

May 2009

# Mayor's Transport Strategy

## Statement of Intent

Published for initial consultation with the London Assembly and GLA Group



**MAYOR OF LONDON**

**Greater London Authority  
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# Mayoral foreword

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**This strategy is one of three key documents (alongside the London Plan and Economic Development Strategy) that outline my vision for London.**

Faced with the key challenges of a growing and increasingly diverse population, a more competitive global business environment and a changing climate, we need to set a new course for London's development over the next 20 years.

My vision is for a London that excels among global cities – expanding opportunities for all its people and enterprises, achieving the highest environmental standards and quality of life, and leading the world in its approach to tackling the urban challenges of the 21st century.

London's strength is its energy, dynamism and diversity and this transport strategy aims to harness these powerful engines for change rather than aim for blanket uniformity.

As greater numbers of people move to cities worldwide, we have the opportunity to set the benchmark for successful large-scale urban living. To do this we need to improve access to jobs, housing and transport, concerning ourselves with the needs of all Londoners and providing extra help to those facing the greatest disadvantage.



Throughout these three key strategies we have sought to place environmental sustainability at the heart of our approach because job security, energy security and climate security are all interlinked and must inform our policies on housing, transport and quality of life.

As Mayor, my role is to set out the broad vision and strategy but I know we can only realise that vision through partnership with others, and so your involvement is vital, and I welcome your comments and responses to this strategy.

A handwritten signature in black ink, which appears to read 'Boris Johnson'.

Boris Johnson  
**Mayor of London**



# Chapter one – Introduction

## 1.1 About this document

- 1 This document contains the Mayor's initial thoughts on a new transport strategy for London. It is in the form of a Statement of Intent which offers a framework for developing the new strategy and tentatively outlines potential policies and proposals which could be developed further. Primarily, it allows the Mayor to invite and then consider the views of the London Assembly, Greater London Authority (GLA) functional bodies and the Olympic Delivery Authority (ODA) on the overall shape and content of the new strategy before it is published for public consultation in autumn 2009. However, it is open to anyone to send in comments.
- 2 The key challenges this document is addressing are:
  - Supporting economic development and population growth
  - Providing a better quality of life for all Londoners
  - Ensuring the safety and security of all Londoners
  - Improving transport opportunities for all Londoners
  - Tackling climate change
  - Delivering the London 2012 Olympic and Paralympic Games
- 3 The document is set out in four main sections:
  - **Chapter 1** sets the context for the strategy and explains the Mayor's vision for transport in London
  - **Chapter 2** examines the challenges London faces and the five key goals the Mayor proposes the strategy seeks to achieve
  - **Chapter 3** considers the spatial context and offers alternative thoughts on planning for London's future development
  - **Chapter 4** contains the outcomes the Mayor wishes to deliver for London through the transport strategy and explains firstly, the extent to which these can be secured through Transport for London's (TfL's) existing Business Plan and planned National Rail investment, and secondly, the additional measures which will be needed to complete their delivery

The document ends by explaining what the next steps will be.

## 1.2 The role of the Mayor's Transport Strategy

- 4 The Mayor's Transport Strategy (MTS) is the principal policy tool through which the Mayor exercises his responsibilities for the planning, management and development of transport in London. It supports the London Plan (the Mayor's Spatial Plan for London) and provides the policy context for the more detailed plans of the various transport-related implementation bodies, particularly TfL and the London boroughs.
- 5 The legislative framework for the MTS is laid down by the GLA Act 1999 as amended by the GLA Act 2007. The Act sets out the general transport duties of the Mayor and the GLA. It specifies that the strategy must contain policies for 'the promotion and encouragement of safe, integrated, efficient and economic transport facilities and services to, from and within Greater London' and proposals for securing the transport facilities and services needed to implement the Mayor's policies over the lifetime of the MTS, with regard to the movement of both people and goods.

The MTS must also contain the Mayor's proposals for providing transport that is accessible to mobility-impaired people and may contain any other proposals which he considers appropriate. Mobility issues will be addressed in the Accessibility Plan, which will be available as an annex to the MTS.

- 6 In preparing the MTS the Mayor will have regard to promoting equality, planning out crime, and to the principal purposes of the GLA – the promotion of economic development and wealth creation, social development and the improvement of the environment – and to the effect that the strategy would have on health and health inequalities between people living in Greater London, on climate change and the consequences of climate change, and the achievement of sustainable development. He will also have regard to the need to ensure that the strategy is consistent with national policies and with his other strategies, to the resources available and to the desirability of promoting and encouraging the use of the Thames for safe passenger and freight transport.
- 7 In accordance with the statutory requirements, the Mayor will include in the MTS transport policies and proposals he considers best calculated to promote improvements in the health of, and the reduction in health inequalities between, Londoners; contribute to the mitigation of, or adaptation to, climate change in the UK; and encourage sustainable development.
- 8 The Mayor announced his intention to prepare a new MTS in his 'Way to Go! – Planning for Better Transport' policy document, published in November 2008. The timetable for its development allows for two distinct periods of consultation, with the London Assembly and other Mayoral functional bodies (spring 2009) and with the general public (autumn 2009). It is currently envisaged that this will enable the publication of the final new MTS in early 2010. This document,

the Statement of Intent draft of the MTS, is the document with which the Mayor is consulting in the first stage of that process.

- 9 Since the publication of 'Way to Go!' the Mayor has decided to undertake a full review of the London Plan and the Mayor's Economic Development Strategy in parallel with the development of the new MTS. This document is therefore being published and consulted upon in parallel with similar documents for these strategies.

