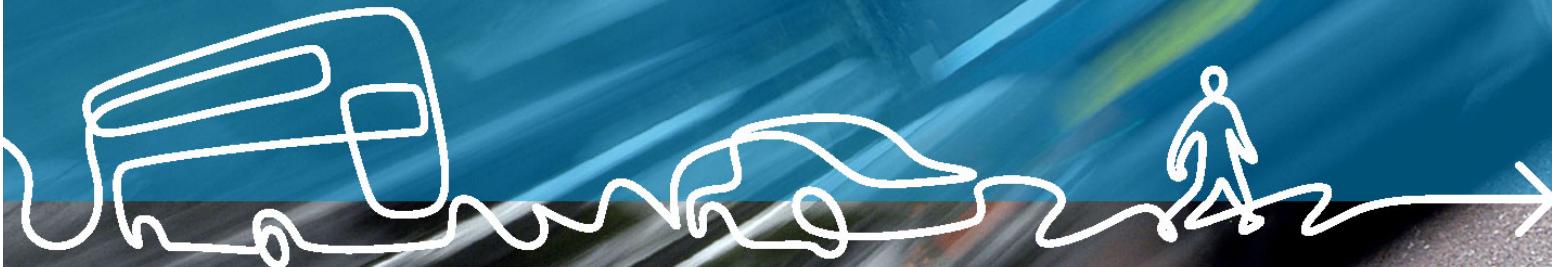




London's Intelligent Traffic System

Keith Gardner
Director of Strategy, Surface Transport
Transport for London



Transport for London

Traffic management

- 580km of major roads (including bridges)

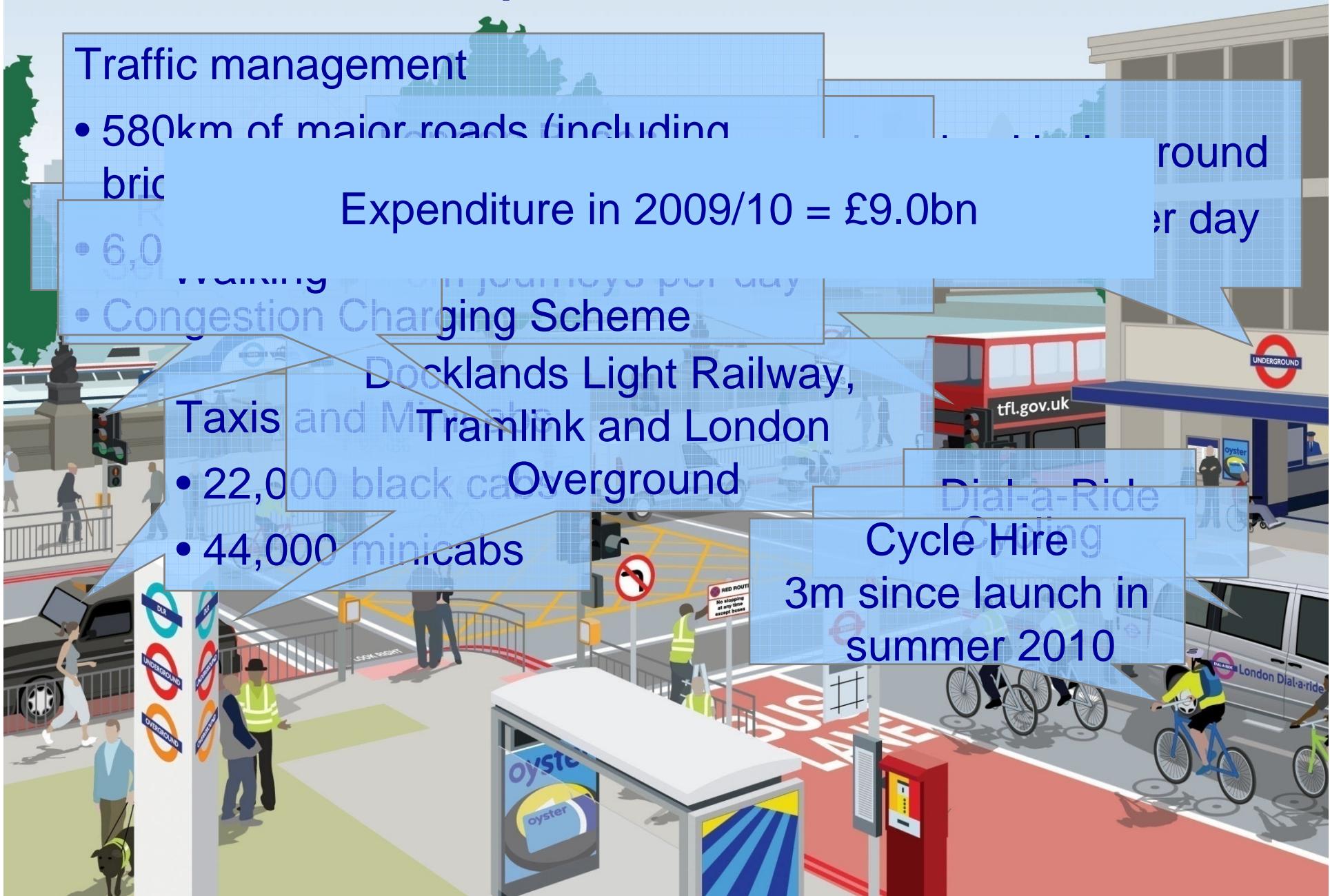
Expenditure in 2009/10 = £9.0bn

- 6,000 traffic wardens
- Congestion Charging Scheme

Docklands Light Railway,
Taxis and Minicabs
Tramlink and London
Overground

- 22,000 black cabs
- 44,000 minicabs

Dial-a-Ride
Cycle Hire
3m since launch in
summer 2010





Policy framework

Proposal 30 – Mayor's Transport Strategy

'TfL will introduce measures to smooth traffic flow to manage congestion (delay, reliability and network resilience) for all people and freight movement on the road network'

- Move away from reducing congestion
- Move towards improving reliability and resilience
- and people movement
- and recognition of freight

With no scope for new road building and limited budget for big road projects, ITS technology plays a key role in achieving this objective.





