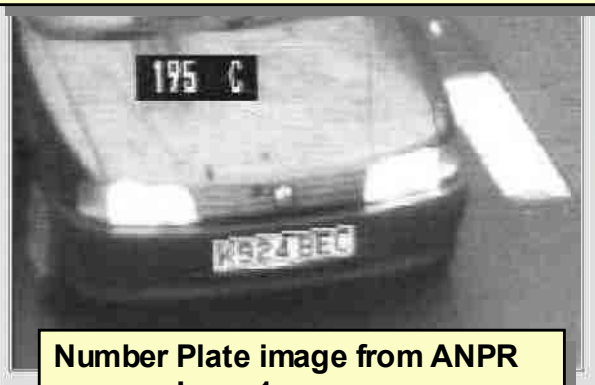
Camera Enforcement

Evidential records

CCS Evidential Records

Colour Contextual Image

Monochrome Image from ANPR camera



Number Plate image from ANPR camera, Lane 1

ANPR 1 -

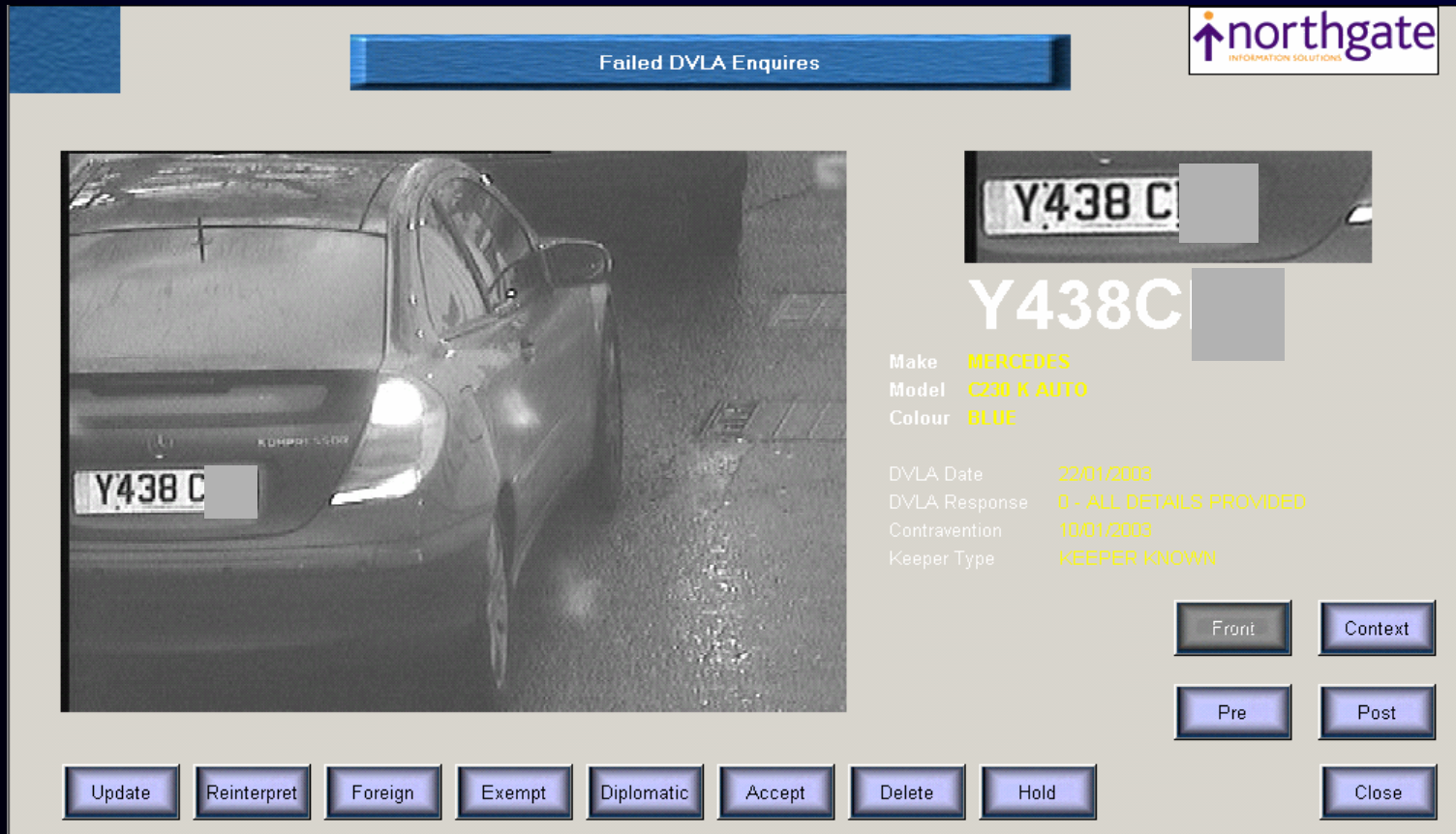
K924 BEC

ANPR system output

Evidential Record Summary

Site	: 195 - Finchley Road - northbound
Lane	: ANPR 1
Date	: 01 March 2001
Time	: 14.15.56
Frame	: 000258176
Encryption	: JD516383