### 1.3 Why revise the Mayor's Transport Strategy now?

- 10 The first MTS was published in July 2001. Since then, as pointed out by the Mayor in 'Way to Go!', much has been achieved. Major public transport investments, including the first of the Tube upgrades, bus service improvements, the development of London Overground, and the introduction of Oyster card cashless ticketing, have resulted in significant patronage growth. There has been more than a 90 per cent increase in the number of cycling trips on London's major roads, and an unprecedented six per cent increase in the overall mode share of public transport, walking and cycling, for which London is now rightly acknowledged as a world leader in sustainable transport development. On the road network, achievements have included the introduction of the central London Congestion Charge scheme and the London-wide Low Emission Zone (LEZ), as well as a 45 per cent reduction in the overall numbers of people killed or seriously injured on the road network.
- 11 However, despite these improvements, significant challenges remain. London's roads and public transport services remain among the most crowded and congested in the country (road traffic congestion is worsening in all areas of London including central London), its overall air quality remains the poorest of any region in the UK (with transport emissions as a major contributory factor), and the challenge of tackling climate change continues to be as intractable as ever, with transport (including ground-based aviation) responsible for around 22 per cent of London's total carbon dioxide (CO<sub>2</sub>) emissions.
- 12 A number of other significant events have also occurred since the 2001 MTS was published. The city won its bid to host the London 2012 Olympic and Paralympic Games. Crossrail, a multi-billion pound cross-London rail scheme connecting the City, West End and Canary Wharf with Heathrow and Maidenhead in the west, and Shenfield and Abbey Wood in the east, has been given the go-ahead, as has Thameslink and other National Rail investment. The regeneration of London's Underground system commenced through the Public Private Partnership (PPP), and TfL's Investment Programme is delivering new trains, signalling and improved stations on the Underground. The Mayor has also completed a consultation on the future of the Western Extension of the Congestion Charging scheme and now intends to remove it. It is therefore timely to develop a new MTS informed by the challenges the city faces in the coming decades.

## 1.4 'Way to Go! – Planning for Better Transport'

<sup>13</sup> In 'Way to Go!' the Mayor set out and consulted upon his personal vision for the future direction of transport policy development in London, and articulated eight 'guiding principles' which would underpin the development of his new strategy:

- Respecting choice
- Keeping people informed
- Protecting the environment
- Developing Outer London
- Connecting transport and planning
- Working with the boroughs
- Providing transport for all
- Delivering value for money

### Respecting choice

<sup>14</sup> The Mayor is committed to respecting Londoners' choice to use whatever modes of transport are most convenient to them. While there are clear social, economic and environmental imperatives that require transport strategies and policy interventions to reduce our reliance on private car travel and encourage the use of more 'sustainable' modes of travel like cycling, walking and public transport, the Mayor is clear that this must be achieved through encouragement and persuasion, not restriction and restraint. There is, therefore, no place for a simple 'one size fits all' rigid hierarchy of transport modes, only a

flexible and balanced multi-modal approach which will deliver clear progress in improving conditions for all types of travel.

### Keeping people informed

<sup>15</sup> A key part of a strategy of encouragement and persuasion is providing Londoners with the right information to enable them to plan their journeys in the most efficient and effective way possible. Often the most environmentally friendly travel choices are also the quickest, most convenient and cost effective ones. Providing Londoners with better information, whether to enable them to avoid delays and roadworks or know when it's quicker or easier to walk or cycle than use a car (or even a bus or the Tube), is a fundamental part of the Mayor's vision to make travelling about London quicker, cheaper and as convenient as possible.

### Protecting the environment

<sup>16</sup> While the benefits of travel are manifold, so too are the negative impacts it can have (eg air pollution, noise and climate change emissions). The Mayor is determined that his new transport strategy will both enhance Londoners' quality of life, and protect and enhance the built and natural environment.

### Developing Outer London

<sup>17</sup> London is a polycentric conurbation of many urban and metropolitan town centres. If London is to maximise its economic potential, more needs to be done to promote the attractiveness of living and working in Outer London. The Mayor has set up the Outer London Commission to advise him on this.



The transport strategy will seek to build on this work and develop more appropriate transport solutions that maximise the potential of the whole of London.

## Connecting transport and planning

- 18 A key part of this approach will be a fresh look at the relationship between planning and transport across the city, developing the new transport strategy in conjunction with the revisions to the London Plan and the Mayor's Economic Development Strategy.

## Working with the boroughs

- 19 The Mayor's manifesto commitment was to work much more closely with the boroughs and recognise that decisions on local transport needs are often best made by those closest to them. The Mayor has already significantly reformed the way in which capital funding for transport is allocated to boroughs through the Local Implementation Plan (LIP) process, reducing prescription and bureaucracy and better enabling the packaging of projects to achieve multiple benefits. The City Charter is developing this further through active engagement and collaboration with the boroughs and other public service providers. The new MTS will be more high level and less prescriptive than the last one, and will give boroughs increased input to develop the transport solutions that are most appropriate to their own local situations.

## Providing transport for all

- 20 In spite of London's economic success, and the great strides made in recent years in improving the quality, quantity and accessibility of transport services, not all Londoners are able to take full advantage of the benefits our great city offers. The Mayor is therefore clear that the strategy needs to do more to ensure equal access to jobs, services and opportunities.

