

Steve Kearns - Transport for London

The Move Towards Sustainable Transport

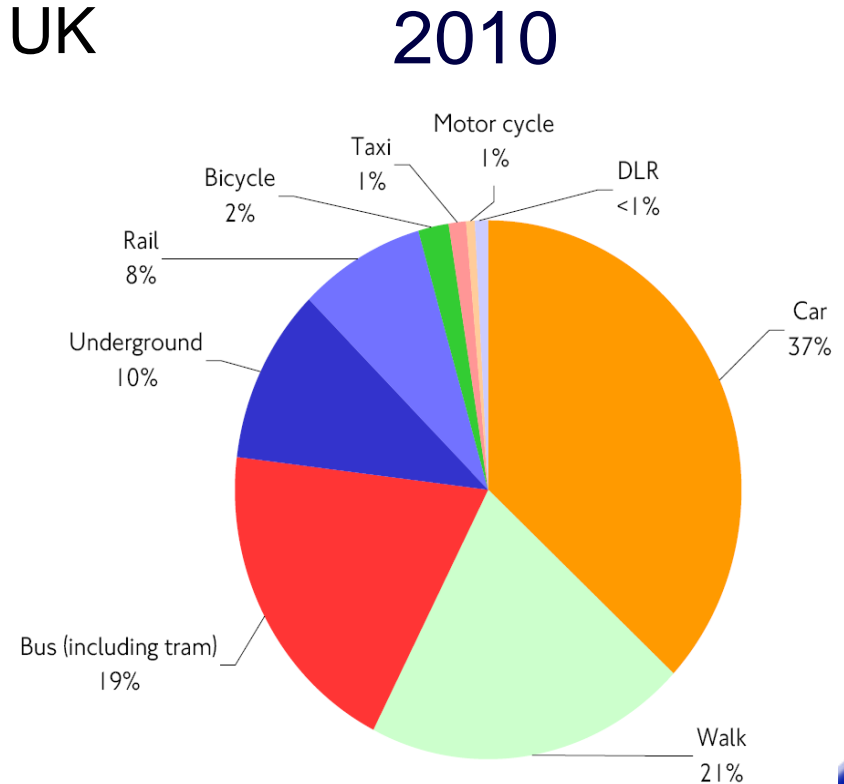
MAYOR OF LONDON

Transport for London



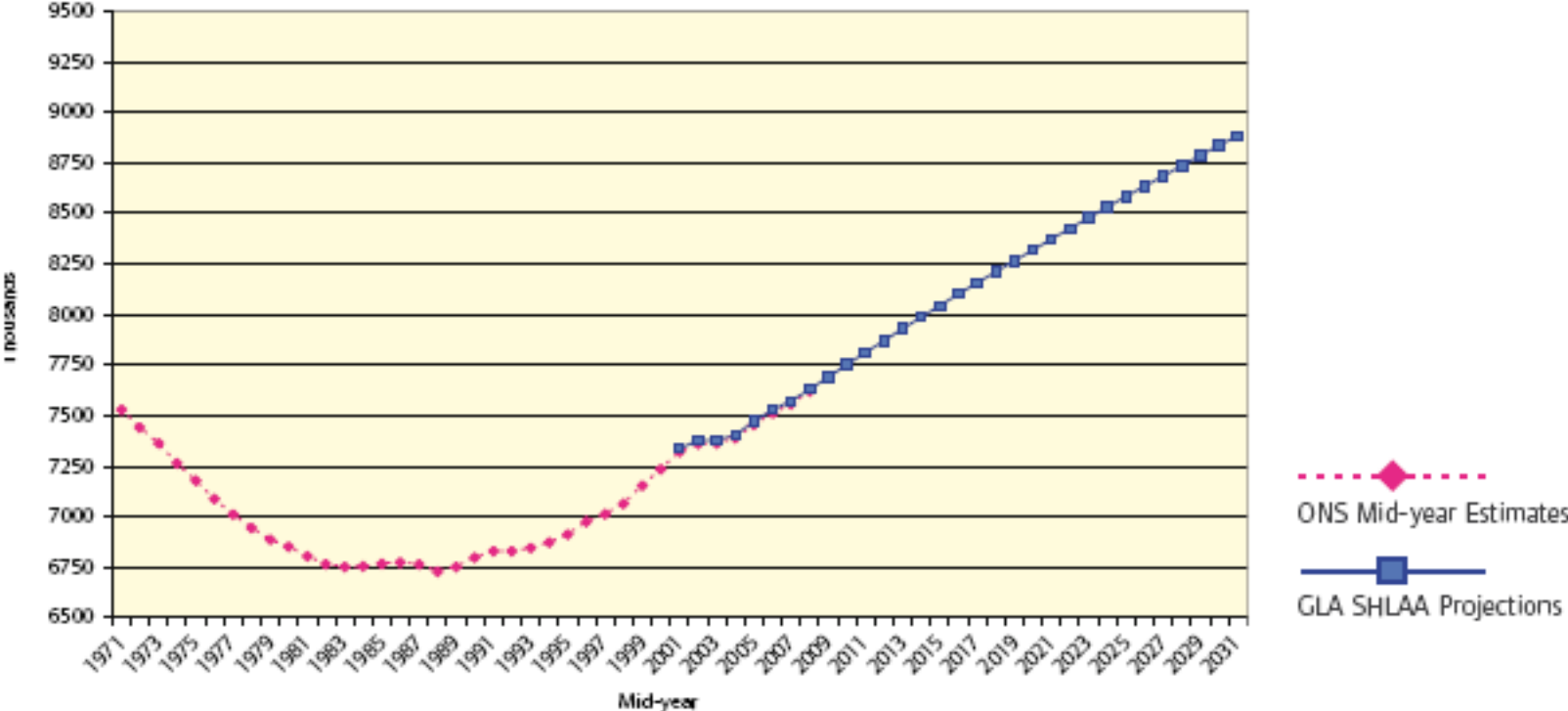
London

- World City and gateway to the UK
- 7.5m residents
- 4.6m people in employment
- 30 million visitors a year
- 330,000 businesses
- 23.8 million trips per day
- Growing population



London Plan population forecasts

London's population 1971-2031



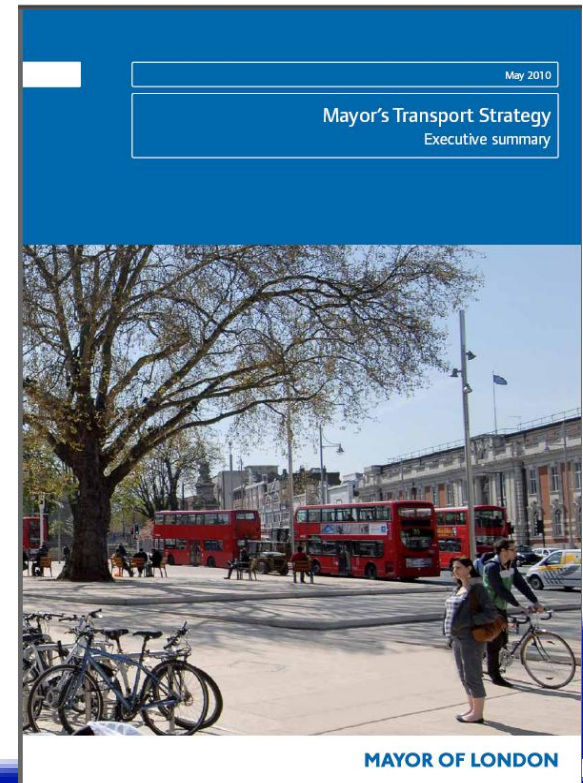
Source: GLA DMAG



Mayor's Transport Strategy

Six goals in Mayor's Transport Strategy

- Support economic development and population growth
- Enhance the quality of life for all Londoners
- **Improve the safety and security of all Londoners**
- Improve transport opportunities for all Londoners
- **Reduce transport's contribution to climate change and improve its resilience**
- Support delivery of the London 2012 Olympic and Paralympic Games and its legacy



London



Responsibilities

Traffic management

- 580km of major roads (including bridges and tunnels)