Camera enforcement



- **Actual image - vehicle details partially obscured**

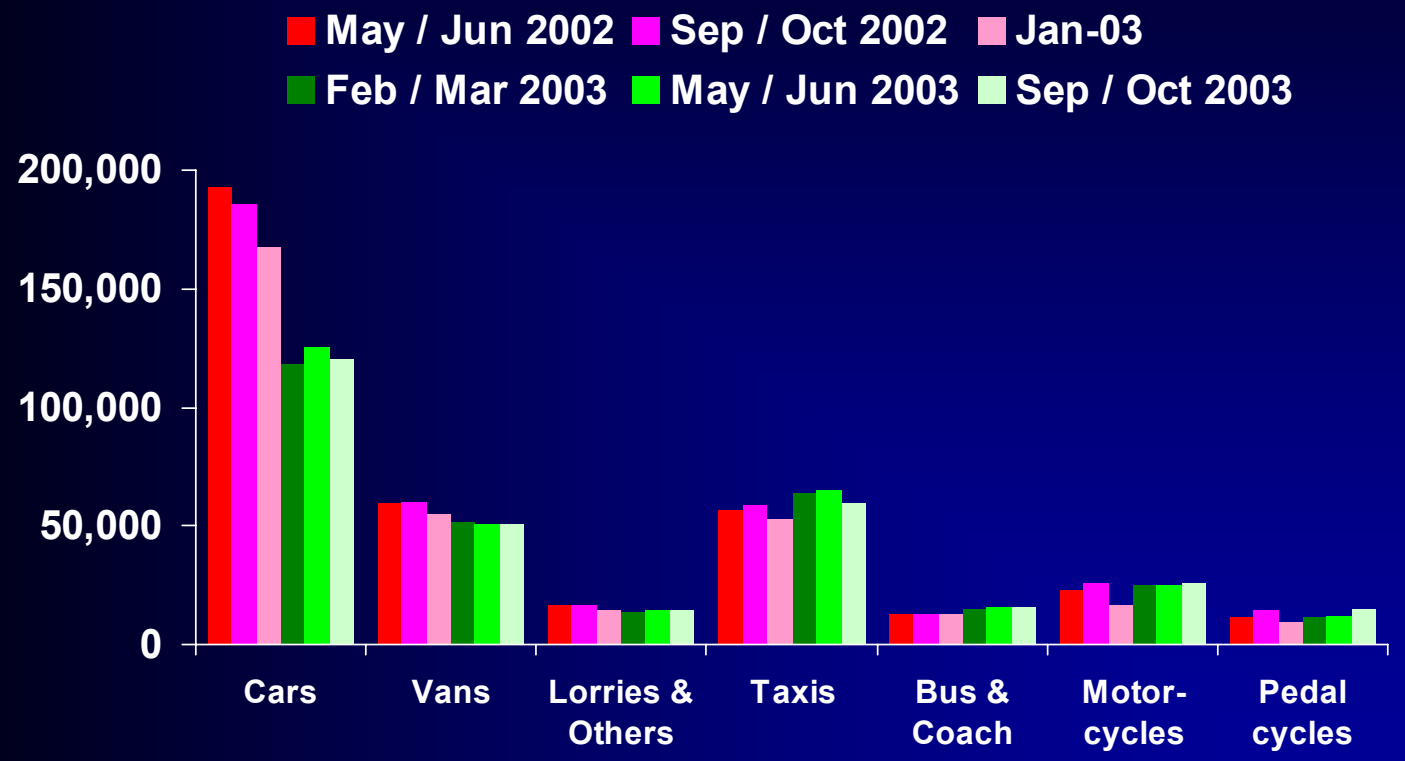

Authorised Removal Unit
LR52 AWA
MAN

Impacts of congestion charging

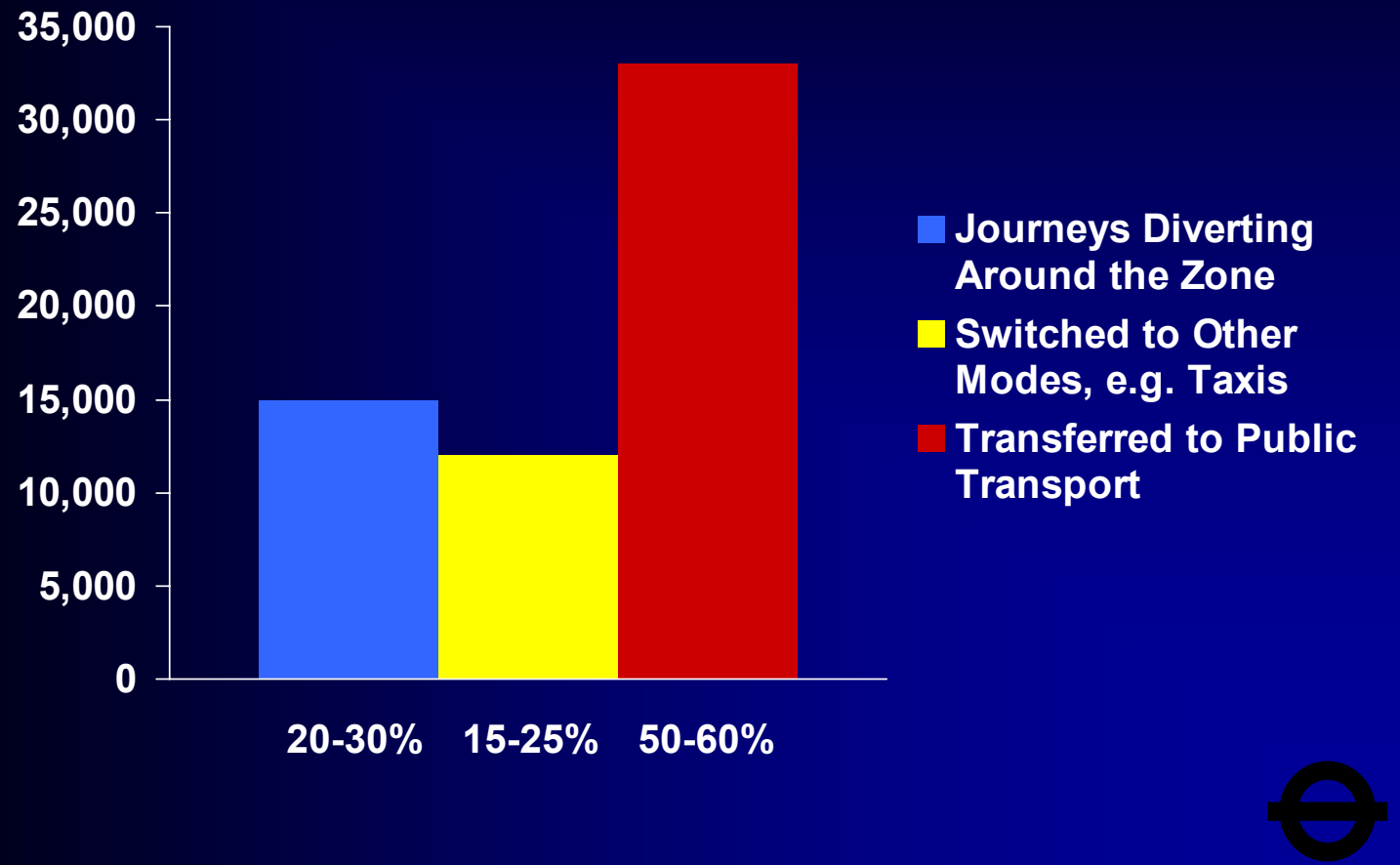
Traffic changes

- Driver responses to charging remain settled
- Traffic delays inside charging zone down 30%
- Traffic delays on main routes into the charging zone down 20%
- Traffic entering the charging zone down 18%
- 15% less traffic circulating within the zone
- Traffic continues to be successfully managed on boundary route
- No significant adverse traffic impacts outside the charging zone