## Delivering value for money

- 21 Transport services consume significant volumes of public funding. It is therefore the responsibility of any transport authority to ensure that this money is spent both wisely and cost effectively. Additionally, it is an economic fact that the costs of transport operations (eg labour, fuel and energy costs, plus construction industry costs) have risen consistently above the general rate of inflation – and are predicted to continue to do so into the future. It is therefore imperative to continue to bear down on costs, maximise efficiency wherever possible, and ensure value for money for tax and fare payers.
- 22 Since the publication of 'Way to Go!', a wide range of consultation responses have been received from individuals and organisations across London. In all, 260 responses were received, of which 107 were from stakeholder organisations, 138 from members of the public and 15 from businesses.

- 23 In general, there was broad support for all of the Mayor's guiding principles, in particular 'keeping people informed', 'working with boroughs', 'integration of planning and transport' and 'developing Outer London' (although some pointed out that this should not be at the expense of central or Inner London). There was support for protecting the environment, particularly in regard to CO<sub>2</sub> emissions and air quality. The promotion of walking and cycling was welcomed across the board. Collectively, these responses have informed and developed the thinking behind the Mayor's new strategy. This document therefore re-affirms these guiding principles as the basis from which the MTS will be developed.

## 1.5 The Mayor's vision for London

- 24 The Mayor's vision for London, set out in the Statement of Intent for the London Plan, 'A New Plan for London', is that over the years to 2031:

'London excels among global cities – expanding opportunities for all its people and enterprises, achieving the highest environmental standards and quality of life and leading the world in its approach to tackling the urban challenges of the 21st century.'

The document goes on to state that:

'Achieving this vision will mean making sure London makes the most of the benefits of the energy, dynamism and diversity that characterise the city and its people, embraces change while promoting its heritage, neighbourhoods and identity, and values responsibility, compassion and citizenship.'

- 25 Six detailed objectives set out how this overarching vision should be implemented:
- (a) A city that meets the challenges of economic and population growth in ways that ensure a good and improving quality of life for all Londoners, and help tackle the huge issue of inequality among Londoners, including inequality in health outcomes
  - (b) An internationally competitive and successful city with a strong and diverse economy and an entrepreneurial spirit that benefits all Londoners and all parts of London, a city which is at the leading edge of innovation and research, while also being comfortable with – and making the most of – its rich heritage
  - (c) A city of diverse, strong, secure and accessible neighbourhoods to which Londoners feel attached, which provide all of its residents, workers, visitors and students – whatever their origin, background, age or status – with opportunities to realise and express their potential and a high quality environment for individuals to enjoy, live together and thrive

(d) A city that delights the eye and takes care over its buildings and streets, having the best of modern architecture while also making the most of London's built heritage, and makes the most of its wealth of open and green spaces, realising its potential for improving Londoners' health, welfare and development

(e) A city that becomes a world leader in improving the environment locally and globally, taking the lead in tackling climate change, reducing pollution, developing a low carbon economy and consuming fewer resources or using them more effectively

(f) A city where it is easy, safe and convenient for everyone to access jobs, opportunities and facilities, with an efficient and effective transport system which places more emphasis on walking and cycling and making better use of the Thames, and supports delivery of all the objectives of this Plan

26 The MTS, which must have regard to the need to ensure consistency with the London Plan and other Mayoral strategies, naturally responds specifically to the last of these objectives. However, in so far as better transport is not an 'end' in itself, but a means to improving broader economic, environmental and social outcomes, the MTS must seek to respond to and support the delivery of all the London Plan objectives. It must also have regard to the need to ensure consistency with national transport policy objectives and the Mayor's guiding principles for the development of the strategy set out in the previous section.

## 1.6 What are the key trends, challenges and opportunities the strategy needs to address?

27 The Mayor seeks to achieve his vision by focusing the policies and proposals in his transport strategy on achievement of the following six overarching 'thematic' goals:

- Supporting economic development and population growth
- Providing a better quality of life for all Londoners
- Ensuring the safety and security of Londoners
- Improving transport opportunities for all
- Tackling climate change
- Delivering the London 2012 Olympic and Paralympic Games

The challenges relating to each of these goals are set out in the next chapter.



# Chapter two – Challenges

## 2.1 Economic development and population growth

### Supporting population and employment growth

- 28 London's economy and population have expanded significantly since the early 1990s, and are projected to grow further in the future. In 2007, the city was home to 7.6 million people and 4.7 million jobs. London's transport system caters for about 24 million trips a day and a significant volume of UK freight movements. In spite of the current economic recession, around one million more people – and 650,000 more jobs – are expected to be accommodated in Greater London by 2031, in turn leading to at least two million more trips each day. Heavy goods vehicle (HGV) mileage is forecast to grow by 10 per cent and light goods vehicle (LGV) movements by up to 30 per cent.
- 29 Business agglomeration in central London, coupled with growth in commuting over the last few decades, has perpetuated the relatively long journeys people make to work in London. All this has created significant capacity pressures in the transport system, likely to be exacerbated by future population growth. The number of households in the Capital will also grow faster than overall population figures as average household sizes decline.
- 30 If London is to develop more sustainable patterns of growth and development, a more effective balance of the location of population and employment across the city is needed.

The revision of the London Plan is considering opportunities to reassess the long-term balance between housing and jobs growth, reducing the need to travel through developing a more polycentric pattern of employment development and creating a more economically, socially and environmentally sustainable city. Additionally, the MTS needs to encourage behavioural change to reinforce this approach. This includes promoting workplace travel planning, home-working, remote conferencing and other internet/communications-led technology solutions that can reduce the need to travel and improve people's quality of life, without undermining their freedom to move around when they need to.