London Underground
4m journeys per day

Expenditure in 2009/10 = £9.0bn

- Low Emission Zones

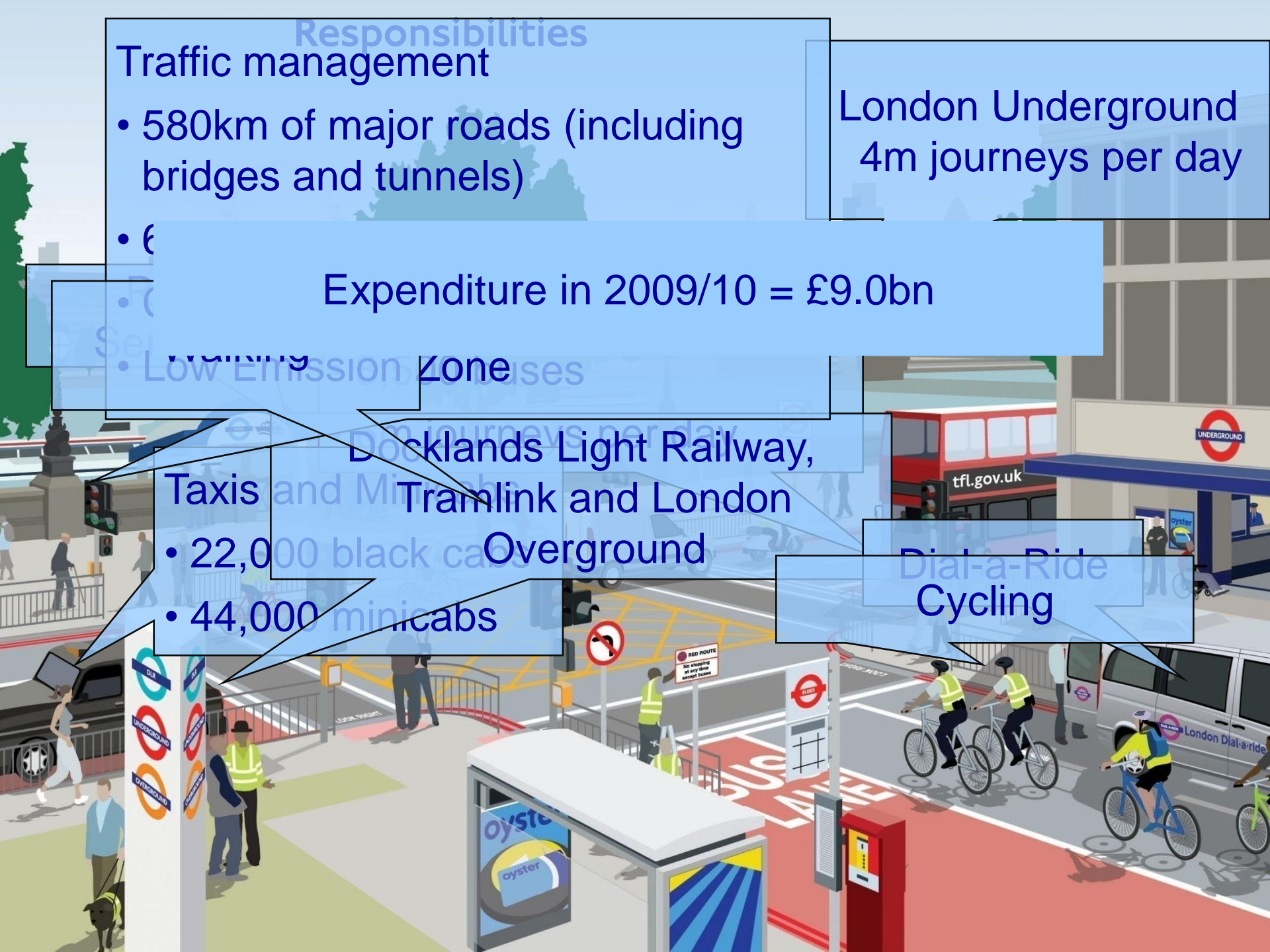
Docklands Light Railway,

Taxis and Tramlink and London

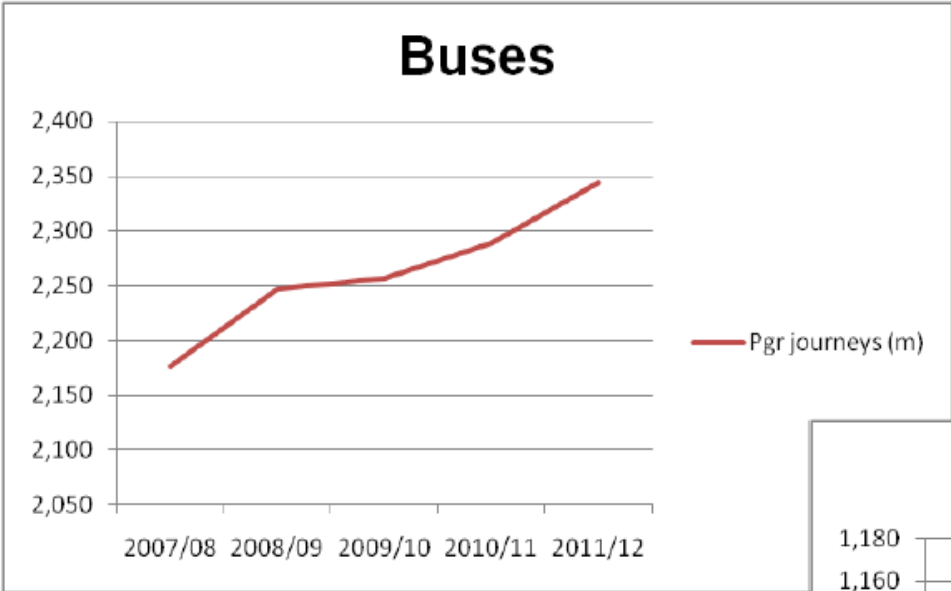
Overground

- 22,000 black cabs
- 44,000 minicabs

Dial-a-Ride
Cycling



Demand for London's transport



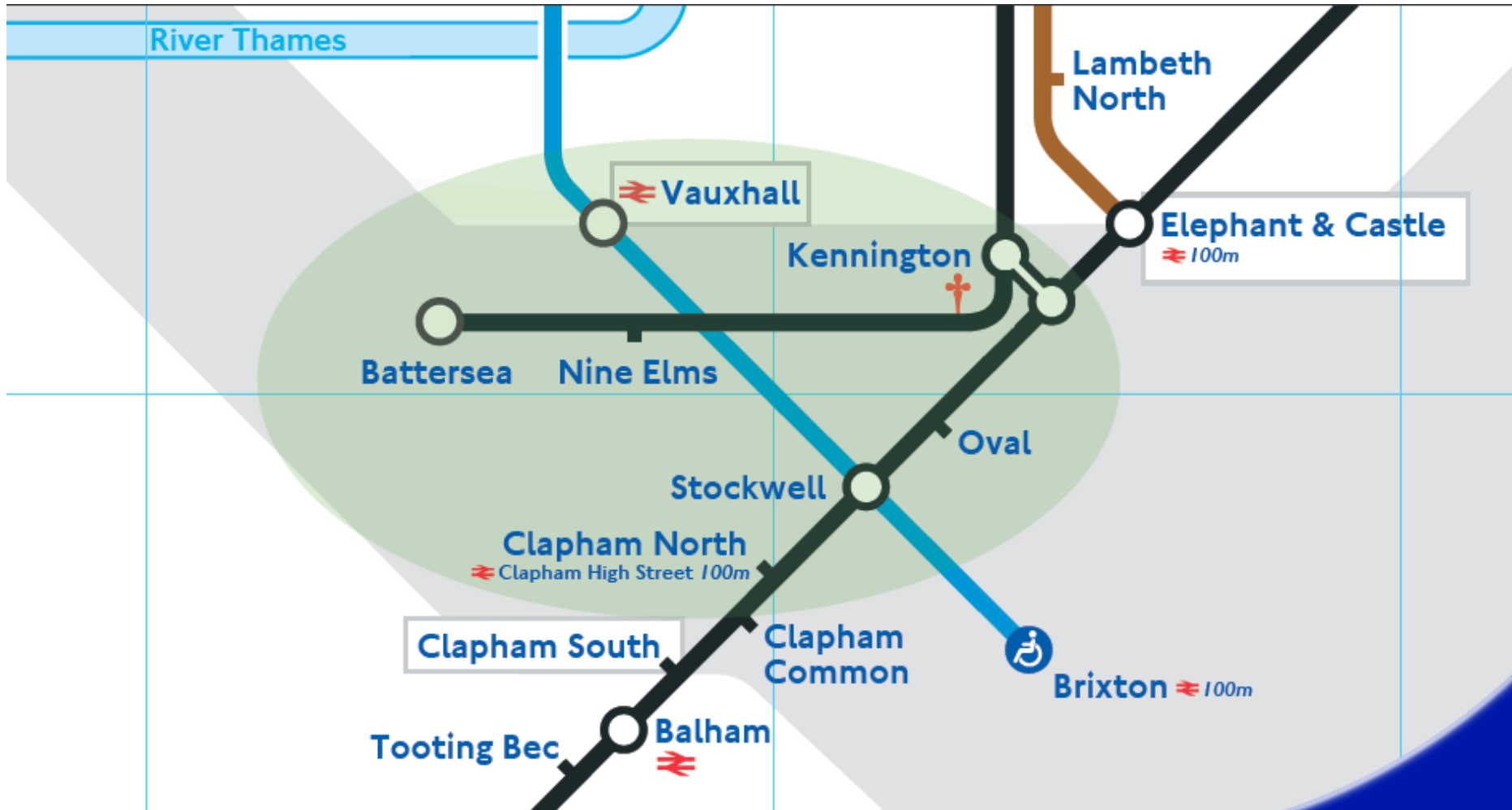
Emirates Airline



An average
of 31,601
passengers
per week



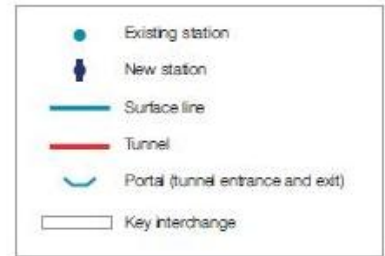
Northern Line Extension



Crossrail



Crossrail



30-40% Capacity Increase





Handwritten notes on a piece of paper, including the name "L. J. ...".

HOPE

HOPE (Home Office Panel Equipment) control panel with various switches, indicators, and a central control knob.

- 1 I.R. OUTER HOME W/L OR IS
- 2 I.R. HOME TO ROAD NO 24
- 3 I.R. HOME TO ROAD NO 23 IS 22
- 4 I.R. INNER HOME TO ROAD NO 24
- 5 I.R. STARTER FROM ROAD NO 22
- 6 I.R. STARTER FROM ROAD NO 23
- 7 I.R. STARTER FROM ROAD NO 24
- 8 I.R. STARTER FROM ROAD NO 22
- 9 I.R. STARTER FROM ROAD NO 23
- 10 I.R. STARTER FROM ROAD NO 24
- 11 I.R. STARTER FROM ROAD NO 22
- 12 I.R. STARTER FROM ROAD NO 23

Red mechanical levers and switches on the control console, used for manual operation of the system.

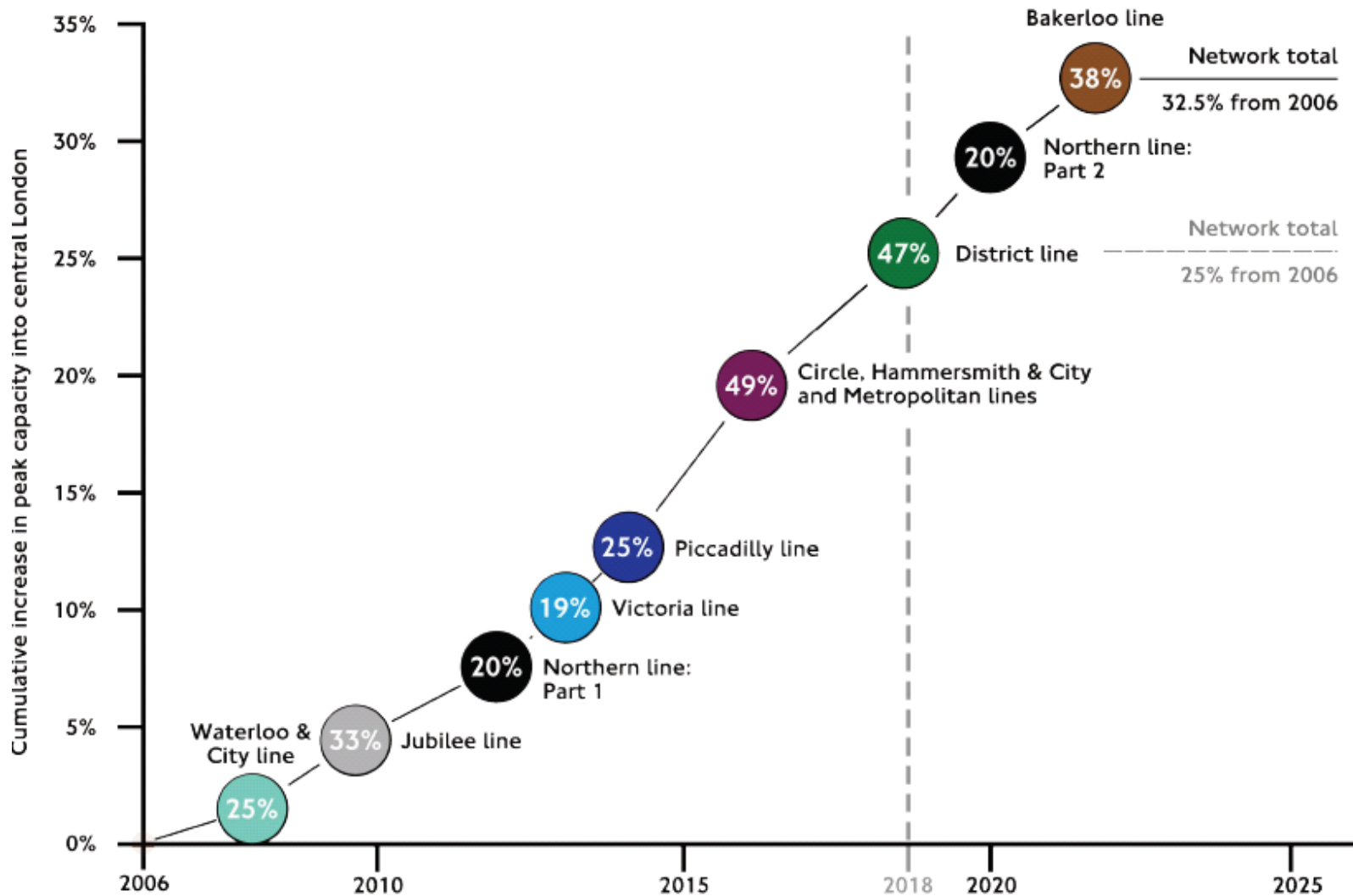
Clipboard with a document, likely a control log or operational manual, resting on the console.





Public transport capacity: Line capacity increases on the Underground

Increase in Peak Capacity into Central London



Note: Circles show percentage increase from 2006 in peak capacity for each individual line



Tube Upgrade Programme

- Upgrades to every Tube line – trains, track, signalling
- Stations
- Accessibility
- Tackling high temperatures
- Communications and customer information
- Keeping London moving while we transform the Tube



Capital delivery – already delivered

Jubilee line



Two minute peak service timetable delivered

Victoria line



Upgrade complete with full fleet replaced; new timetable in place

SSR upgrade



Full S8 fleet now in service; first H&C trains now in service

Northern line



New signalling live between West Finchley and High Barnet

Overground



Record demand; orbital route now complete

Emirates Air



Over 31,000 trips in one day during the 2012 Games



But we have a lot more still to deliver

2013 – Contactless Bank Card Technology



2014 – Northern line Upgrade Completion



2014 – Wimbledon Pinchpoint



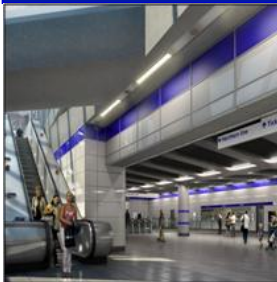
2015 - 18% Reduction in 2010 LCH (Annex B)

Service updates	
Bakerloo	Good Service
Central	Good Service
Circle	Good Service
District	Good Service
DLR	Good Service
Hammersmith & City	Good Service
Jubilee	Good Service
Metropolitan	Good Service
Northern	Good Service
Overground	Good Service
Piccadilly	Good Service
Victoria	Good Service
Waterloo & City	Good Service

2015/16 – Overground Additional Cars



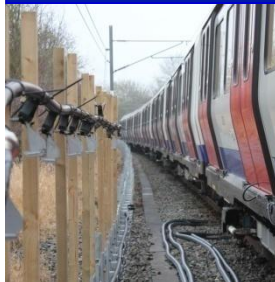
2016 – TCR New Facilities Open



2017–Congestion Relief at Bond Street Complete



2018–SSR Signalling Upgrade Complete



2018–Victoria Station Upgrade Complete



2019–DLR North Double Tracking Complete



2016-2020 –Jubilee and Vic line up to 36 TPH



2020 – Battersea Extension Complete



2021 – Bank Congestion Relief Complete



2022 – Northern Line Upgrade 2 Complete



2024 – Bakerloo + W&C Line Upgrades Complete



Performance

- 2011/12 – best ever Tube performance despite carrying more passengers than ever before
- Reliability – 40% reduction in delay since 2007/08 (measured by LCH)
- Customer satisfaction – best ever results in 2011/12 – score of 80 (85 during Games)
- Volume of service – running more trains than ever before - 72.4m train km in 2011/12
- Focus on predicting and preventing failures; responding more quickly to problems; and rolling out better equipment
- Mayoral commitment to reducing delays by a further 30% by 2015



Smarter Travel initiatives

Smarter Travel - persuasion and the provision of information, supported by small-scale infrastructure schemes, designed to encourage greater use of sustainable travel modes.