Total traffic entering the charging zone during charging hours reduced by 18%



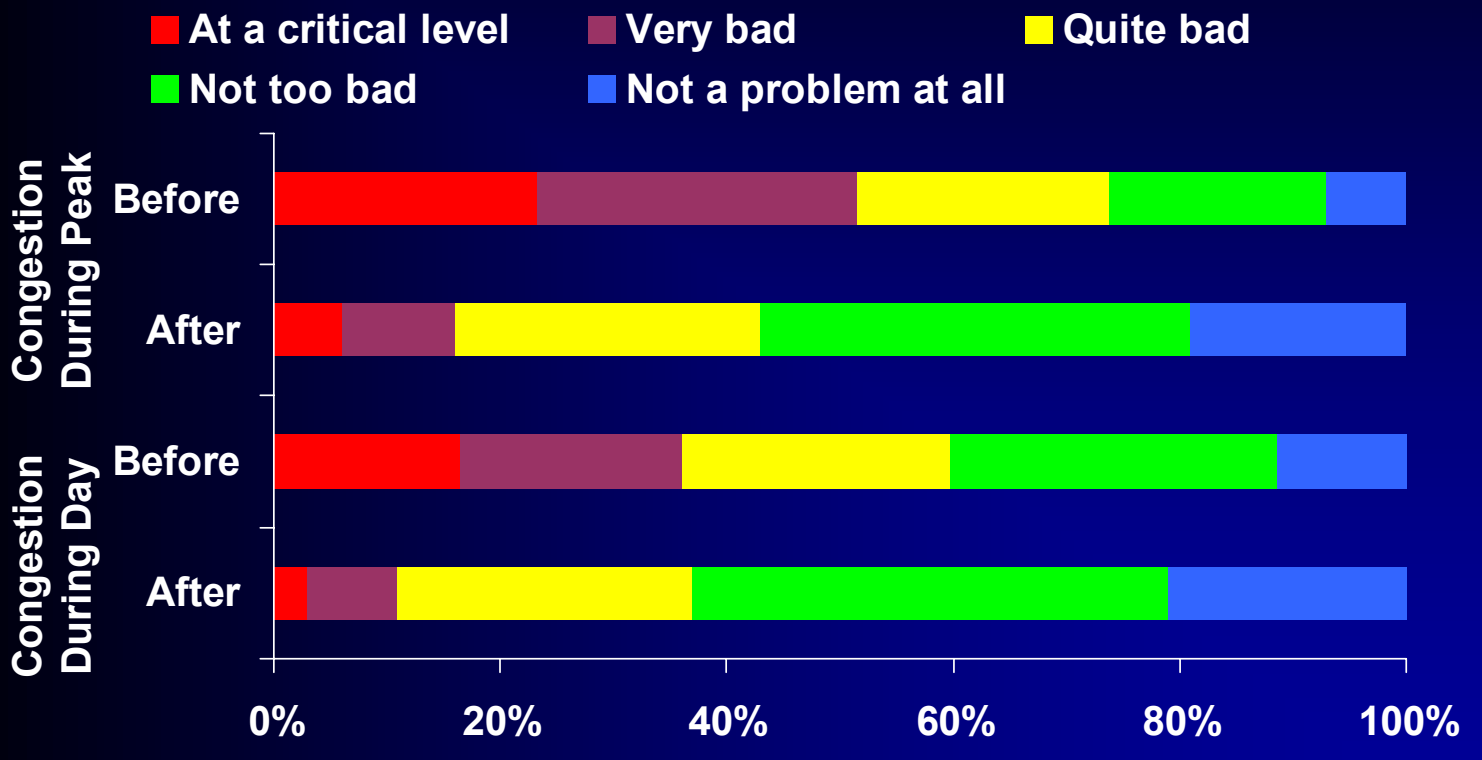
Majority of ex-car users transferred to public transport