- 31 Nevertheless, radial transport links will continue to be essential for commuting into central London, and any new approach to land use development will not negate the need for future capacity and connectivity improvements in this area. However, allied to a more polycentric approach would be an inherent need to improve orbital as well as radial connectivity, and improve transport links into metropolitan town centres outside central London.

### Increasing transport connectivity

- 32 London is a hub for international trade, commerce, finance and politics, and is the most productive part of the UK, generating 18 per cent of the country's Gross Value Added (GVA) from only 13 per cent of the population. This high productivity is due to the clustering of activity in key economic sectors delivering significant agglomeration benefits (particularly in central London and Canary



Wharf). Continuing economic growth therefore depends on expanding access to business and employment markets and improving the speed and reliability of passenger and freight movements, to maximise the efficiency of business operations and improve productivity. Excellent transport connections on a local, regional, national and international scale are fundamental to this success.

## Delivering an efficient and effective transport system

- 33 The key transport challenges to which the MTS must respond include: ensuring the reliability and resilience of the transport system; optimising the asset condition of London's transport networks; and delivering cost efficiency and value for money for tax and fare payers.
- 34 The extent to which road and public transport networks already operate at (or beyond) their existing maximum capacity levels is a significant challenge for London. Much is already being done to respond to this, including major Underground capacity enhancements, the development of the London Overground network, plus the delivery of significant north-south and east-west connectivity and capacity via the Thameslink and Crossrail schemes. Walking and cycling can play an increasingly significant role, providing health as well as transport benefits, and offering an alternative mode of travel when required. However, in spite of existing and planned investments, transport modelling shows that if further measures are not taken beyond 2017, crowding and congestion on public transport will once again start to increase. This could only have a negative effect on the overall productivity of London's economy and, in turn, the UK national economy.
- 35 The reliability of the Capital's transport networks is important to both businesses and individuals. Congestion represents a significant cost to businesses, which rely on transport not only so their workforce and customers can get to them, but also to ensure their goods can be transported quickly and cheaply. Surveys show that businesses rate the reliability of transport journeys (both passenger and freight) as being of greater significance than absolute journey time, hence the importance of 'smoothing' traffic flows and improving journey time reliability.
- 36 The impact of system failures and breakdowns is greatly increased the more the Capital's transport systems are operated at or beyond their designed capacities, therefore reducing the resilience of the transport network in coping with delays or unforeseen events. Lack of resilience puts London's economic growth at risk as even relatively minor incidents can cause disruption for large numbers of users.
- 37 Much is already being done to deal with incidents and disruptions. However, with the total number of trips on London's transport network projected to increase from 23.8 million in 2006 to more than 26 million by 2026, the probability of delays will rise. In addition, more of the network will have to function at or beyond peak capacity, potentially reducing resilience to delays. A key challenge is therefore to manage and maintain the transport network in such a way as to continue to provide a reliable service.

- 38 A long-term legacy of Britain's worldwide leadership of urban transport and public health engineering is that London has some of the oldest, and most intensively used, transport and public utility infrastructure in the developed world. This, coupled with a substantial inheritance of long-term under-investment and deferred renewals, presents some unique infrastructure challenges for the city. Breakdowns and system failures as a result of deferred maintenance and life-expired assets can significantly undermine the efficiency of transport operations. Although good progress has been made in recent years in reducing maintenance backlogs, substantial programmes of further investment will be required into the future.
- 39 Between them tax and fare payers bear the cost of providing London's transport system. While the transport network should deliver a fast, reliable, efficient and safe service, it should also do it in a cost-effective way. This means tightly controlling operating costs and capital expenditure, while optimising the use of existing infrastructure.

## 2.2 Providing a better quality of life for all Londoners

- 40 Transport has a fundamental impact on the quality of life for all Londoners. In many cases, these impacts are very positive. Over the last 200 years, first through mass access to public transport systems (trains, buses etc), and secondly with the increasing availability of private cars and road freight vehicles, transport has arguably done more to enhance personal freedom, education, social and life opportunities than any other invention. Travel itself broadens our minds and enhances our way of life – manifestly, it is good to travel!
- 41 However, it is also well understood that our ever increasing ability and desire for mobility also brings with it significant negative impacts. Some of these are so substantial (eg safety hazards and climate change) as to warrant specific challenges for the MTS in their own right. Others, however, such as transport's impact on air quality and noise, also present significant challenges to which the MTS must respond in tandem with the Mayor's other strategies. London's air quality remains the poorest of any English region and improvements will directly contribute to improved health for all Londoners, especially younger people. Levels of ambient noise, meanwhile, are significantly higher than elsewhere in the country. Easy access to mechanised transport and the more sedentary way of life that it has, at least in part created, has had a significant negative effect on overall levels of fitness and obesity (although

promoting more physically active forms of transport like cycling and walking also has tremendous potential to reverse this).

- 42 Some impacts, particularly in relation to the physical environment, can either be positive or negative, depending largely on the success or otherwise of transport planning. Good transport planning can connect communities, enhance streetscapes (eg through development of shared space initiatives), raise the quality of the urban realm and encourage active travel. It can also protect and support the natural environment (London Underground (LU) alone manages a substantial proportion of the Capital's wildlife habitats). However, bad planning can marginalise or sever communities, create eyesores or harm the urban landscape. It can also pollute, damage or destroy delicate eco-systems and hugely undermine the quality of life.
- 43 Finally, the Mayor has made it a particular priority to improve the quality of Londoners' overall daily travel experiences whether as drivers, pedestrians, cyclists or public transport users.