Core Elements :

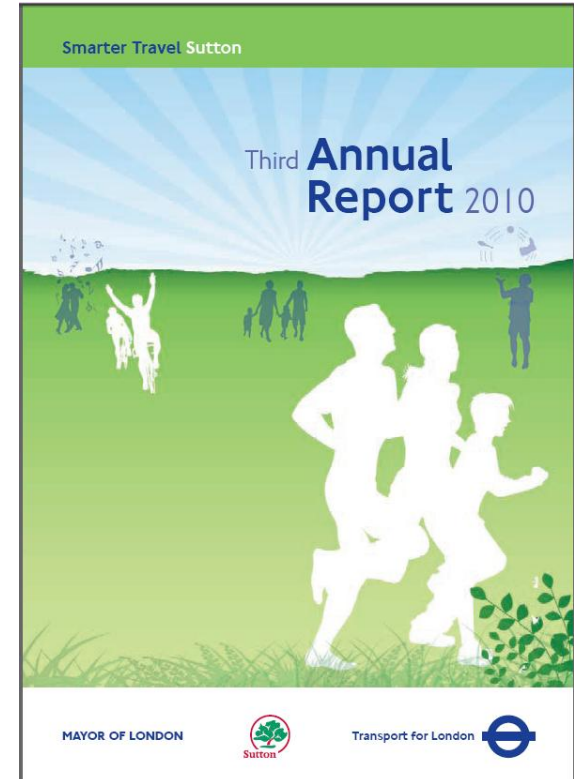
- School travel planning
- Workplace travel planning
- Personal travel advice and information
- Advertising, marketing and promotion
- Car clubs
- A car sharing scheme
- Cycle parking
- Active Steps (Physical Activity Project)



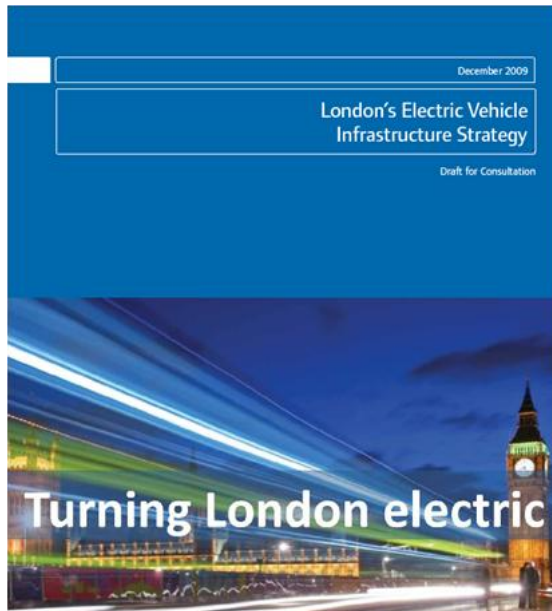
Smarter Travel initiatives

Over 3 years the programme has resulted in:

- a 75% increase in cycling
- a 16% increase in bus patronage
- a 3% increase in walking, and
- a 6% decrease in car use



...and London is taking new bold steps to accelerate EV adoption



London to be the 'greenest city'



THE INDEPENDENT

The logo for The Independent newspaper, featuring the word 'THE' in a smaller font above 'INDEPENDENT' in a large, bold, serif font. A red eagle logo is positioned above the 'I' in 'INDEPENDENT'.

Mayor unveils plan to turn London into 'electric car capital of Europe'



Marketing and incentives

- **Pan London brand will highlight information, charging and other incentives across London**
- **Incentives**
 - UK Government grant for Electric cars
 - No congestion charge
 - Business fund providing grants for workplace charge points
 - Vehicle trials
- **Communication strategy aimed at likely early adopters and businesses**



Hybrid buses



- By 2012 all new buses coming on to London's roads will be hybrids.
- Hybrid buses are cleaner and greener than their diesel counterparts.
- Hybrid buses are also significantly quieter than diesel buses.



Reducing emissions from transport (1)

New smarter travel schemes – building on existing TfL initiatives

- Promoting eco-driving
- Travel plans (inc freight)
- Anti-idling campaigns and enforcement

Promoting cleaner vehicles

- Electric Vehicle Delivery Plan
- Procurement processes



Tailored action plans for priority locations (from summer 2010)

- Power washing streets and applying dust suppressants
- Redeploying cleanest buses
- Traffic management

Reducing emissions from public transport

- Reductions in bus fleet emissions
- Age based limits for taxis and PHVs



Reducing emissions from transport (2)

Low Emission Zone:

- Tighter standard for lorries, buses and coaches from 2012
- Vans and minibuses included from 2012
- New NOx standard for lorries, buses and coaches



Air Quality Action Days and Special Measures

- Special measures during extreme pollution episodes
- Planned regular events to encourage mode shift to cycling and walking.

Congestion Charge

- Already resulted in reduction in CO₂, NOx and PM10's



Improved Driver Efficiency: Driver training

- First Group trial in 1,000 buses in London using in-vehicle monitoring devices
- Real-time feedback on driving style and driving reports to focus training to focus training
- Around 5% fuel saving already achieved
- Explore possibility of similar applications for other professional drivers



New bus for London

- 3 doors
- 2 staircases
- 15% more fuel efficient than existing hybrid buses.
- 40% more efficient than conventional diesel double deckers.
- Red bus with a green heart





November

2010

The New Bus for London
story



The New Bus for London story





© EPA

story

Emissions test comparison

TfL “route 159” test	CO ₂ g/km	Economy Mpg	NOx g/km	HC g/km
NBfL target	750	10.3	5.00	0.015
NBfL certified result	640	11.6	3.96	0.000
Avg. Hybrid	864	8.6	7.70	-
Avg. Euro V diesel	1,295	5.8	9.30	-





Better streets, walking and cycling

Five stages to improve streets



Proposals for 'making walking count'

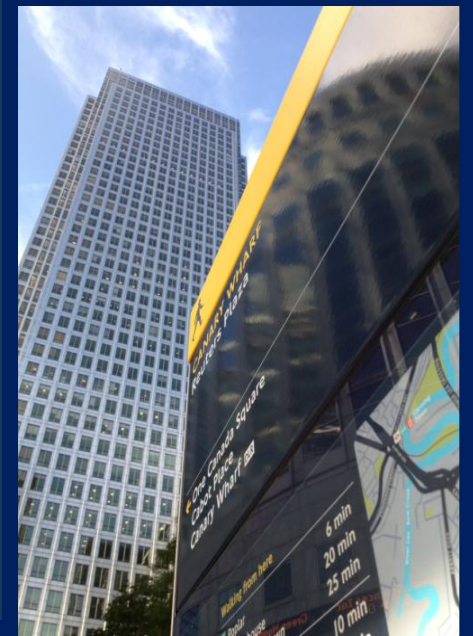
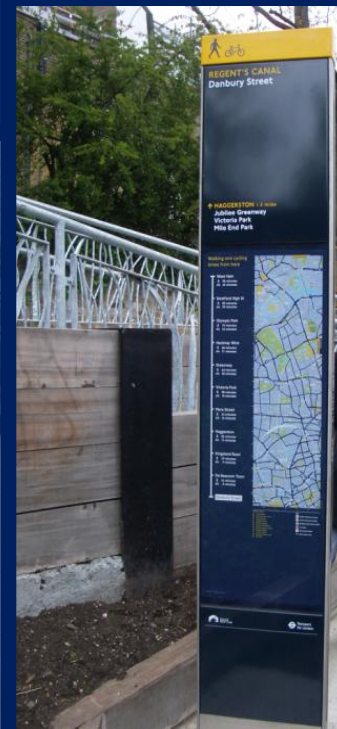
- Better streets
- Making it easier to plan journeys on foot
- Development of the Key Walking Route



Bringing about a revolution in cycling in London

- Working in partnership
- Raising awareness and 'mainstreaming' cycling
- Improving cycle infrastructure, cycle training and safety
- Superhighways and cycle hire

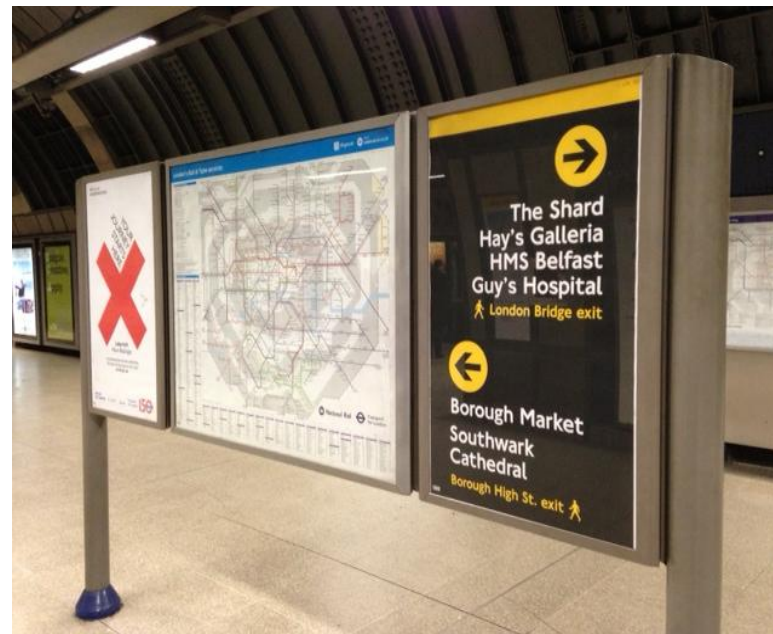




Legible London



Complete roll out of Legible London across TfL estate



EXTEND

Build on the success of wider LL application to deliver wider objectives, such as congestion relief

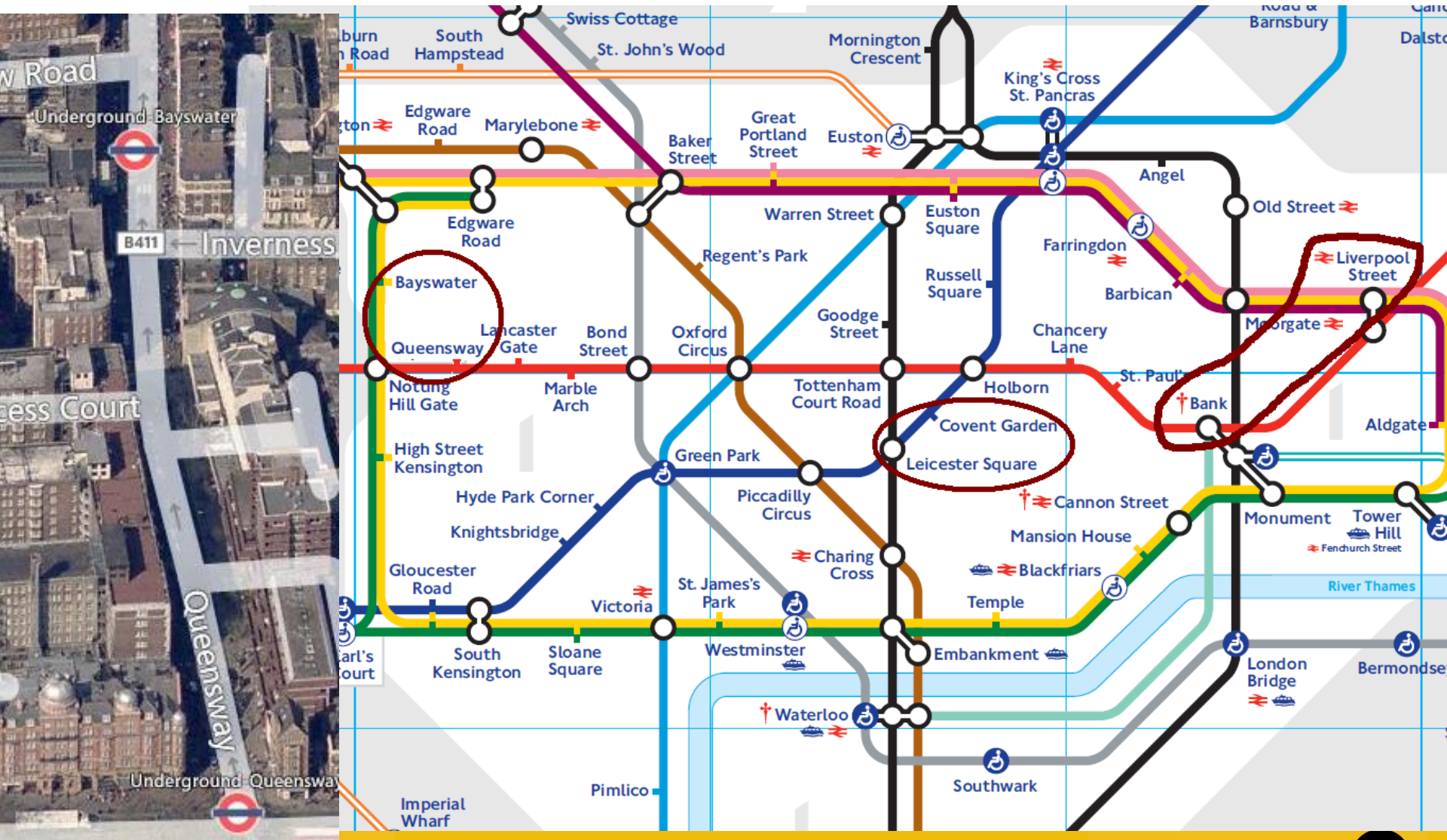


- ✓ Legible London maps - tool to promote and support walking campaigns
- ✓ Explore the use of Legible London during events to manage station capacity and large-scale footfall