Traffic Directorate - Intelligent Traffic System programme

Critical Issues addressed by this programme

- ⚠ Obsolescent Infrastructure
- ⚠ Degraded JTR
- ⚠ Increased congestion
- ⚠ Incomplete data for Road Management
- ⚠ Fragmented Systems
- ⚠ Limited control of Moderate events
- ⚠ Subjective decision making
- ⚠ Inadequate traffic information
- ⚠ Weak situational awareness

The programme delivers

Data Management

- Predictive Capability for corridors
- New data sources, gaps filled
- Decision support modelling to ORN

Objective data-led decision making

Integration – One TfL

- Efficient information transfer
- JTR monitoring integrated
- Journey time information integrated

Savings through efficiency & reduced duplication

Operational

- Real time disruption management tool
- Situational awareness system
- Effective Single User Interface
- Enhanced road user information

Effective operations to meet increased demand

Modernisation

- Mapping tool upgraded for Olympics
- UTC/SCOOT upgraded and improved with emissions module
- Essential security, resilience, compliance
- Improved/maintained system availability

Systems remain fit for purpose

Challenge by 2012

Operation of road network during Olympics MTS proposals 30, 31, 33

Challenge by 2031

1.25m Population increase 750,00 Additional Jobs 14% increased traffic demand

Benefits

- Policy responsive systems
- Reduced CO₂, NO_x and P10's
- Increased data utilisation
- Capability to manage moderate events (75% of disruption)
- Improved operational decision-making – focused interventions
- Improved JTR for all road users including buses and freight
- Improved predictability of JTR
- Improved ability to interpret traffic impact
- Objective situational awareness
- Improved road user satisfaction and information
- Reduced costs of obsolescence and fault fixing
- Improved performance measurement.