## 2.3 Ensuring the safety and security of all Londoners

- 44 The safety and security of all Londoners is of paramount importance to the Mayor. His goal is to make London a safer place to live, work and visit. Lack of safety and security (perceived or actual) is a barrier to travel for some and reduces their ability to access services and opportunities. Improving safety and security will also help to address wider challenges, including improvements to the quality of life and making London a fairer and more prosperous city. The MTS must therefore take into account all aspects of safety and security including: crime, fear of crime, antisocial behaviour, road safety, occupational health, and the safety of transport systems, staff and the public.
- 45 Although crime levels on public transport services are low, fear of crime and antisocial behaviour remains a significant issue. Safety on public transport services is good with passenger accidental fatality rates on London's Underground system and bus network significantly lower than in other major cities. London's public transport has an excellent safety record in comparison to other motorised modes, for example in 2008 just five per cent of all road traffic collisions involved injury to bus occupants. Notwithstanding the tremendous reductions that have been achieved in road casualties in recent years, London's road network still has higher levels of injuries per vehicle kilometre than other main UK metropolitan areas: much more therefore remains to be done.

46 A safe, well-designed and maintained public realm also determines perceptions of safety for walkers and cyclists. It is an important factor in encouraging take up of these modes, for example with regard to children walking and cycling to school. Fear of crime and personal security concerns are key issues in determining not only whether people will walk (and cycle), but whether they will combine walking with longer journeys by public transport.

47 As London enters a period of intense construction activity (described in section 4.3), the safety of public transport and road construction workers is also of significant importance.

## 2.4 Improving transport opportunities for all Londoners

48 Despite London's economic success over the last few years, not everyone has benefited fully from its inherent prosperity. Whether through lack of educational or employment opportunities, disability, personal mobility, age, ethnicity or other factors, many Londoners are still excluded from much of what the city has to offer.

49 In terms of the accessibility of transport services, much has been achieved in recent years: 95 per cent of Londoners now live within five minutes walk of a bus stop, all of the bus fleet and 40 per cent of bus stops are now physically accessible, as are a third of National Rail stations and 20 per cent of Underground stations from street to platform. Around a third of signalised pedestrian crossings are also accessible

to disabled people. However, improving accessibility is not just about physical measures: it is also about providing better information and communications, improving staff and public attitudes towards disabled, older and young people, improving the actual and perceived safety and security of transport services and travel, and ensuring that transport services are affordable. Much more therefore remains to be achieved.

50 As well as having some of the wealthiest places in the country, London is also home to some of the most deprived. These areas have suffered from long-term spirals of decline resulting in concentrations of low skilled and, in some cases, more vulnerable people, with few expectations and a lack of job opportunities. Experience shows that this decline also leads to degradation of the physical environment, increased crime levels, lower educational standards and can also affect people's health. Inevitably these factors contribute further to lessening economic opportunities and quality of life.

51 Poor transport is often a significant barrier in such situations, for example in restricting access to jobs, services, education and training opportunities, and social networks. Better transport can break these spirals of decline by improving accessibility and raising aspirations. It can also act as a significant catalyst for regeneration, and play a role in widening the benefits of economic prosperity.

## 2.5 Tackling climate change

- 52 There is now overwhelming scientific evidence that climate change is a serious global problem which must be urgently addressed. Unchecked, climate change will lead to increased global temperatures, rising sea levels and more extreme, unpredictable weather conditions, both in this country and around the world. Some climate change is now inevitable. We must adapt to the impacts these changes will bring and ensure greenhouse gas emissions are reduced in order to limit further changes. Under the GLA Act 2007, the Mayor has a legal duty to have regard to climate change and to take action to address both the causes and consequences of climate change. He has responded to this first requirement by setting a specific target to reduce London's greenhouse gas emissions by 60 per cent (from their 1990 levels) by 2025.
- 53 CO<sub>2</sub> is London's dominant type of climate change emission and ground-based transport is a significant source, accounting for around 22 per cent of overall emissions (currently almost 10 million tonnes of CO<sub>2</sub> per year). Private passenger road transport accounts for around half of this, while commercial road freight contributes around a quarter. Buses, taxis and private hire vehicles, the Underground and National Rail each contribute around five per cent (ground-based aviation movements account for the remaining 10 per cent).
- 54 Given the projected economic development and population growth during the lifetime of this strategy, demand for transport is expected to continue to increase. As a result, it is estimated that without interventions, CO<sub>2</sub> emissions from ground-based transport in London could increase by 20 per cent or more by 2025. Achieving a proportional contribution from ground-based transport to the Mayor's target of a 60 per cent reduction in London's overall CO<sub>2</sub> emissions will therefore be very challenging. It will require initiatives not just from TfL and the Mayor, but also from Government and the wider international community.
- 55 The transport system will need to adapt to a changed climate of warmer and wetter winters and hotter and drier summers with more frequent and intense extreme weather. The transport system's infrastructure and operation will need to be designed and developed to become more resilient to flooding from increased rainfall and from higher sea levels, and to the impacts of summer heat.
- 56 Londoners and London's transport system are vulnerable to both the long-term changes in climate and to the impacts of more frequent and intense extreme weather. While the changes to the long-term trends can be responded to through gradual systemic improvements, the threats from extreme weather today presents significant challenges.