EXTEND

Proximity of Tube Stations



THE MAYOR'S VISION FOR CYCLING IN LONDON

An Olympic Legacy for all Londoners

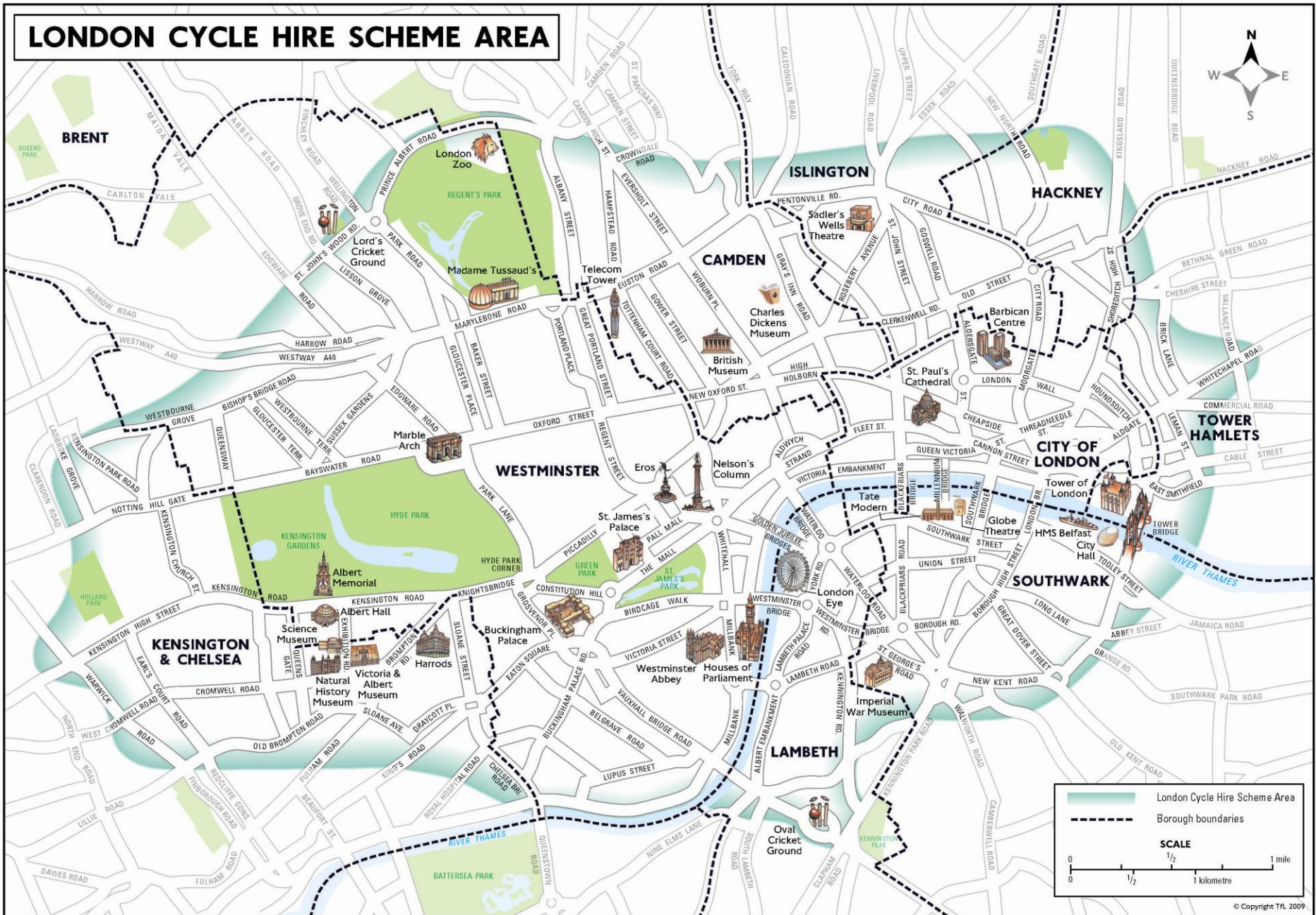


MAYOR OF LONDON

Transport for London



LONDON CYCLE HIRE SCHEME AREA



London Cycle Hire Scheme Area
 Borough boundaries

SCALE

1 mile
 1 kilometre

London Cycle Hire scheme

- 6,000 bicycles
- 400 cycle stations
- Evenly distributed
- 10,200 docking points
- Area 45km²
- 24 hour operation
- Summer 2010 scheme launch
- 800,000 cycle hires / month



A new network of cycle routes in central London

- catering for the high density of potential cycle trips in Central London

Central London Cycle Grid

This will provide:

- Separated cycle ways, with segregation and low speed environments where practicable and appropriate
- Two-way cycling on one-way streets
- Clear way finding, strong identity and easy to see



The majority of the Grid will be complete by 2016

The Mayor's Vision for Cycling in London

Key Outcomes

1. A tube network for the bike

- *Providing a network of cycle routes across London*

2. Safer streets for the bike

- *A range of measures to improve cycle safety at junctions and targeting HGV safety*

3. More people travelling by bike

- *Making cycling a mainstream and popular mode of transport*

4. Better places for everyone

- *More cycling will benefit everyone, not just cyclists*



A Cross rail for the bike

- a new cycle artery through London

This will:

- Substantially segregated two-lane cycle route
- Be the longest continuous substantially-segregated urban cycle route in Europe
- Link together as many of the existing (and proposed) radial routes as possible
- Provide peak-hour cycle journey times that are comparable to, or quicker than, their rail or car equivalents



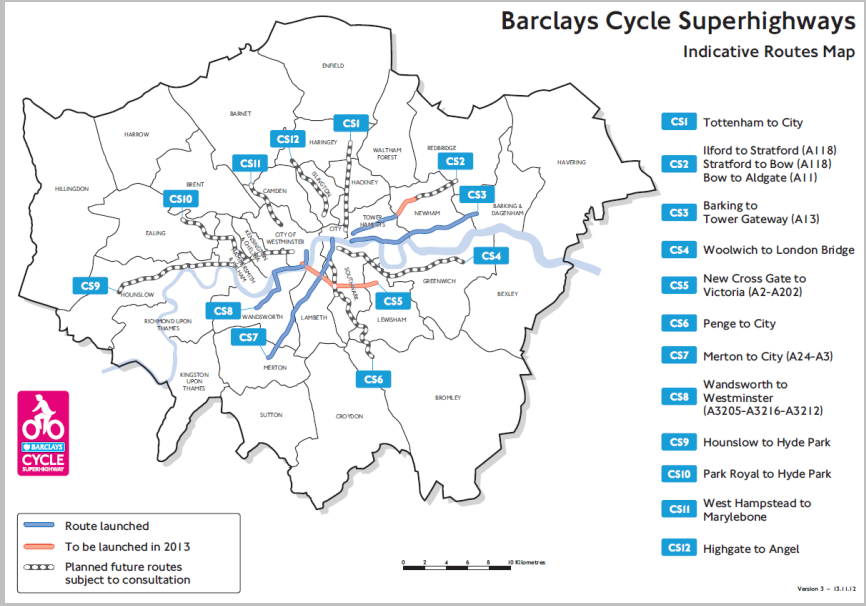
Substantially delivered by March 2016



Better Barclays Cycle Superhighways

- *higher quality routes for commuter journeys*

- Existing Barclays Cycle Superhighways will be improved
- New standards will include:
 - More segregation from traffic
 - Mandatory cycle lanes
 - More protection for cyclists at junctions
 - Deeper ASLs
 - 'Floating' bus stops
 - Removal of parking



Quietways

- making cycling more comfortable and inclusive

A cross-London network of high-quality guided Quietways will be created on low-traffic back streets and other routes so different kinds of cyclists can choose the routes which suit them.

This will:

- Offer cyclists the option of a network which offers low traffic, low speed roads with high quality routes
- Open up back street routes, parks and other green space
- Provide clearly signed, well surfaced direct routes



Delivery 2014 onwards



“Mini-Hollands” in the suburbs

The “mini-Holland” programme will target potential for cycling in Outer London by providing funding for the radical transformation of up to three outer London town centres to make them as cycle-friendly as their Dutch counterparts

“Mini-Hollands” will include large-scale, radical and transformational cycle infrastructure including:

- A route for commuter journeys to central London
- Cycle superhubs at local railway stations
- A network of Quietways routes radiating from the centre
- Complementary and supporting promotional measures to accompany infrastructure improvements

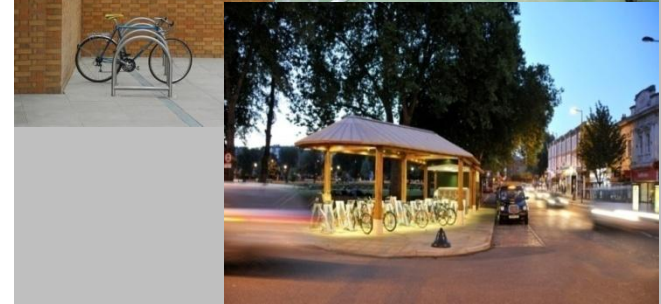


Delivery 2014 onwards

Better Junctions + Cycle Hubs

- *reducing the number of collisions at junctions*

- 85% of cycle collisions in London take place at junctions.
- Review of junctions across London, particularly to increase cycle safety
- Cycle Hubs – at mainline stations
- 80,000 extra parking spaces