1. Prioritise investment: Focus on key areas

Improve our modelling capabilities

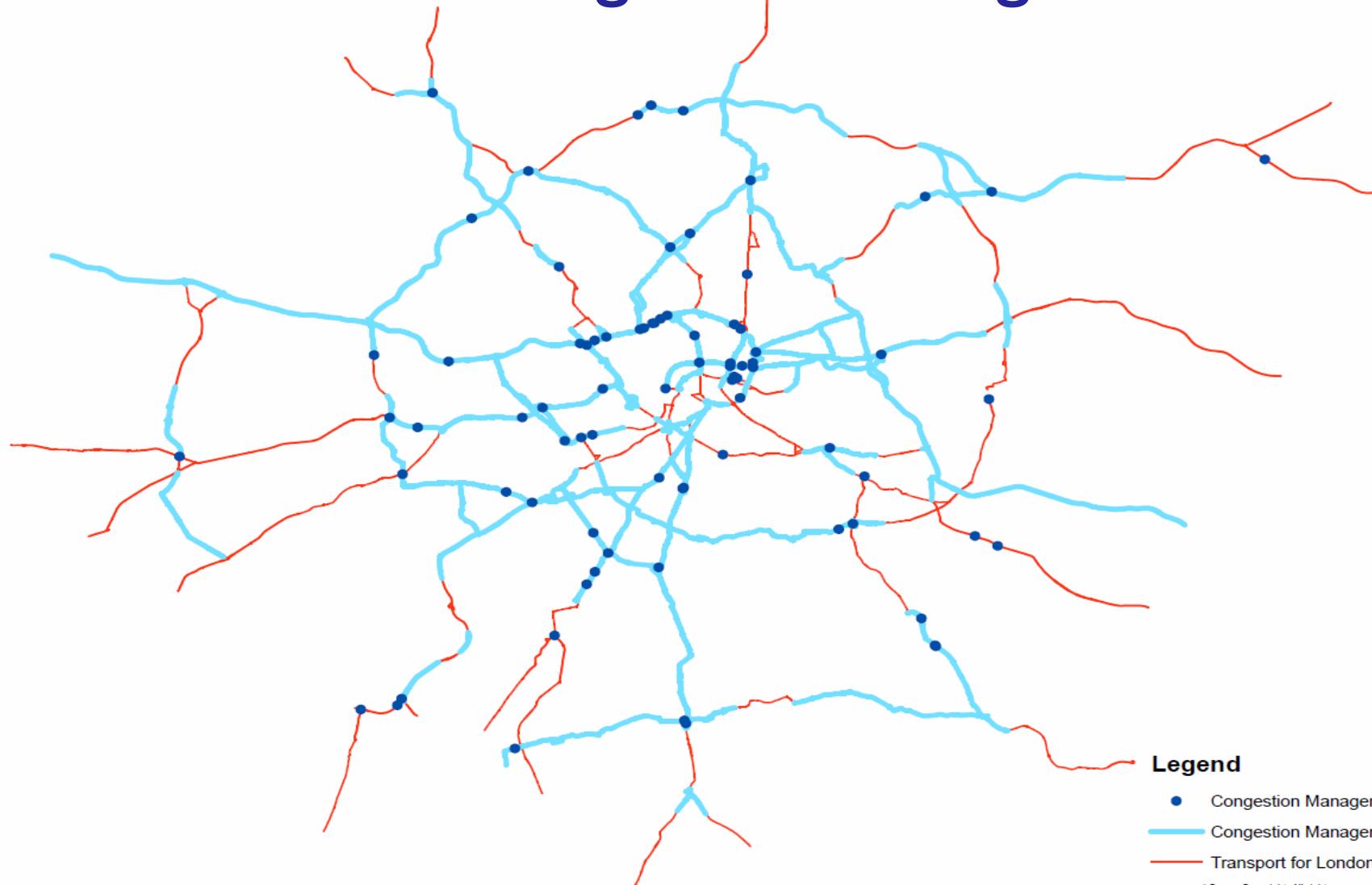
Better management of our network

Improve journey information

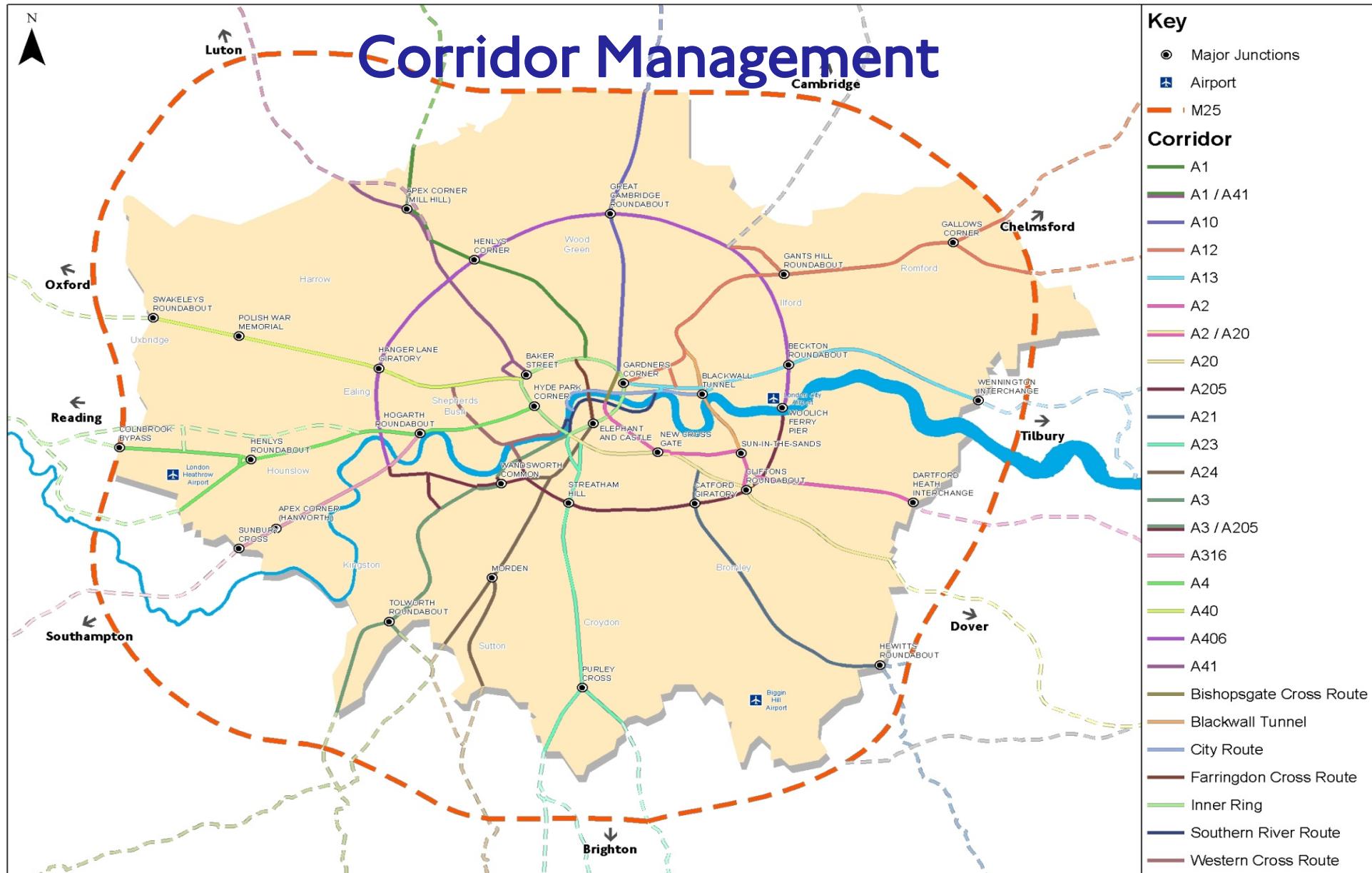


Prioritising Investment

Congestion Management Areas

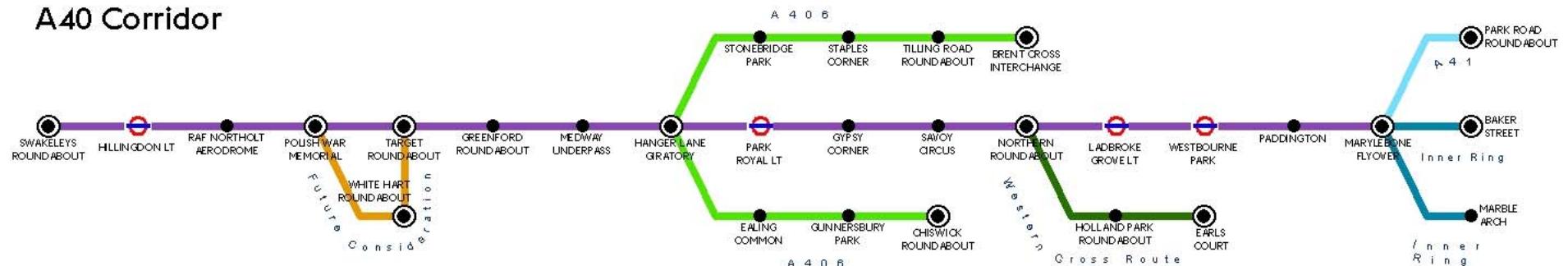


Prioritising Investment