Public transport

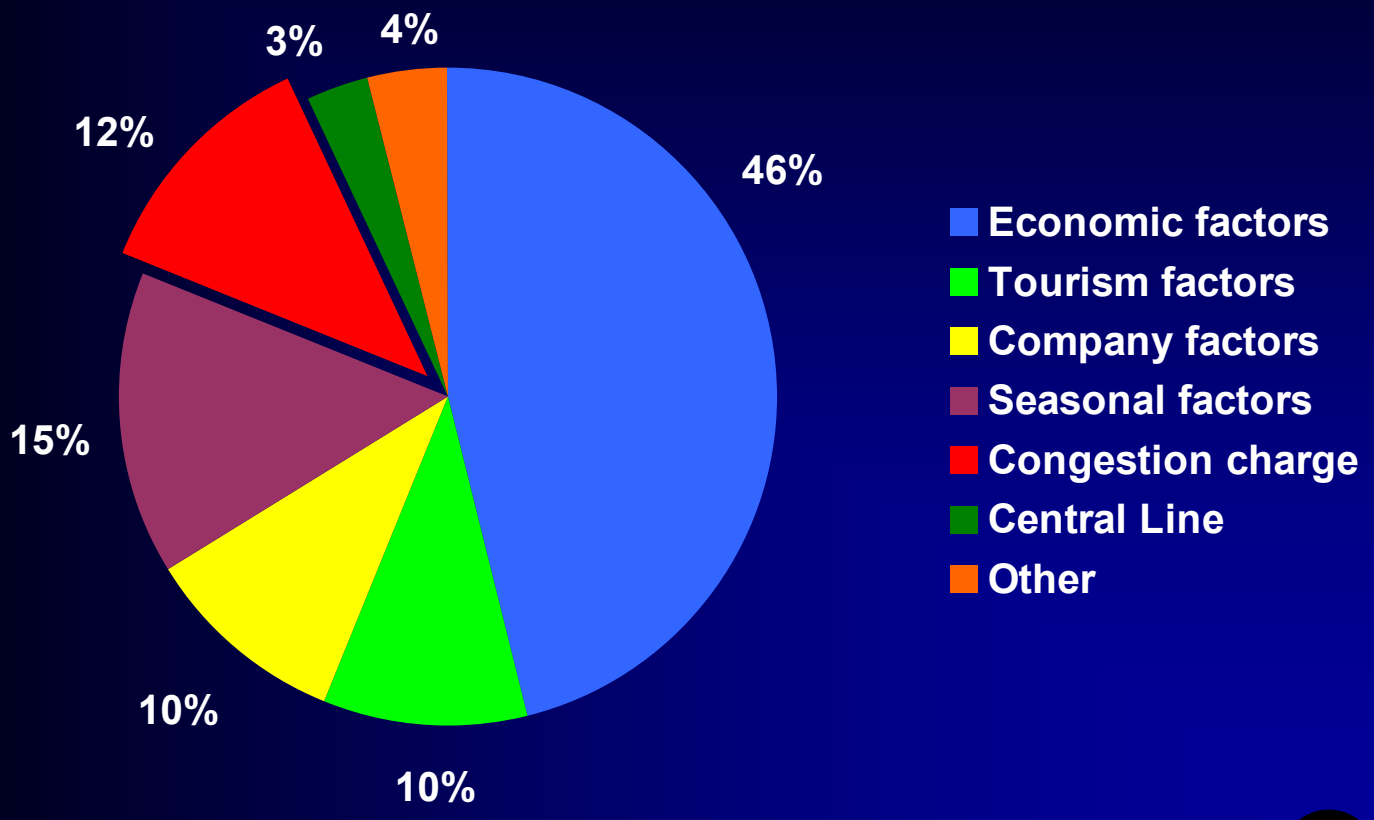
- Public transport continues to cope well
- Supply meets demand - an extra 14,500 bus places have been provided to charging zone in peak hour to handle 14,000 additional passengers
- Improved bus reliability: 60% less traffic disruption
- Improved bus speeds of around 6%
- Excess bus waiting time reduced by around one-third