Delivery 2012 onwards



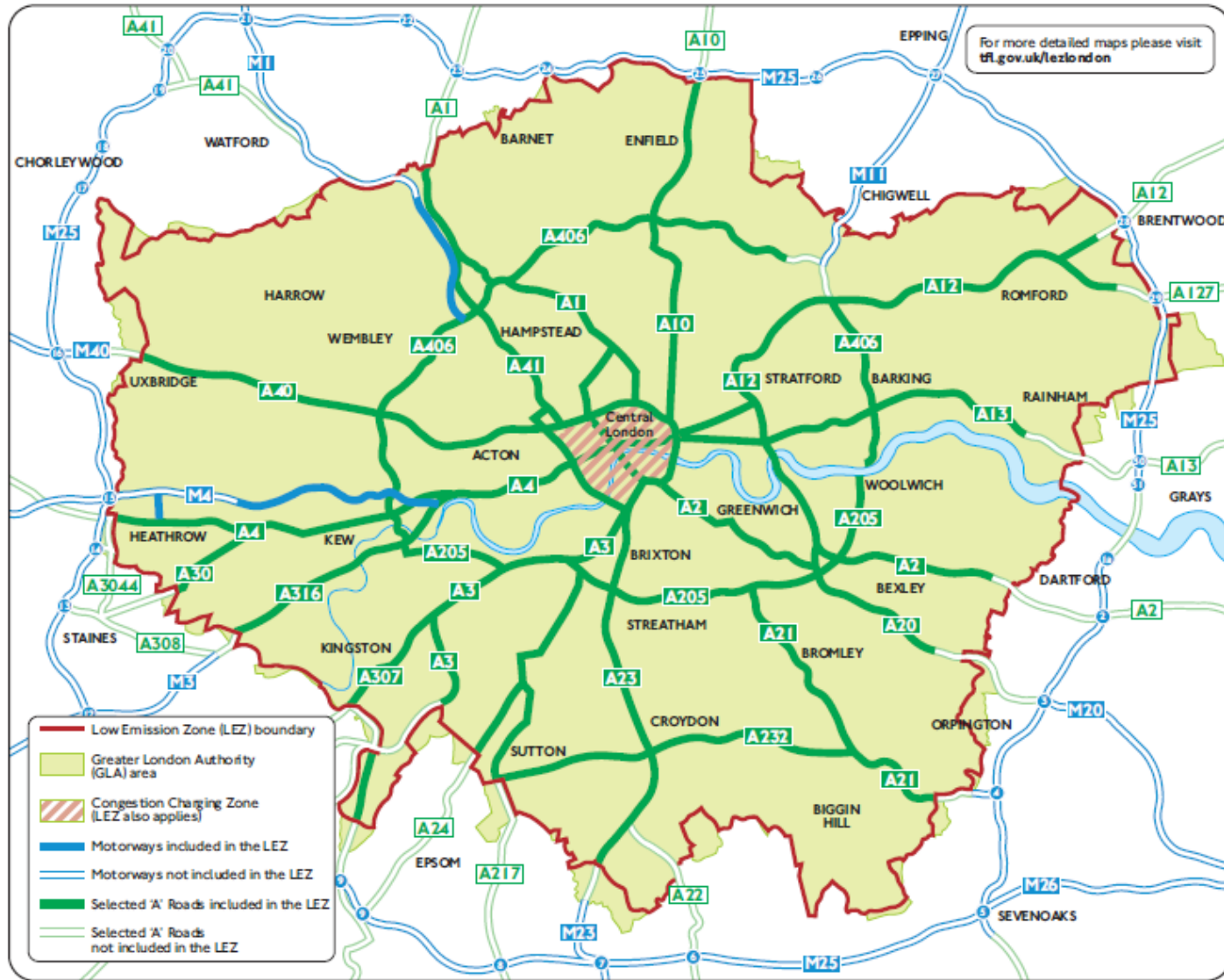
Better Places for Everyone

Cycling will benefit everyone, not just cyclists, creating ;

- *Better neighbourhoods for everyone*
Improved streetscapes, road surfaces, safety and security measures
- *More prosperous places for everyone*
Economic benefits of cycling to local town centres, individuals and the wider economy
- *Better cyclists for everyone*
Improving the perception of, and behaviour of cyclists
- *Better transport for everyone*
Reducing pressure on the public transport system
- *A healthier city for everyone*
Cycling improves air quality for everyone.



Central London Congestion Charging Zone



London's transport problems



Westminster Bridge – End of 19th Century

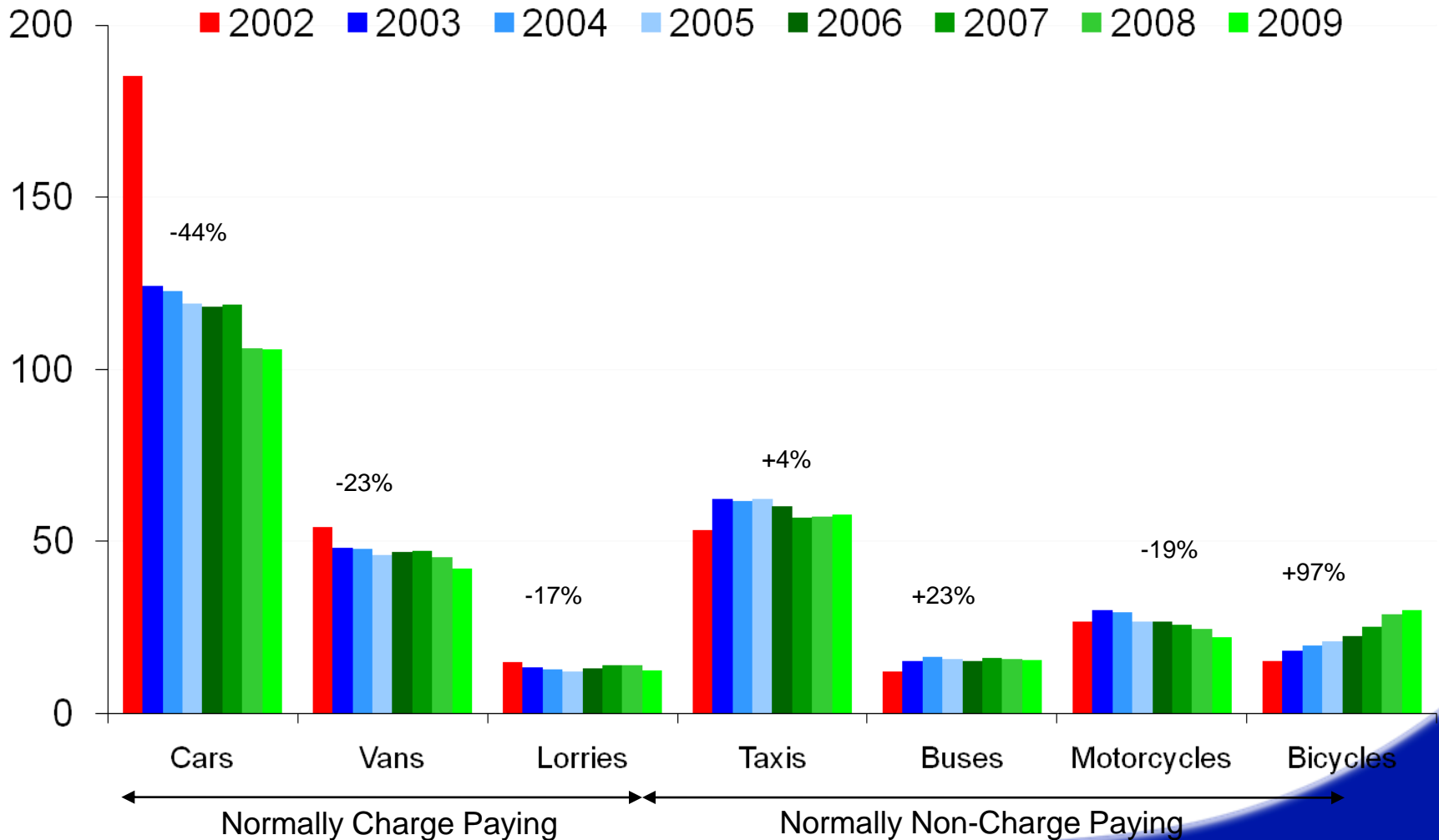


Why was Congestion Charging necessary?

- Despite 85% public transport usage, vehicular traffic major problem
- 185,000 cars entered central London each day
- Central London most congested area in UK; traffic speeds <9mph
- Congestion persisted throughout the day
- Congestion cost London an estimated £2 billion
- To address this, area-based charging scheme introduced in central London in February 2003
- Objectives of scheme:
 - Reduce traffic and traffic congestion
 - Raise revenue to re-invest in transport.



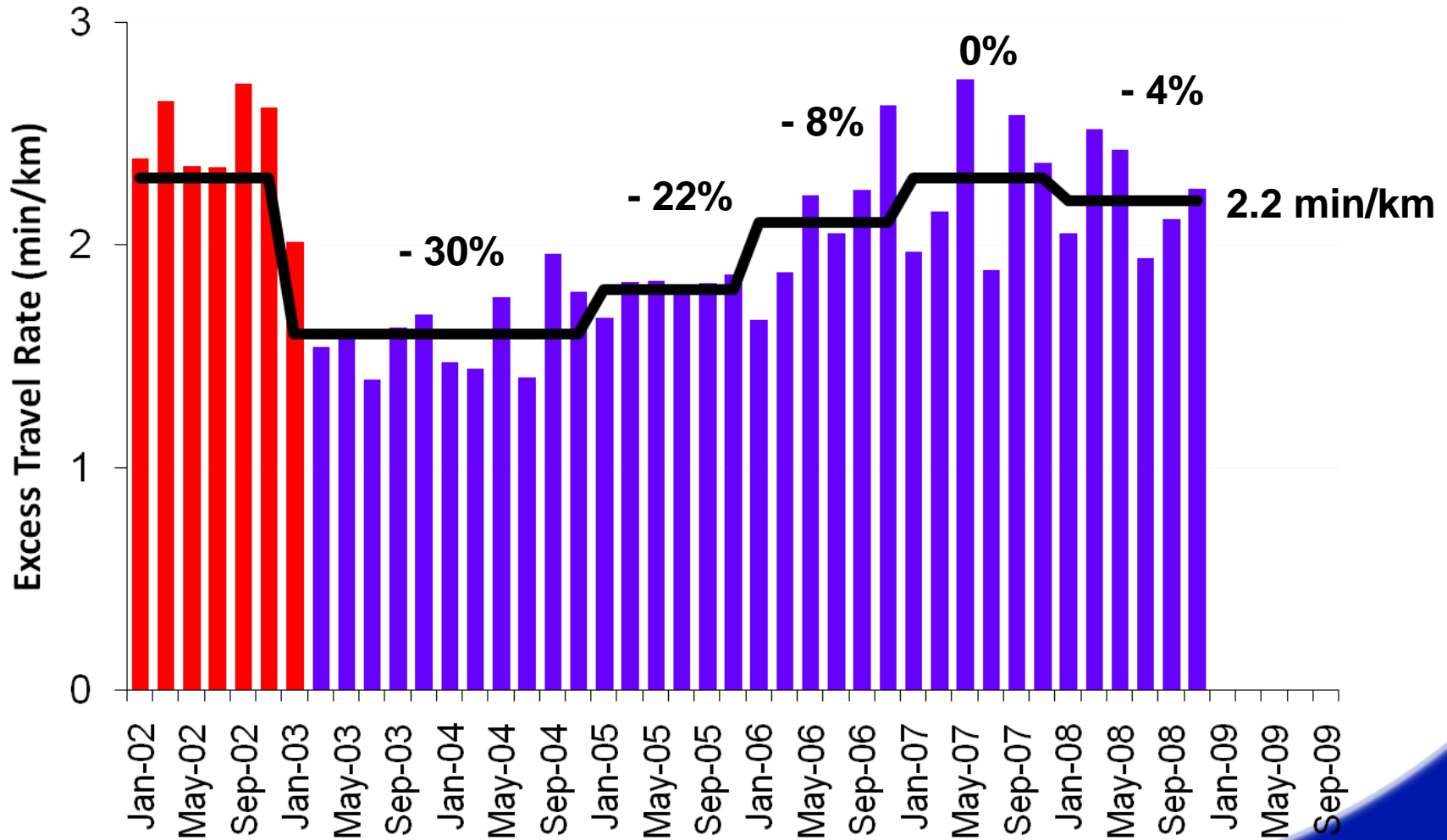
Average daily traffic entering Charging Zone* 2002 - 2009



* During charging hours (07.00-18.00)