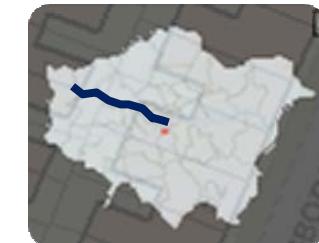


A40 example

A40 Corridor



- 15 miles linking Bucks with Paddington
- Mainly 3 lanes, with three 2-lane sections
- 70 signals
- 80 opportunities for improvement identified





Our ITS strategy

Focus on key areas

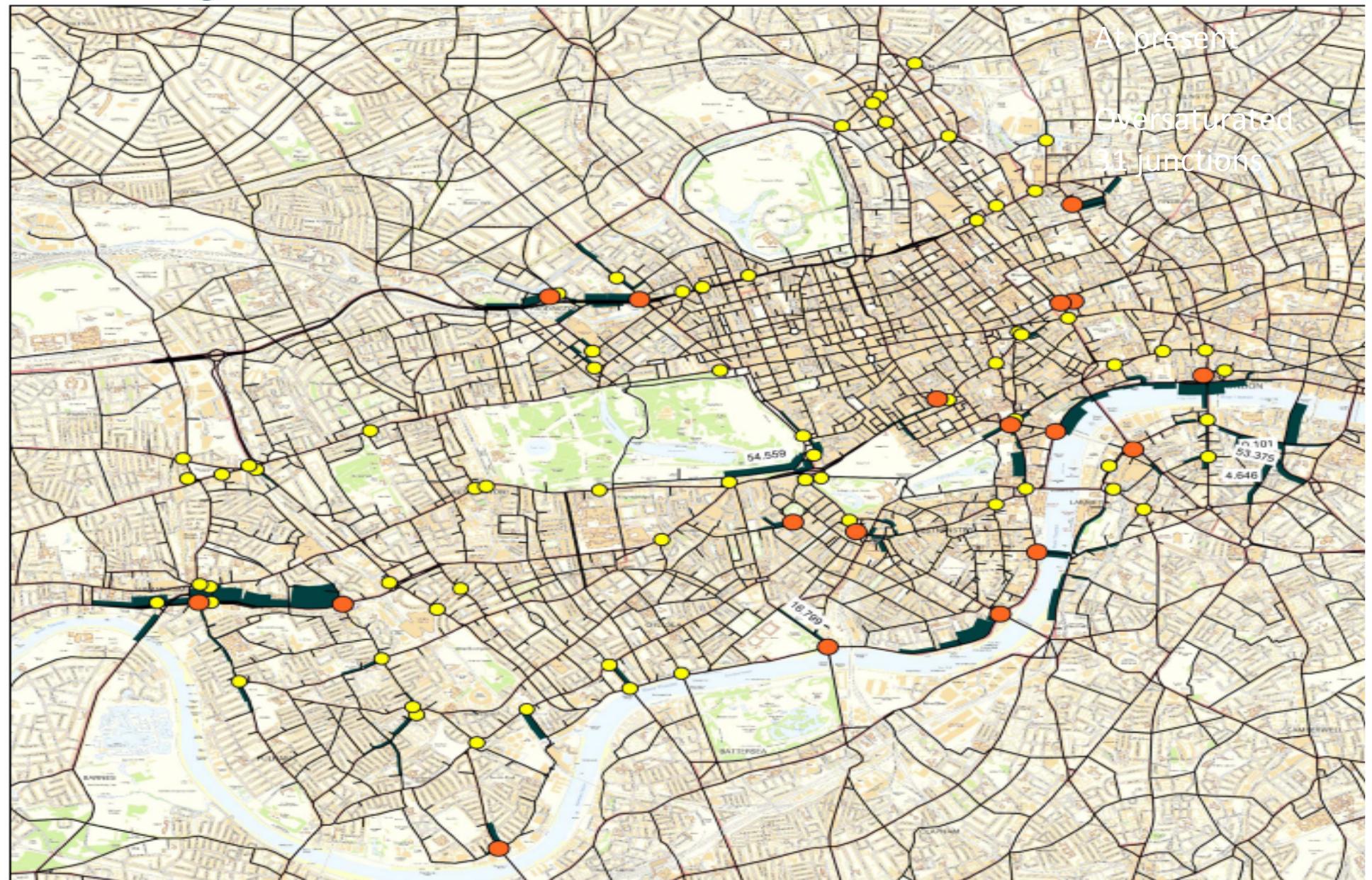
2. Improve our modelling capabilities: improve data capture and prediction