Changes in the perceived level of congestion by business in central London



Source: TfL Telephone Business Surveys, autumn 2002 compared with autumn 2003

Influences on recent business performance



Net revenues

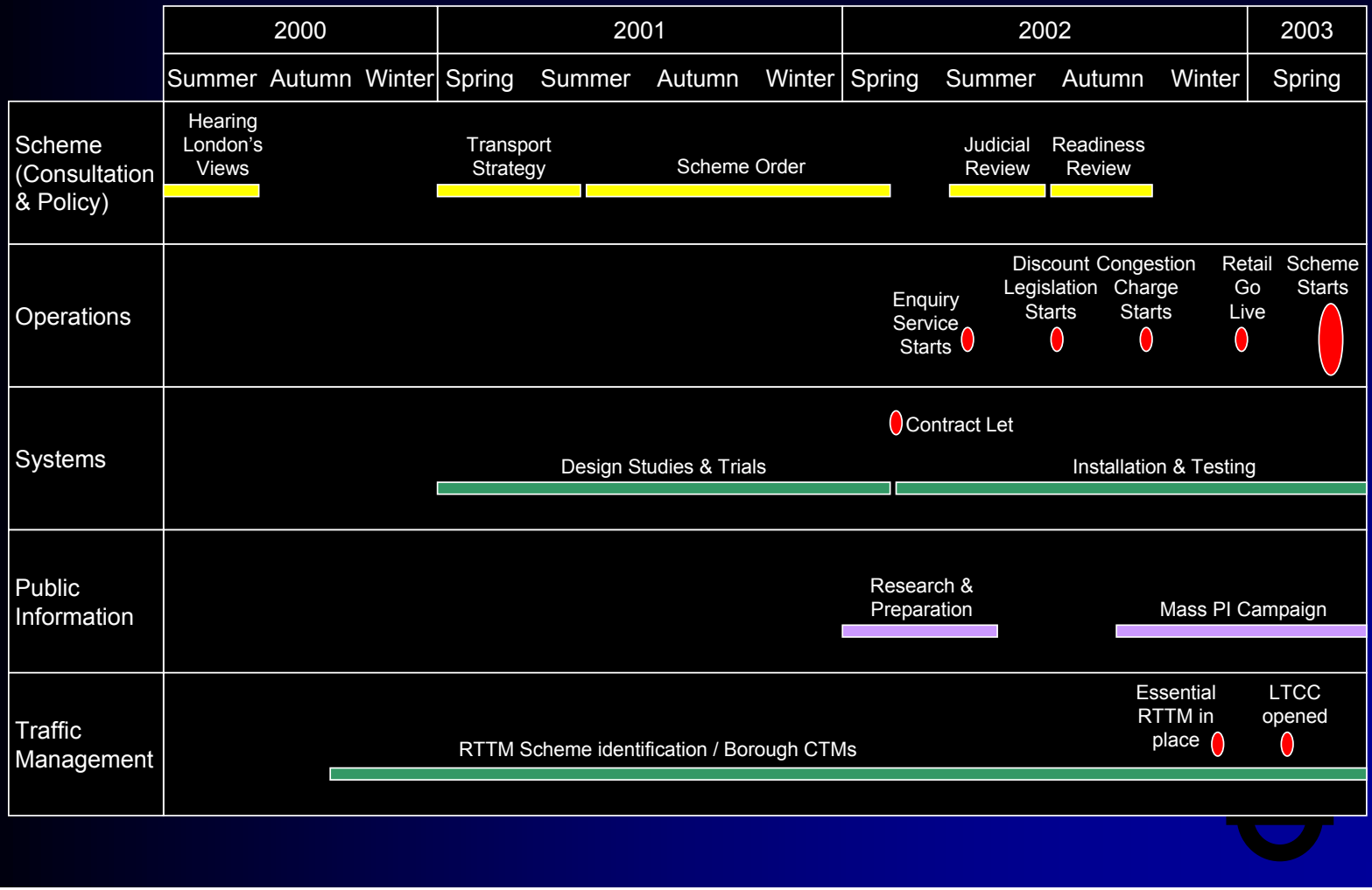
- Scheme net revenues are less than the originally projected £130 million/year resulting from:
  - Successful congestion reduction
  - Higher than expected exempt / discounted vehicles
  - Higher than expected evasion levels
- Net revenue for 2003/04 - £80 million
- Forecast £80 - £100 million in future years

Emissions in Congestion Charging Zone

- 12% Reduction of NOx and PM_{10}
- 19% Reduction of CO_2
- No discernible changes in levels of pollution on zone boundary
- 20% Reduction in fuel usage

Key factors in delivery and lessons learnt

PROJECT PLAN



Key factors in delivery

- **C**hampion
- **O**bjective
- **M**oney
- **P**roblem and powers
- **A**lternatives
- **S**upport
- **S**kills