## 2.6 Delivering the London 2012 Olympic and Paralympic Games

- 57 The London 2012 Olympic and Paralympic Games present a huge challenge, with more than 7.7 million tickets available and in excess of 800,000 spectators expected on the busiest days. In addition, there will be around 20,000 athletes and team officials, and more than 50,000 people from international sport federations, the International Olympic Committee, the media and marketing partners. All will need safe and reliable transport to sporting venues across London, with athletes being the highest priority. The Mayor is committed to making the 2012 Games the most accessible, inclusive and environmentally friendly games ever. In terms of transport, the ODA has the aim of ensuring that every spectator travels to the games by public transport, walking, cycling or temporary park-and-ride services where needed.
- 58 The Paralympic Games will provide similar challenges, although they will be on a smaller scale in terms of overall attendance. They will, however, offer a significant opportunity for London to showcase accessible public transport. Athletes and the Paralympic Family will need to be able to guarantee their arrival at the sporting venues safely, and the public transport system will need the capacity and facilities to cater safely for spectators, many of whom may have specific mobility requirements.
- 59 A key challenge during the 2012 Games will be to minimise the impact on Londoners' everyday activities, and to ensure that businesses can continue to operate. With the Olympic (and then Paralympic) Route Network in place, the delivery and servicing activity for London will need to continue to operate. Addressing this challenge will help ensure hosting the London 2012 Olympic and Paralympic Games is a positive experience for all.
- 60 The ODA is committed to ensuring a lasting transport legacy. This includes providing new infrastructure, enhanced and new public transport services, training and employment opportunities in the transport sector, and the regeneration of east London.

**Figure 1**

Different levels of transport networks

	<b>Key origin/destination</b>	<b>Multi-modal transport corridors</b>	<b>Interchanges between networks</b>
<b>International</b>	<ul style="list-style-type: none"> <li>• World cities</li> </ul>	<ul style="list-style-type: none"> <li>• International transport corridors (air, rail, road, sea)</li> </ul>	<ul style="list-style-type: none"> <li>• International airports</li> <li>• International sea ports</li> <li>• International rail and coach stations</li> <li>• International rail freight hubs</li> </ul>
<b>National and inter-regional</b>	<ul style="list-style-type: none"> <li>• Major UK cities</li> <li>• Growth areas</li> <li>• Major commuter areas</li> </ul>	<ul style="list-style-type: none"> <li>• Inter-regional and national strategic transport corridors</li> <li>• Long distance passenger and freight services (rail, motorway, coach, air, etc)</li> </ul>	<ul style="list-style-type: none"> <li>• Domestic airports</li> <li>• National rail stations</li> <li>• Major motorway junctions</li> <li>• Major road and rail freight hubs</li> <li>• Major coach stations</li> </ul>
<b>London-wide</b>	<ul style="list-style-type: none"> <li>• Central Activities Zone</li> <li>• Canary Wharf</li> <li>• Heathrow growth and opportunity areas (from London Plan), etc</li> </ul>	<ul style="list-style-type: none"> <li>• London-wide strategic transport corridors (major roads, rail, Tube, coach)</li> </ul>	<ul style="list-style-type: none"> <li>• Major rail stations</li> <li>• Major Tube stations</li> <li>• Major bus and coach interchanges</li> <li>• Major road junctions</li> <li>• Freight distribution centres</li> </ul>
<b>Sub-regional (London regions)</b>	<ul style="list-style-type: none"> <li>• Metropolitan town centres</li> <li>• Major shopping centres</li> <li>• Key sub-regional services (hospitals, colleges, etc)</li> </ul>	<ul style="list-style-type: none"> <li>• Sub-regional strategic transport corridors (Tube, local rail, DLR, tram, transit, main roads, bus corridors, cycling corridors, major walking routes in central London)</li> </ul>	<ul style="list-style-type: none"> <li>• Rail stations</li> <li>• Tube/DLR stations</li> <li>• Transit/tram stops</li> <li>• Bus interchanges/coach stops</li> <li>• Major road junctions</li> <li>• Cycle hire 'hubs'</li> <li>• Freight distribution centres</li> </ul>
<b>Local</b>	<ul style="list-style-type: none"> <li>• Local town centres</li> <li>• Residential areas</li> <li>• Major employers</li> <li>• Local services (schools, doctors, local shops, etc)</li> <li>• Industrial estates</li> </ul>	<ul style="list-style-type: none"> <li>• Local strategic transport corridors (local roads, local rail, DLR, tram, bus routes, cycling corridors, local freight deliveries, walking routes, etc)</li> </ul>	<ul style="list-style-type: none"> <li>• Local Tube stations</li> <li>• Local rail stations</li> <li>• Local road junctions</li> <li>• Cycle hire 'hubs'</li> <li>• Bus stops</li> <li>• Kerbside</li> </ul>