Better management of our network

Improve journey information



Example - ONE Model





Our ITS strategy

Focus on key areas (improve data capture and prediction)

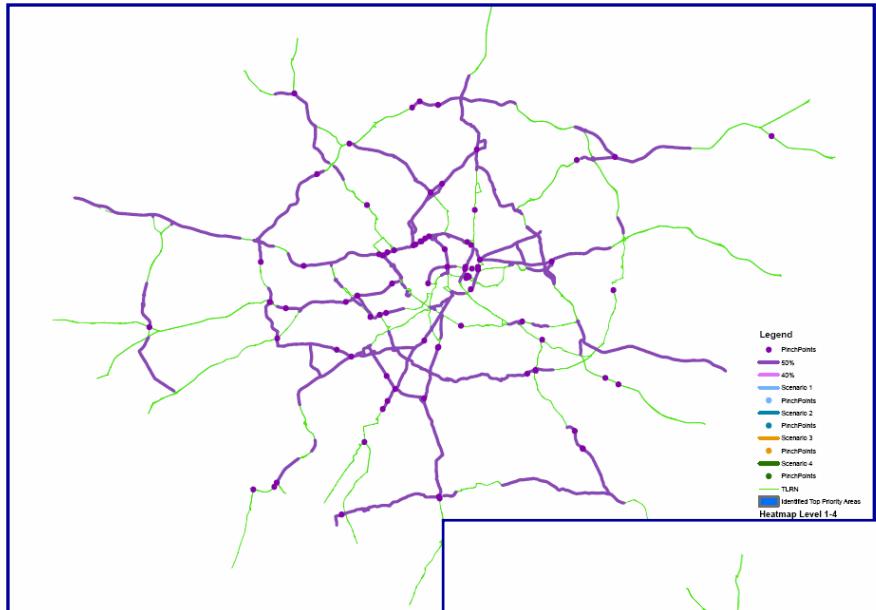
Improve our modelling capabilities

3. Better management of our network

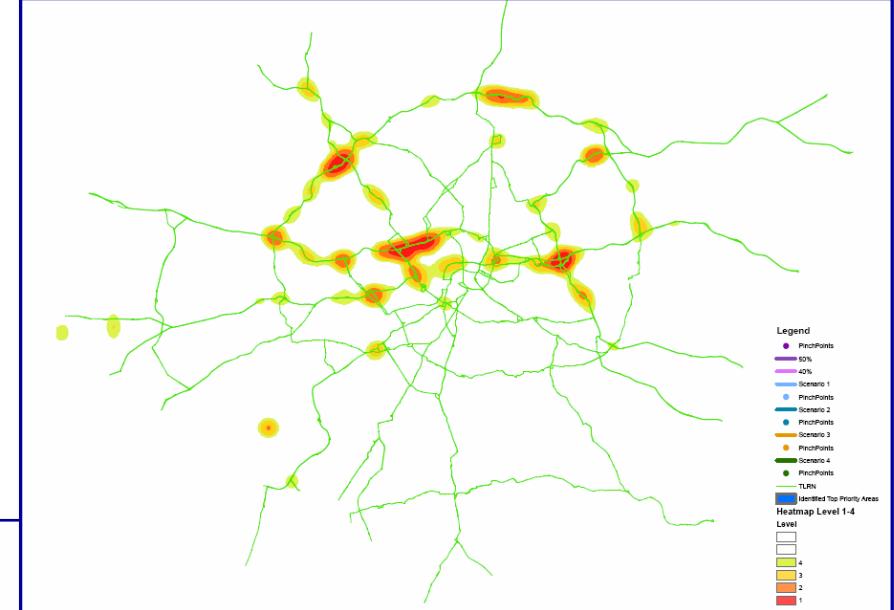
Improve journey information



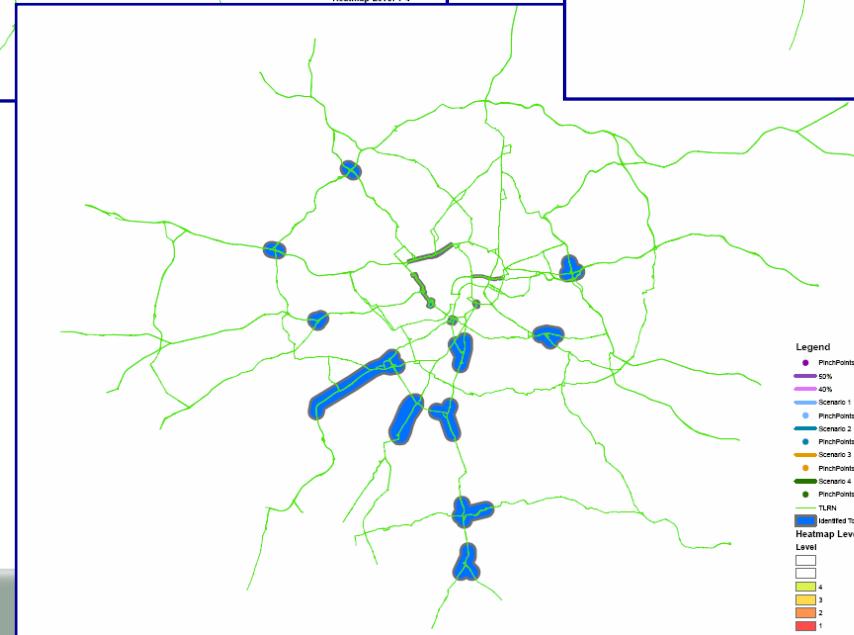
Lane rental and forward planning



1. Lane Rental



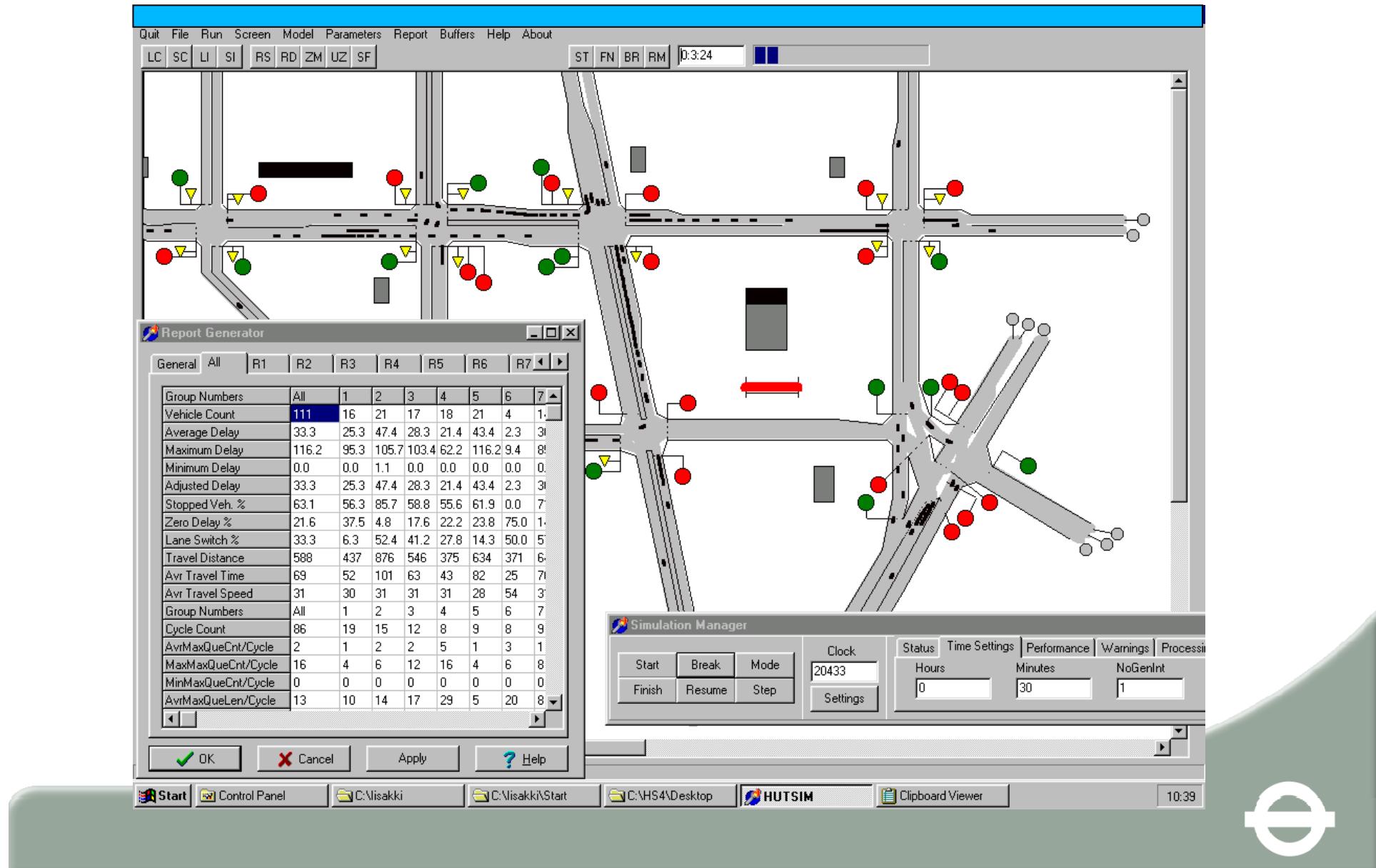
2. Data heat map



3. Engineers' areas



SCOOT infrastructure in key areas

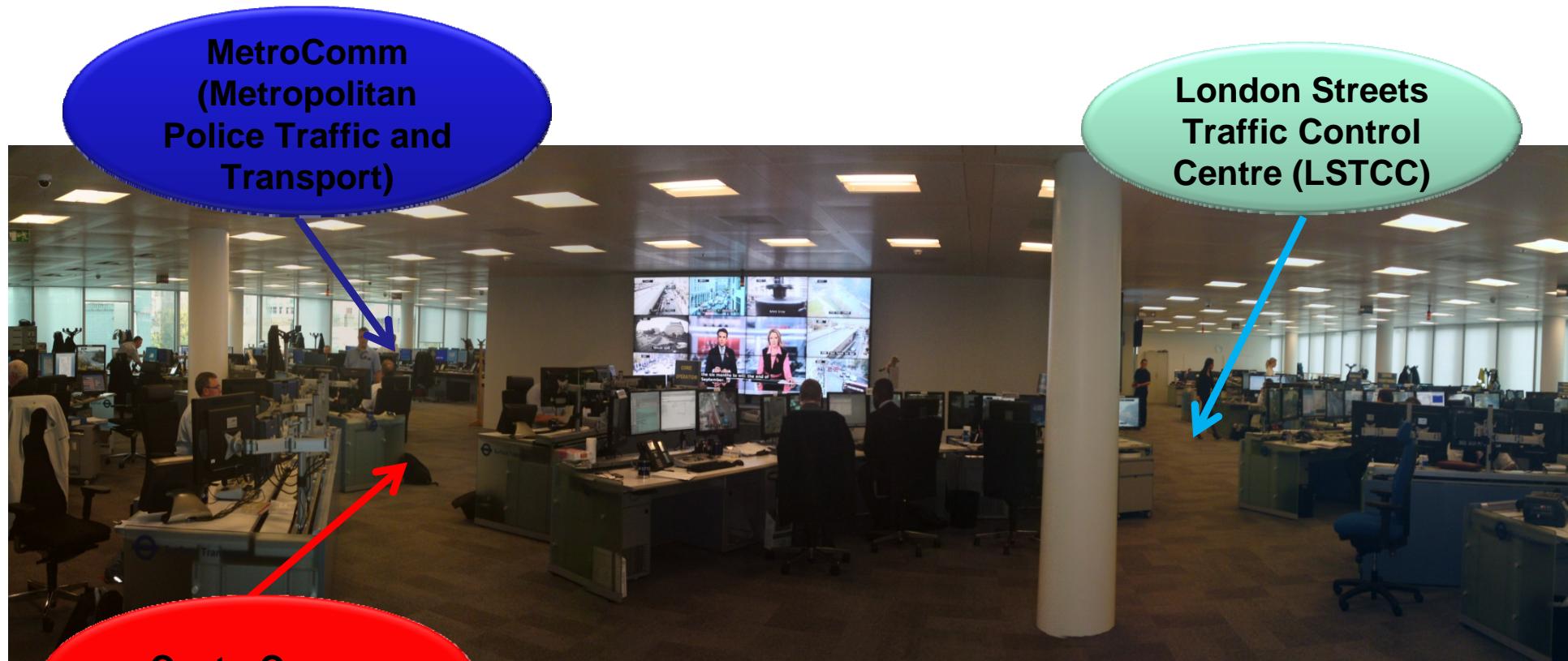




Focus on Journey Time Reliability

PM Peak		Year / Period	2010/11										
Route Type	Corridor	Direction	1	2	3	4	5	6	7	8	9	10	
Radial	A4	Outbound	89.5%	85.4%	79.4%	81.1%	89.4%	79.9%	79.1%	76.1%	79.8%	88.4%	