Champion

Objective

- No.1 priority – to reduce congestion

- charging as part of a London-wide Strategy
- Integrated approach: public transport; parking and loading enforcement; congestion charging
- secondary objectives
  - helping public transport
  - raising funds

Problem

Context

- Greater London - largest urban area in Europe, over 7 million population
- Central London - 1 million workers, heart of UK business, government, media, heritage
- Suffered worst traffic congestion in the UK
  - average traffic speeds 15 km/hr
  - vehicles typically spent half their time in queues
- Congestion increasing, costing people and businesses time and money
- General acceptance - ‘something must be done’

Powers

- Greater London Authority Act 1999
- Mayor had virtually all the powers needed to implement scheme with little reliance on central Government
- Powers to direct London boroughs

Alternatives

- Diversion route – Inner Ring Road and effective traffic management
- Adequate public transport alternatives

Support

- Hypothecation
- Exemptions and discounts
- Extensive public consultation and stakeholder engagement
- Strong public information campaign

Support for the scheme

- Prior to the introduction of the London congestion charge public opinion was equivocal
- After introduction, public opinion shifted decisively in favour of the scheme, with opposition levels falling

	02	03 Pre-CC		03 Post-CC				04
Support	40	38	39	57	50	59	48	54
Neither	19	16	18	16	18	15	21	18
Oppose	40	43	41	27	31	24	28	27

Key Exemptions and Discounts

- Motorbikes/mopeds
- Emergency services
- Taxis and licensed minicabs
- Disabled persons
- Buses, coaches and minibuses
- Certain alternative fuel vehicles
- Breakdown & recovery vehicles
- Certain health service workers
- 90% discount for residents of zone
- Military vehicles

Exempt and 100% discount currently account for 25,000 vehicles a day (23% of total traffic)