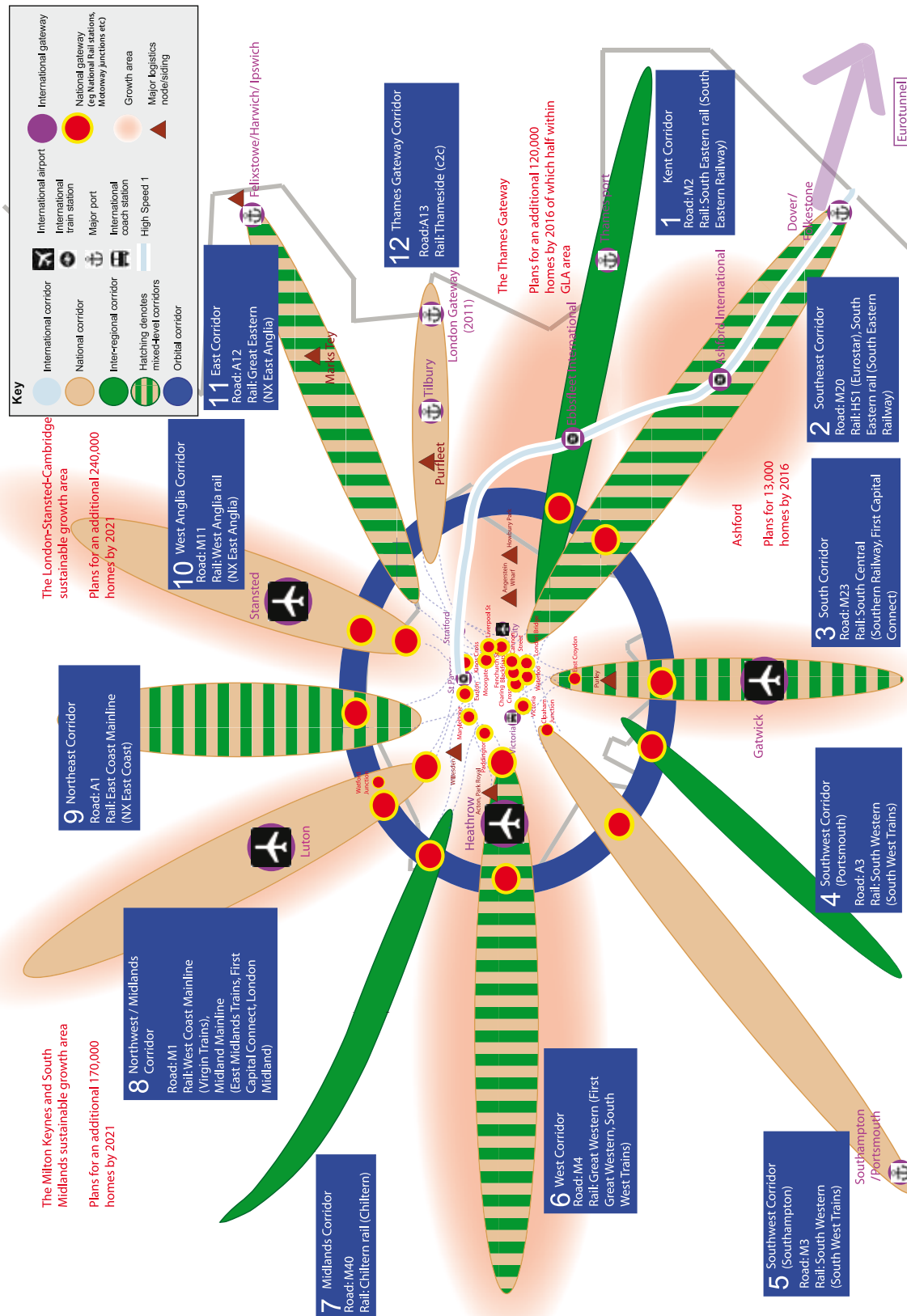
# Chapter three – Spatial context

## 3.1 London's transport geography

- 61 Before developing a strategy to respond to the challenges set out in chapter two, it is essential to develop an understanding of London's transport connectivity in a wider spatial context. London's 'transport geography' exists on a number of levels: international, national, regional, sub-regional and local.
- 62 On a global scale, access to and from London to international air, sea and rail services is important in economic and geo-political terms. Nationally, access to motorways and National Rail services provides essential connectivity to and from the rest of the UK. At a regional London-wide level, the Underground and rail networks provide fast and frequent connections between London's suburbs and the central area. Locally, transport networks provide for trips to work, visit friends, go shopping, access local amenities and other services. The types of journeys people make and the modes of transport used reflect this 'transport geography'. The same is true of freight movements, with long distance journeys made on national and international networks by air, sea, rail and road (eg by HGV and/or container), and local deliveries on local roads by vans and smaller goods vehicles.
- 63 It is essential that the strategy is tailored to the nature, location and scale of the transport issues arising at each of these levels, and ensures that those organisations that are best placed to develop solutions to these challenges are allowed to do so. Figure 1 sets out how these journeys interact at different levels collectively to make up a 'hierarchy' of transport connectivity.
- 64 Across London, and at each of these levels, it is possible to identify networks of transport corridors, together with key interchange hubs where they meet or intersect. In central London, many of these routes converge to form a single central hub of huge transport and economic significance. In Outer London, the scale of interchange is smaller, but its role is still critical to providing convenient travel opportunities. Defining the structure of London's transport geography at each of these levels, through networks of multi-modal strategic transport corridors, gateways and interchanges, is therefore important in defining the outcomes, priorities and solutions needed at each level. Figure 2 (overleaf) illustrates London's transport geography at the international, national and inter-regional levels, Figure 3 at the London-wide level.

**Figure 2**

London's transport geography at the international, national and inter-regional level