Radial	A40	Outbound	85.7%	84.9%	85.6%	85.4%	85.9%	84.2%	82.9%	83.5%	85.2%	84.0%	
Radial	A41	Outbound	88.7%	87.4%	82.2%	83.4%	89.5%	84.0%	85.4%	84.4%	83.9%	87.3%	
Radial	A1	Outbound	81.6%	81.6%	79.3%	79.3%	86.5%	79.6%	81.3%	83.6%	84.4%	85.9%	
Radial	A10	Outbound	83.6%	83.8%	85.1%	84.3%	87.2%	83.8%	84.5%	83.3%	81.2%	83.9%	
Radial	A12	Outbound	88.1%	84.1%	81.4%	84.8%	88.1%	85.3%	85.6%	78.8%	79.8%	82.9%	
Radial	A13	Outbound	87.1%	85.1%	86.4%	87.2%	83.0%	83.9%	86.7%	83.1%	79.9%	83.0%	
Radial	A2	Outbound	86.7%	88.2%	85.6%	90.8%	89.1%	88.5%	86.5%	81.6%	86.3%	82.6%	
Radial	A20	Outbound	83.5%	89.3%	89.7%	88.9%	87.8%	87.9%	87.9%	87.9%	86.8%	87.7%	
Radial	A21	Outbound	91.6%	91.2%	92.1%	96.2%	94.3%	92.5%	95.2%	91.5%	87.9%	94.3%	
Radial	A23	Outbound	83.7%	84.4%	84.5%	86.2%	86.7%	84.7%	81.7%	82.2%	80.0%	84.3%	
Radial	A24	Outbound	88.4%	87.2%	87.5%	88.8%	90.9%	86.8%	87.6%	85.5%	85.6%	88.2%	