Traffic congestion levels in Charging Zone 2002 - 2009

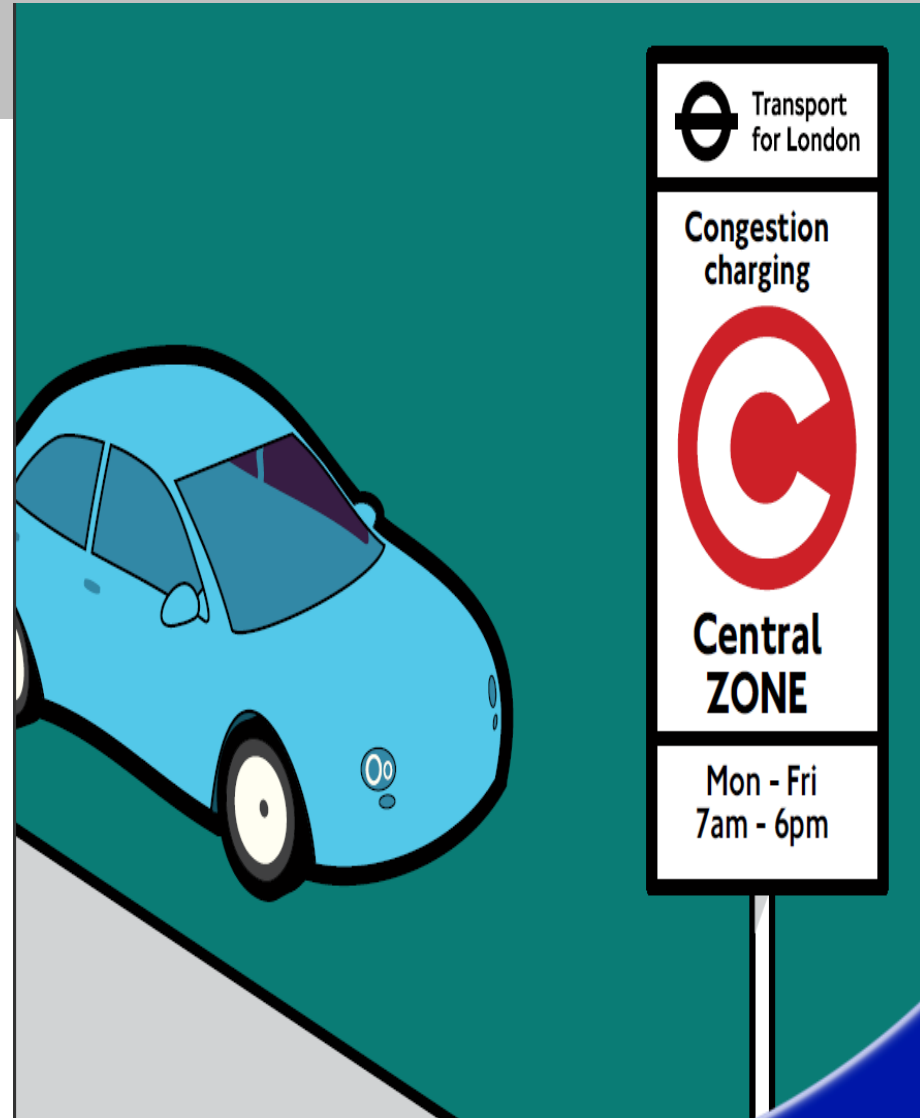


* Moving car observer surveys - during charging hours (07.00-18.00)



Charge Payment

- Monday – Friday, 7am – 6pm
- £10 on the day of travel
- £12 on the charging day after travel
- £9 for customers on CC Auto Pay
- Daily, weekly, monthly or annual payment for individual vehicle registration number





Payment Channels

- Pay online at www.cclondon.com
- Pay by mobile phone text message
- Pay at selected shops and petrol stations
- Pay by phone on 0845 900 1234
- Pay by post
- CC Auto Pay
- Fleet Auto Pay



Enforcement

- Signs placed at 165 Zone entry and exit points, and up to 17 miles away on main roads into London
- Comprehensive network of road markings exist on Zone boundary and within zone
- Vehicle registration numbers are observed by 650 cameras at 180 sites, covering entry/exit points and within zone
- Circa one million images captured and processed every charging day - cameras linked to Automatic Number Plate recognition (ANPR) technology
- If valid payment is not received for vehicle for the date of travel, the enforcement process commences....

 Congestion charging
 Transport for London

Penalty Charge Notice The Road User Charging (Charges & Penalty Charges) (London) Regulations 2001 as amended, The Road User Charging (Enforcement & Adjudication) (London) Regulations 2001 as amended and The Greater London (Central Zone) Congestion Charging Order 2001 as varied.


To:

Issue date _____

Penalty Charge Notice number _____

Automated payment reference _____

This Penalty Charge Notice has been sent to you as the registered keeper/hirer of the following vehicle:

Registration Number: 

Make: _____


Model: _____

for the following contravention: the use of a vehicle on a road in the charging area to which a charging scheme applies with outpayment of the appropriate charge, at the time and location stated below.

Contravention Location: _____ Contravention Time: _____

Failure to respond within 28 days of service of this notice will result in a Charge Certificate being issued which will increase the penalty charge to _____. Failure to then pay the increased penalty charge will result in the outstanding balance being registered as a debt in the County Court.

You have _____ days from service of this notice to pay the discounted penalty charge of _____. If this is not paid by _____ then the full penalty charge of _____ is payable. If you fail to pay the penalty charge or make a representation by _____ a Charge Certificate will be issued which will increase the amount payable to _____.

 **Penalty charge payment slip**
tear off section

Please complete the details below and sign as necessary

Tick to indicate payment method:

By credit/debit card

By cheque/postal order

Tick box to authorise/include payment of: _____

_____ for a penalty charge paid within _____ days _____ for a penalty charge paid within _____ days

Card Number _____

Valid from (mm/yy) _____ Expiry date (mm/yy) _____ Switch issue number (if applicable) _____


Name on card (block capital) _____

Signature _____ Date _____

Penalty Charge Notice number _____

Vehicle registration number _____

Automated payment reference _____

 MAYOR OF LONDON FNE_01 v5.1



Complementary Transport Measures

Introduction of scheme accompanied by measures designed to make public transport and other alternatives to car travel easier, cheaper, faster and more reliable:

- Substantial increase in bus capacity into and around Zone
- Freeze in public transport fares
- Better information for public transport users
- Frequency improvements on train & Underground services into Zone
- Traffic management measures on diversion routes and roads around Zone.



Other Impacts



- **Economy**
 - Broadly neutral impact overall on business
- **Environment**
 - Congestion Charging directly responsible for reductions of traffic emissions inside Zone equating to 8% of NO_x, 7% of PM₁₀ and 16% of CO₂
- **Road safety**
 - Reduced numbers of cars have led to less personal injury road accidents in the central zone
- **Net revenues**
 - In 2010/11 Congestion Charging raised £169 million to be spent on other transport initiatives within London.



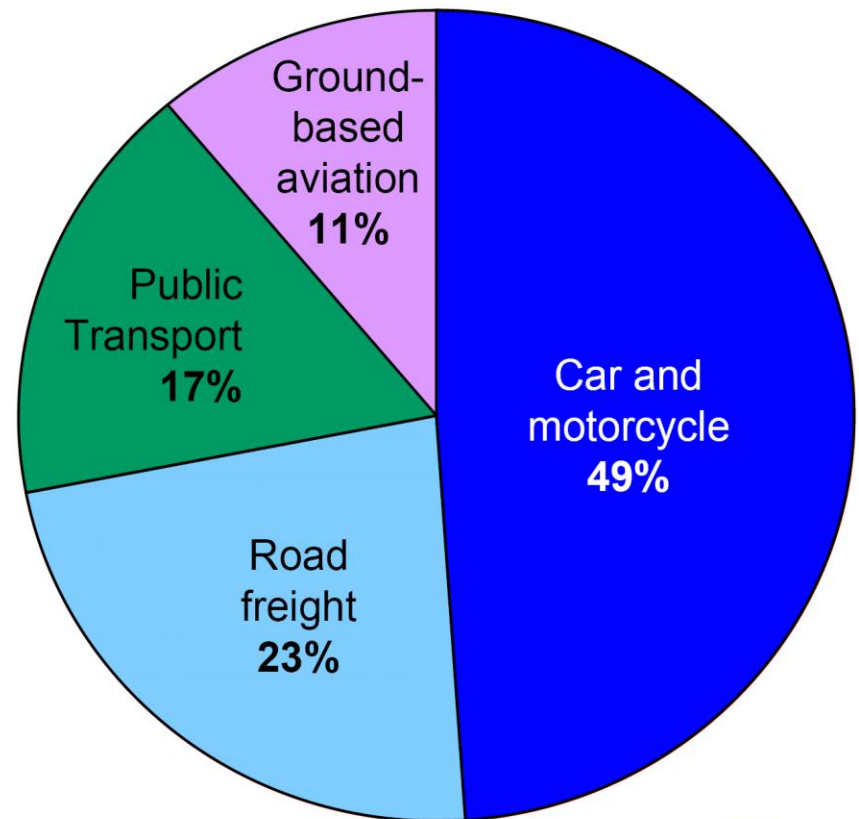
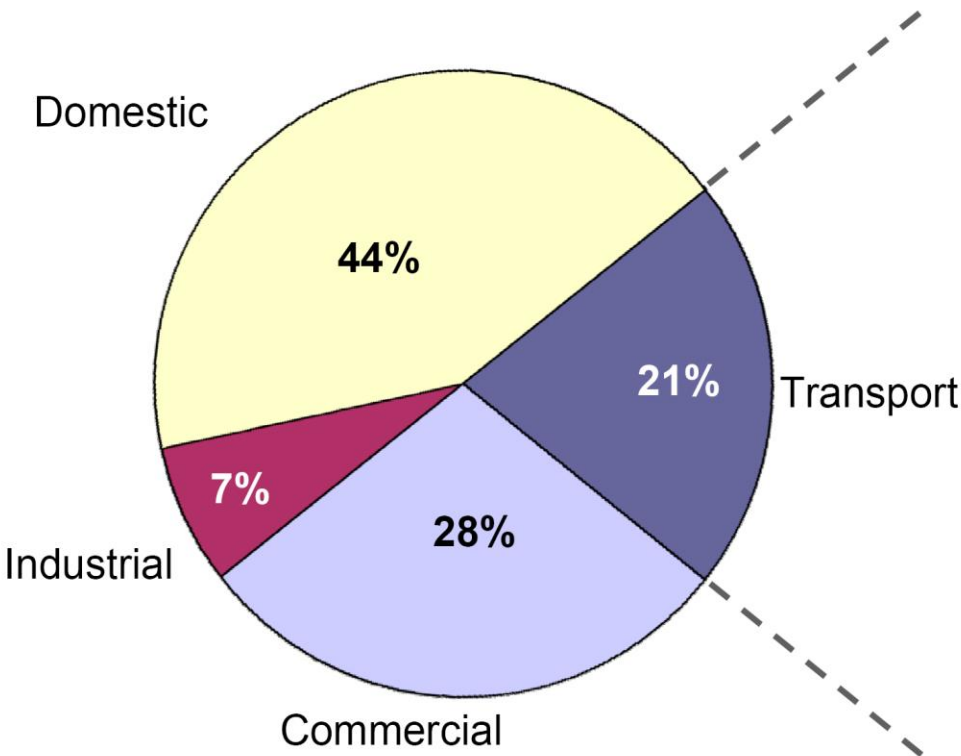
Traffic congestion



CO₂ emissions

Carbon Dioxide Emissions from London

London Transport Emissions



Source: Mayor's Energy Strategy and TfL analysis. Transport numbers reflect 2004-05 data.

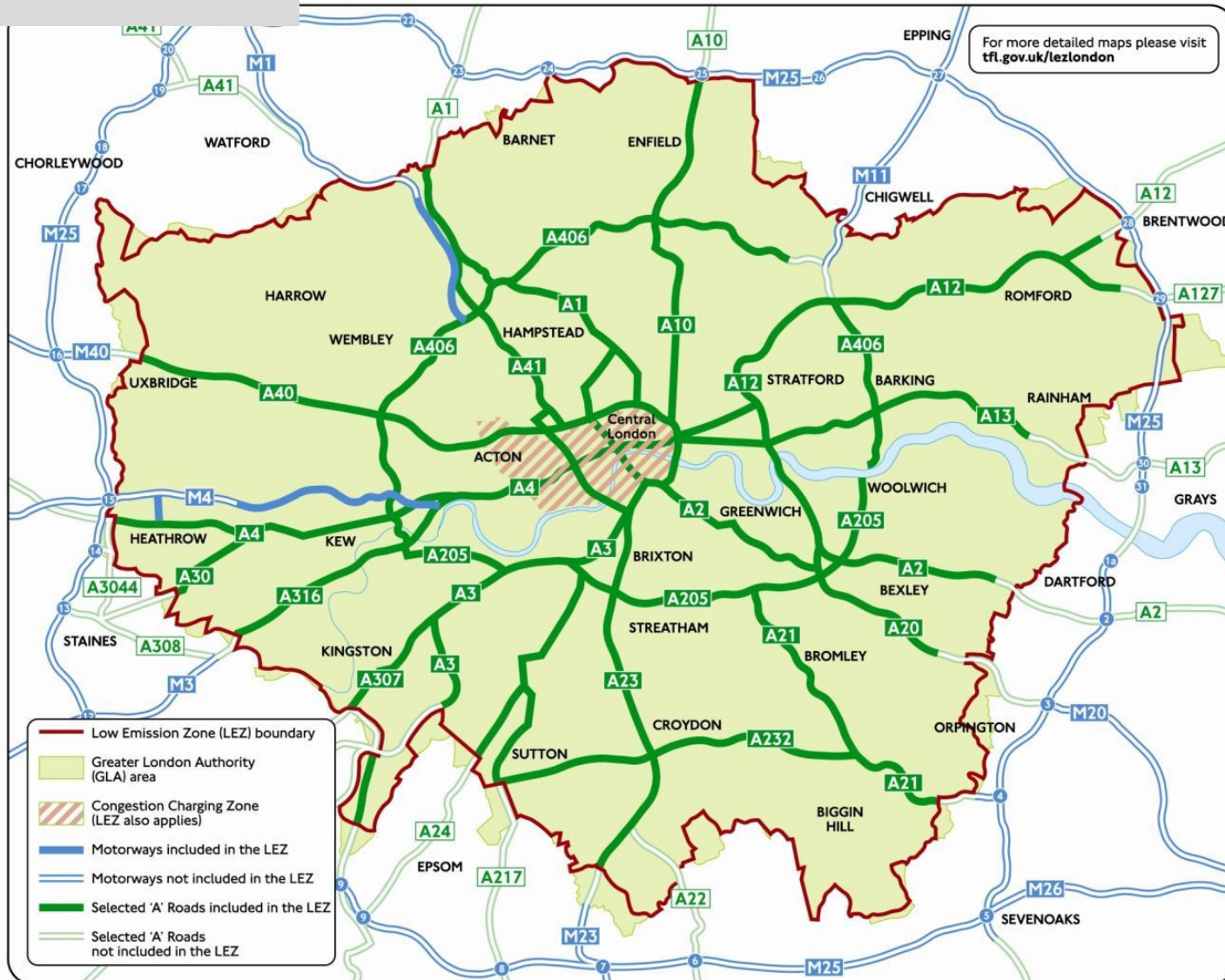


Mayor's Targets:

- 60% reduction of London's CO₂ by 2025, from a 1990 base
- 58% reduction in NOx by 2015 from 2008 levels
- 14% reduction in PM10's in 2011 from 2008 levels

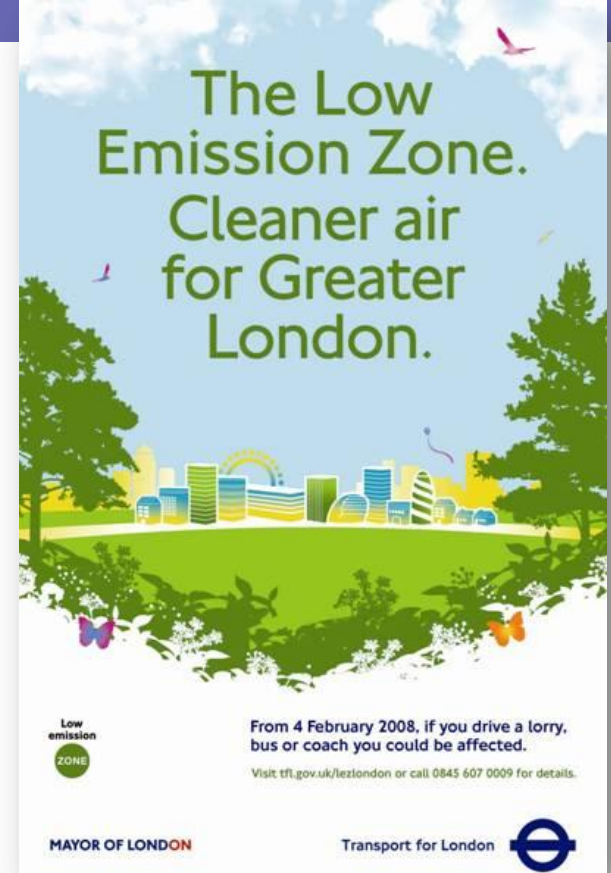


LEZ Boundary



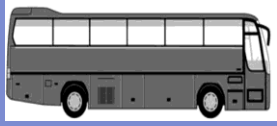


London Low Emission Zone

- Discourage most individually polluting heavy vehicles from being driven in London.
- Daily charge of £200 for non-compliant lorries, buses and coaches.
- By 2012 the LEZ had delivered reductions of:
 - **14%** of the area of London where the air quality exceeds the annual PM_{10} objective
 - **20%** of the area of London where the air quality exceeds the annual NO_2 objective
- High rates of compliance have been achieved through targeted communications and warning letters, rather than Penalty Charges



LEZ definitions and standards

Vehicle type and definitions		Date of LEZ scheme implementation	Emission standard (for PM) required to drive in the LEZ at no charge
Heavier lorries - Goods vehicles exceeding 12t		Feb 2008	Euro III
Lighter lorries - Goods vehicles between 3.5 and 12t		Jul 2008	Euro III
Buses and coaches - Passenger vehicles with more than eight seats plus the driver's seat and exceeding 5t		Jul 2008	Euro III



Options for compliance



Check your vehicle meets the standards

Options available to operators include:

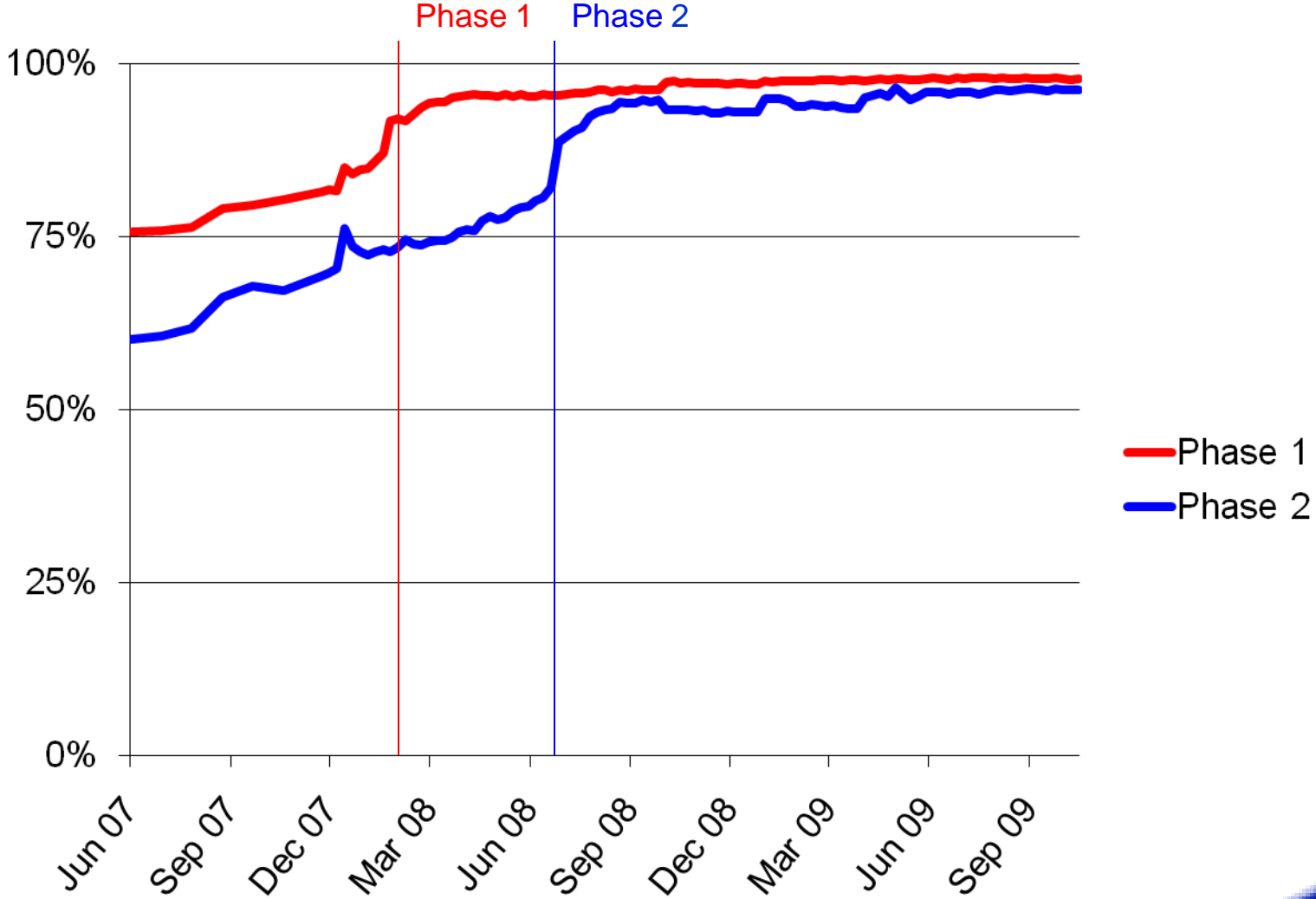
- Fitting a particulate abatement device
- Fitting a new compliant engine in the vehicle
- Buying a new or compliant second-hand vehicle
- Reorganising fleet so only compliant vehicles travel in zone

Or pay the £200 daily charge

Failure to pay the charge will incur a £1,000 Penalty Charge Notice



Low Emission Zone compliance





Games-time travel planning





The Olympic Park

- Docklands Light Railway
- London Overground
- Central
- Greater Anglia
- The Javelin
- Hammersmith & City
- Jubilee
- District
- Metropolitan
- Circle

Well Connected

£6.5 billion



transport upgrades

 **Travelcard**
Olympic Games

Valid only when seen with
accompanying event ticket

Valid only on

Zones

12 AUG 2012 »123456789«

Number

OS025558



120812025558

Not for resale • Issued subject to conditions - see over

12
August

11:00
Start time

B95
Entry

06
August

18:00
Start time

L38
Entry code

 **Travelcard**
Olympic Games

Valid only when seen with
accompanying event ticket

Valid only on

Zones

06 AUG 2012 »123456789«

Number

OL098252



060812098252

Not for resale • Issued subject to conditions - see over



Handball
Basketball Arena
Olympic Park

Entry:
Block:
Row:
Your seat:

V
212
23
159

Account: 60-32885
Price: £65
Category: B
Session: HB045



Beach Volleyball
Horse Guards Parade
Central London

Block:
Row:
Your seat:

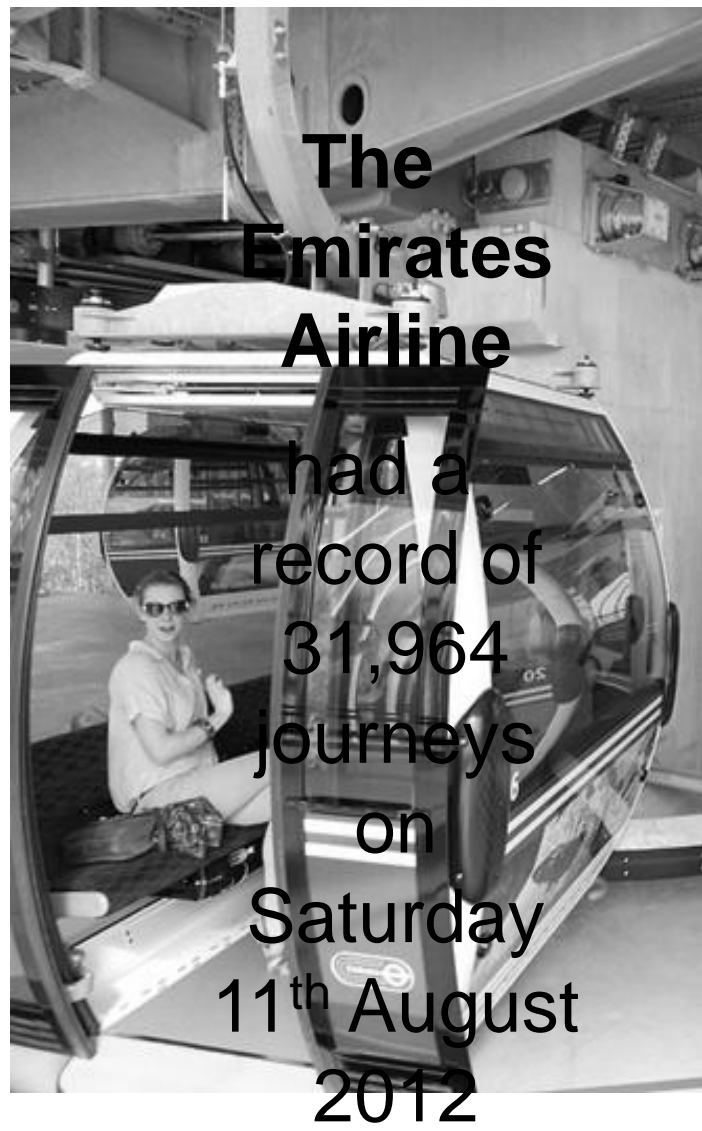
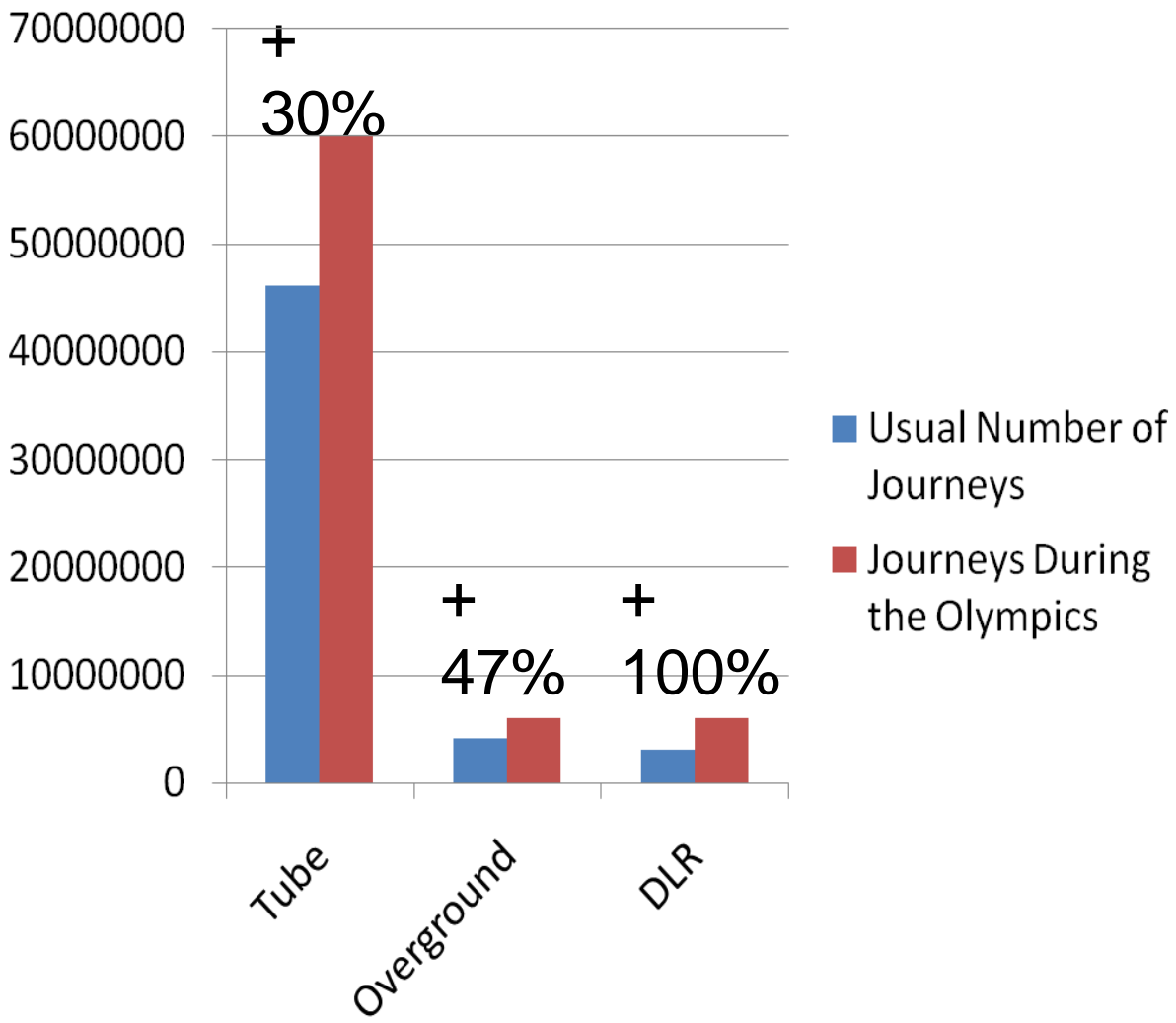
214
31
319

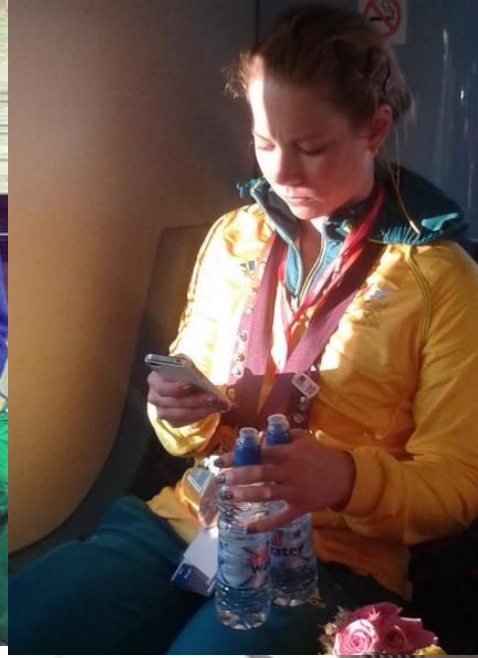
Account: 60-32885
Price: £75
Category: C
Session: BV029



Day Travelcards

A Car Free Games- Results





Public transport for all

Games-time Scheduled Comms

C3 Structure

- Tested C3 structure and outputs
- 24 hour cover during the Games

Personally targeted information

- Twice daily press notices (7am and 4pm)
- Daily Metro content (5am)
- Daily customer emails (2pm)
 - Public transport users (approx. 2m recipients)
 - Road users (approx 1m recipients)
- Daily station posters (3.30pm)
- Twice daily business email updates (4.30am and 2pm)
- Daily stakeholder bulletin (5pm)
- Regular tweets (@TfL and @GAOTG)
- Ongoing online content and Journey Planner updates



However not everything went to plan...



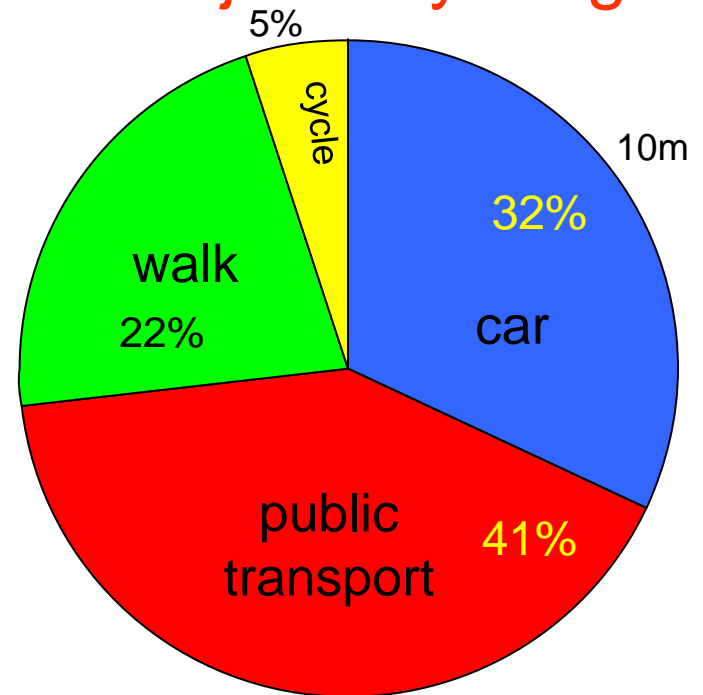
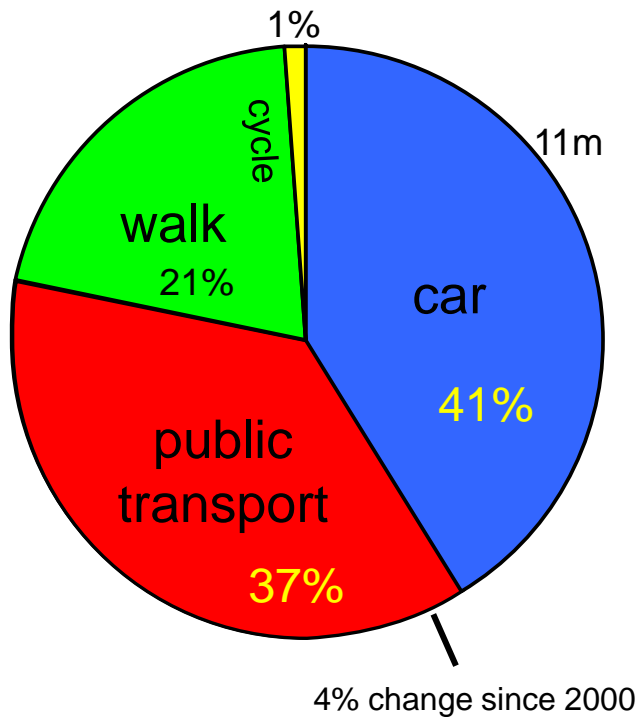
Mode shift

2006

2025

27.6m journey stages

➔ 31.2m journey stages

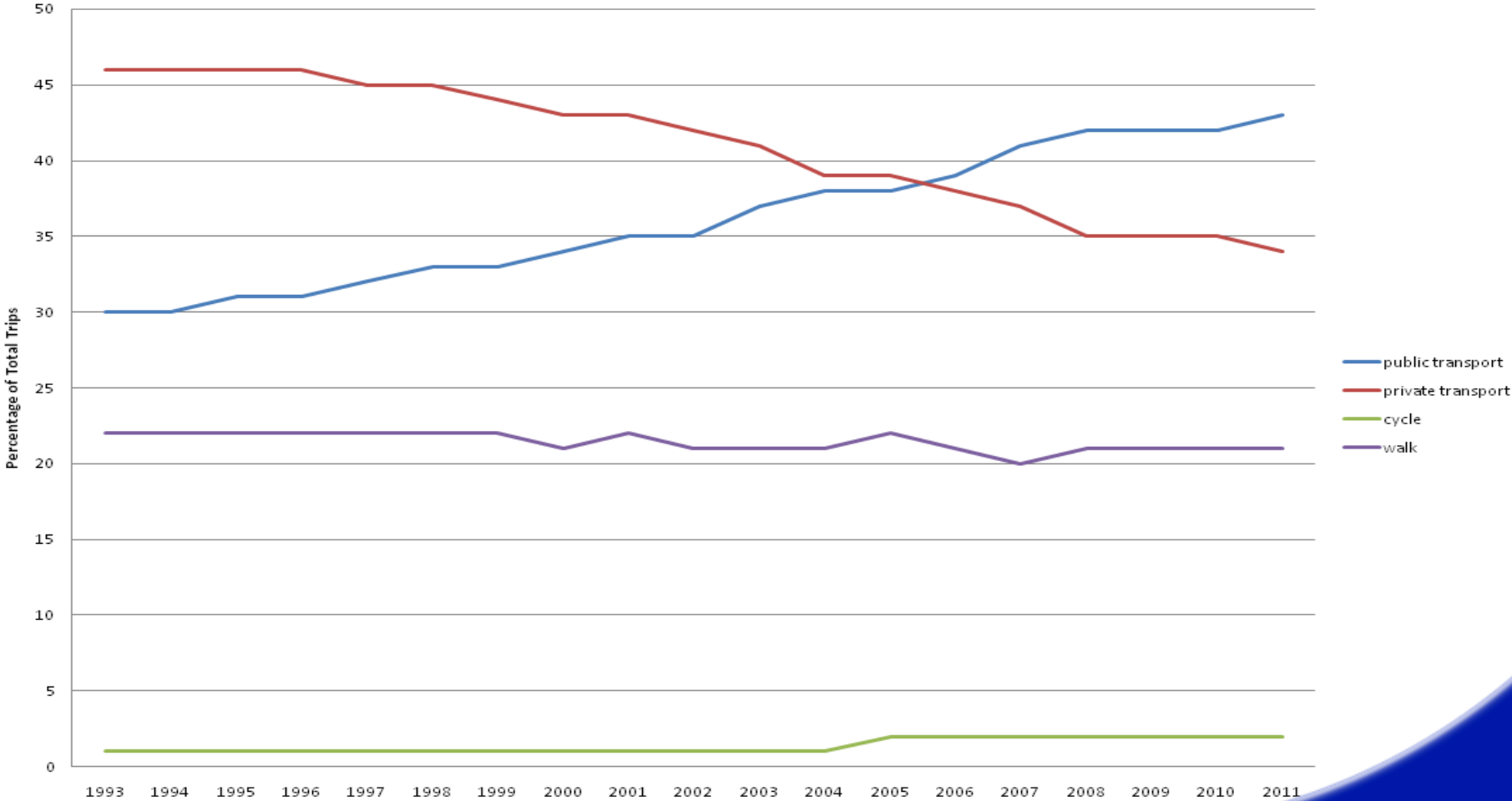


5m extra journeys must be supported by public transport, walking & cycling



Modal Change 1993 – 2011

Modal Percentage Share of Trips in London (Primary Modes)



Reasons for Modal Shift

- **Investment in Public Transport**
 - Additional bus routes / Cleaner vehicles
 - Extra rail capacity
 - Success of Oyster
 - Better passenger information
- **Congestion Charging**
 - 21% reduction in cars entering Central London
- **Emphasis on Walking / Cycling**
- **Smarter travel initiatives**



Thank you for your attention

Further information at

www.tfl.gov.uk