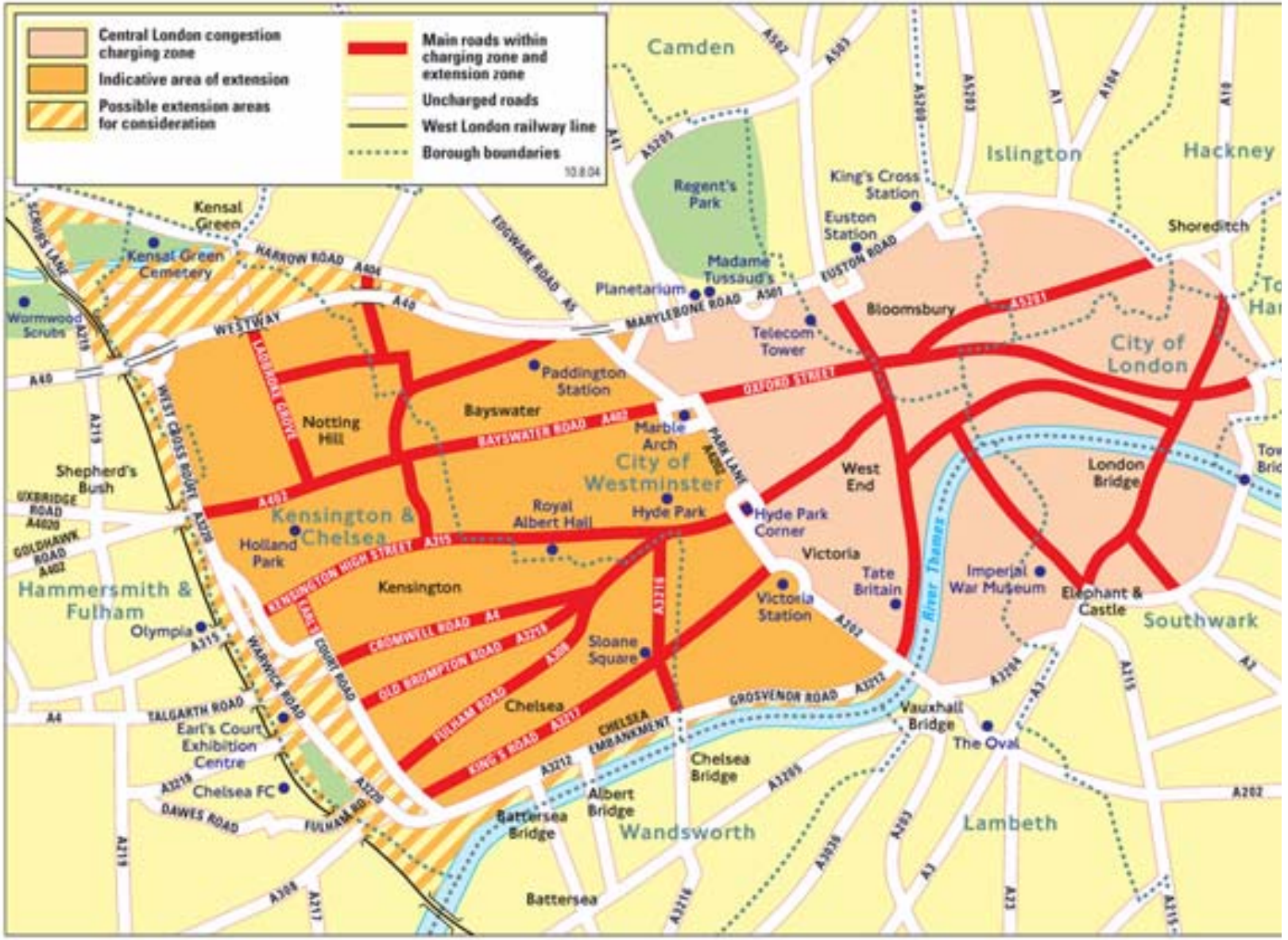
Skills

- Strong officer leadership
- Strong project management
- Mix of private and public sector skills
- Need for effective contract management

www.tfl.gov.uk/congestioncharging

Further Improvements

- Examining potential for:
  - Automated payment
  - More petrol stations
  - Improving the web
  - Improving fleet scheme
  - Free days at Christmas
- Scope for improving scheme with:
  - Migration to new technologies
  - Extending the benefits with geographical migration


Central London congestion charging zone
Indicative area of extension
Possible extension areas for consideration
Main roads within charging zone and extension zone
Uncharged roads
West London railway line
Borough boundaries
10.8.04
Camden
Islington
Hackney
Regent's Park
King's Cross Station
Euston Station
Shoreditch
Kensal Green
Kensal Green Cemetery
Harrow Road
Edgware Road
Madame Tussaud's
Planetarium
Marylebone Road
Euston Road
Bloomsbury
Telecom Tower
City of London
Wormwood Scrubs
Westway
Paddington Station
Bayswater
Notting Hill
Oxford Street
Marble Arch
Park Lane
City of Westminster
West End
London Bridge
Shepherd's Bush
Uxbridge Road
Goldhawk Road
Holland Park
Royal Albert Hall
Hyde Park
Hyde Park Corner
Kensington & Chelsea
Kensington High Street
Kensington
Victoria
Tate Britain
Imperial War Museum
Elephant & Castle
Hammersmith & Fulham
Olympia
Victoria Station
River Thames
Southwark
Cromwell Road
Old Brompton Road
Fulham Road
King's Road
Sloane Square
Chelsea
Grosvenor Road
Vauxhall Bridge
The Oval
Talgarth Road
Earl's Court Exhibition Centre
Chelsea FC
Chelsea Embankment
Chelsea Bridge
Albert Bridge
Battersea Bridge
Wandsworth
Lambeth
Battersea
Dawes Road
Fulham Rd
Warwick Road
Earl's Court Road
West Cross Route

Technology Trials and developments

- Can GPS (satellite positioning), GSM (mobile phone) or DSRC (tag and beacon)
  - Work in London environment?
  - Be accurate and enforceable
  - Have limited Infrastructure requirements - visual intrusion
  - Offer more flexible, cost effective charging
- National feasibility studies
- Working with Department for Transport and Customs & Excise and European colleagues

Technology Trials staging

- Stage 1 – 2003/04 - due to report on “proof of concept” trials - summer 2004
  - GSM Mobile
  - GPS accuracy
  - DSRC tag and beacon
  - Digital broadband video transmission
  - Automatic Number Plate Reading and digital cameras
- Stage 2 – 2004/05 – planned to be a wider trial of fewer technical solutions
- Stage 3 – 2005/06 – is expected to focus on usability, logistics and customer processes

DSRC Trial Site

Canadian tag and beacon infrastructure on Highway 407