Radial	A3	Outbound	90.1%	87.9%	90.0%	90.5%	94.2%	86.3%	88.9%	87.2%	86.1%	90.3%	
Radial	A316	Outbound	92.0%	90.6%	87.8%	92.1%	94.4%	93.3%	91.9%	91.0%	91.4%	90.5%	
Radial	Blackwall	South	79.1%	83.5%	79.2%	75.4%	86.2%	77.5%	80.0%	74.3%	80.1%	78.0%	
Orbital	A406	Clockwise	84.7%	85.0%	86.0%	85.5%	87.4%	87.4%	87.7%	82.4%	83.8%	85.0%	
Orbital	A406	Anti-clockwise	90.7%	87.5%	86.6%	88.0%	89.6%	85.6%	87.2%	85.1%	82.5%	87.4%	
Orbital	A205	Clockwise	90.9%	92.1%	89.3%	90.0%	94.7%	90.0%	88.4%	90.2%	85.6%	90.3%	
Orbital	A205	Anti-clockwise	83.5%	85.2%	83.9%	83.6%	87.5%	86.1%	83.3%	83.3%	81.0%	83.8%	
TLRN	TLRN	All Above	85.9%	85.6%	83.9%	85.2%	87.5%	84.5%	83.7%	82.8%	83.0%	85.7%	
TLRN	TLRN	All Directions	87.3%	87.0%	85.6%	86.7%	88.7%	86.4%	85.8%	84.1%	84.3%	87.6%	
Pan London	All	All Directions	87.3%	87.0%	85.6%	86.7%	88.7%	86.4%	85.8%	84.1%	84.2%	87.6%	

Real-time Command and Control





Our ITS strategy

Focus on key areas (improve data capture and prediction)

Improve our modelling capabilities

Better management of our network

4. Improve journey information



Notifying and engaging the road user

 Transport for London

Home Live travel news Getting around Tickets

Live travel news

Tube Buses DLR Road River Coaches Trams Rail

Today | This date: Select date Go

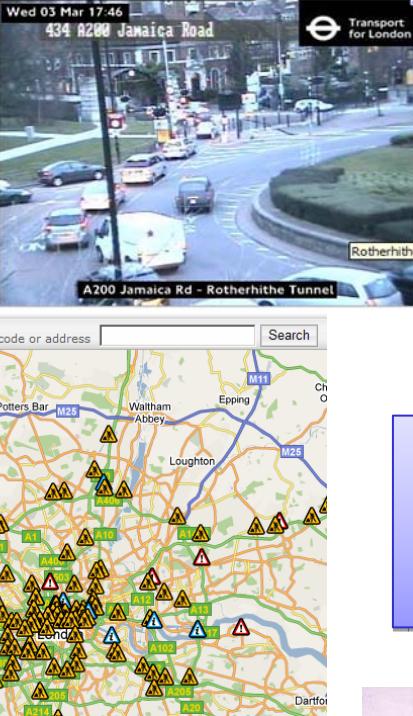
Traffic alerts at 17:46

Show incidents causing:
 Serious traffic impact (2)
 Moderate traffic impact (130)

Show:
 Live traffic cameras
 Variable message signs

Incidents causing traffic impact

- Halden Way / A3 (New Malden)
- Marylebone Road / A501 (Regent's Park)
- A10 (Enfield)
- A10 (Hackney)
- A12 (Chadwell Heath)



Live web information

GPS applications



Traffic Radio



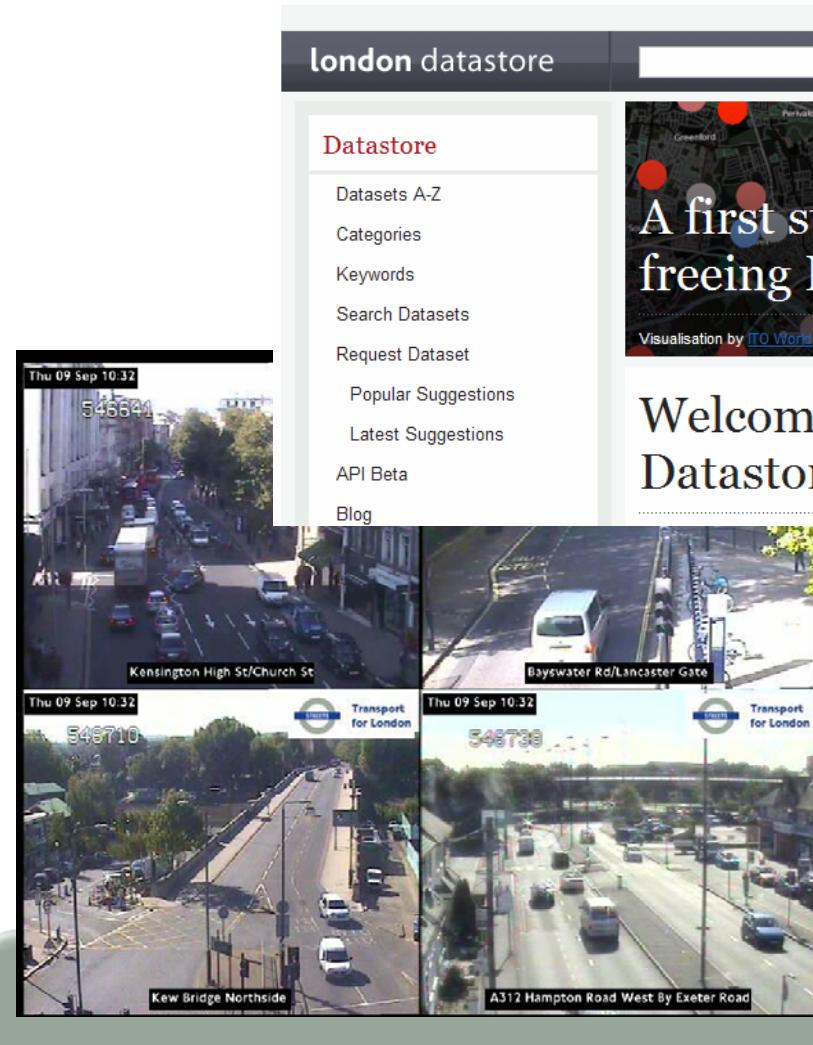
www.tfl.gov.uk/trafficnews



Releasing Traffic Data

GREATER LONDON AUTHORITY

london.gov.uk



<http://data.london.gov.uk>

v.uk/

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Expected benefits from ITS investment

Year	2010/11	2011/12	2012/13	2013/14	2014/15	2016/17	2017/18
% Reduction in Congestion	0	2%	4.6%	7.3%	7.3%	8.5%	8.5%
Capability	Current	Situational Awareness	Operational Intelligence			Predictive Capability	