## Internationally

- <sup>65</sup> International transport corridors include air, rail and sea modes that bring passengers and freight into and out of the UK. For centuries the location of London has fundamentally determined international transport corridors. Therefore London already has good access to many of these transport corridors. Key gateways include the five international airports (Heathrow, Gatwick, Stansted, Luton and City), with Heathrow catering for more international trips than any other airport in the world. While many of these gateways are outside the GLA area, they are still vital for London's economy. London is also directly connected to the European high-speed rail network via Eurostar services from St Pancras. International coach services are accessible via Victoria Coach Station.
- <sup>66</sup> International freight trains, for example from the Ford plant at Dagenham, link London to the continent (and other international freight trains from elsewhere in the UK pass through London's rail system en route to mainland Europe). Key international sea ports are also within easy reach of London, for example Southampton, Felixstowe, Tilbury and Thamesport.
- <sup>67</sup> Recent years have seen important improvements in many areas, including the completion of High Speed One between London and the Channel Tunnel, surface access improvements to Heathrow, Stansted and City airports, and the completion of Heathrow Terminal 5 relieving ground-based, aircraft-handling capacity constraints.
- <sup>68</sup> Demand for air travel, in particular, will continue to pose a major challenge for London. The number of passengers travelling through London area airports amounted to almost 140 million in 2006, making the London area the busiest in the world. Unconstrained, demand is expected to rise to 250 million passengers per annum by 2026. Current airport capacity will, however, limit trips to 180 million passengers a year. This could have the effect of limiting London's economic growth and putting its competitive position at risk. Although the Mayor is opposed to the expansion of Heathrow by the addition of a third runway, he recognises that more airport capacity is nevertheless needed in southeast England. For this reason, the Mayor is interested in looking at whether optimum use is currently being made of London's existing airport capacity (though mixed mode operation is not favoured at Heathrow), and the potential benefits of additional capacity elsewhere in the South East.
- <sup>69</sup> Solutions are, however, not limited to simply providing additional airport capacity. There is potential to increase transfer from short-haul domestic and European flights to rail journeys through existing and possible future high-speed rail services, thus freeing up take off and landing 'slots' for further long-haul capacity.
- <sup>70</sup> To sustain its global economic position, it is essential that London both maintains these high levels of international connectivity, and continues to improve access to key gateways across and beyond the Capital that connect on to these networks. Linking these gateways



more effectively to regional and local networks and ensuring efficient onward distribution of passengers and goods is also important.

## Nationally and inter-regionally

<sup>71</sup> London is the centre of a 'mega-city region' in the South East of some 21 million people. Commuters from outside the Capital fill almost one in five of the city's jobs. It is estimated that the average value of output per worker in Inner London is £54,200 compared to £39,500 across the UK. At the national and inter-regional levels, multi-modal transport corridors incorporate the long distance passenger and freight services that connect London with major cities and other destinations across the UK, as well as connections to air and sea ports and links with important labour catchment areas. Gateways to these corridors include the five London airports (in their domestic capacity), major rail and coach stations, motorway junctions and major road and rail freight hubs.

<sup>72</sup> Journeys between London and its neighbouring regions are increasing, and rail demand (passenger kilometres (km)) is projected to grow by approximately 40 per cent between 2006 and 2026. Many parts of the network are already at capacity or will reach it long before 2031, despite planned improvements. If no action is taken to increase London's national connectivity by rail, this projected growth in demand will not be met, thus constraining growth in the UK's regions and forcing more traffic on to already congested motorways. The same is true for freight movements, where the

number of LGVs are forecast to grow by 30 per cent between 2008 and 2025, accounting for 15 per cent of traffic on London's roads. Freight tonnage carried by rail is expected to increase by 30 per cent nationally between 2006 and 2015, although some 85 per cent of all freight movement will remain carried by road.

<sup>73</sup> Considerable improvements have been delivered in recent years, with upgrades to existing intercity railway lines, notably the West Coast Mainline, reducing average journey times from London to Manchester and Glasgow by 30 minutes. In addition, domestic services on the new international high-speed rail line are set to reduce commuting time from large parts of Kent to London, increasing central London's employment catchment area.

<sup>74</sup> The Department for Transport (DfT) has signalled that a new high-speed rail line may be constructed between London and the West Midlands by the mid 2020s, reducing the London to Birmingham journey time to under one hour. A company 'High Speed Two' (HS2) has been established by the DfT to develop the proposal. HS2 would relieve crowding on the West Coast Mainline, Britain's most intensively-used intercity route, by 2025. There is scope to shift a considerable number of motorway trips to rail, relieving the M1-M6 (London-Birmingham-Manchester) corridor. Further extensions to the North West, Yorkshire and Scotland would see drastic journey time savings, improving connectivity between London and other densely populated regions. Business travellers would be some of the key beneficiaries.



- 75 The Mayor is supportive in principle of the development of a new high-speed rail line to the North, although the potential location of any new London terminus or hub would need to be carefully integrated with this strategy, as well as the new London Plan and Economic Development Strategy. Locating the London terminus in the central area would maximise access to jobs and London's population, and enable efficient onwards dispersal of high-speed line passengers. The DfT has also indicated that a 'Heathrow International' station might form part of the alignment providing connections to Crossrail and Great Western Mainline train services as well as the airport.

## London-wide

- 76 At a London-wide level, strategic transport networks play an equally important role in London's economy. Radial connections into central London are important for commuters and other travellers as are radial connections into, and out of, metropolitan town centres, growth and opportunity areas, employment and service hubs and residential areas. Orbital transport corridors are also important to overall levels of connectivity. In Inner London, these are relatively well developed. However, in Outer London they are less developed: current services and priority levels for orbital public transport reflect current demands which have tended to be lower in Outer London.
- 77 As can be seen from Figure 3, the key origins and destinations include the Central Activities Zone (CAZ) and other major employment and growth areas identified in the London Plan.

Multi-modal strategic transport corridors across London include major roads, regional rail lines, the Underground and key bus corridors connecting the origin and destination hubs. Existing road and rail corridors are predominantly radial into the CAZ but there are also major orbital links with the North and South Circular Roads, the emerging London Overground orbital rail route and the M25. Gateways include the rail stations that allow access to the regional rail lines. Major road and rail freight hubs could also act as gateways at the regional level and provide linkages nationally and locally, for example, the planned Howbury Park rail terminal and consolidation centre in Bexley, southeast London.

## Sub-regionally and locally

- 78 Sub-regional and local transport networks also play a vital role in supporting London's economy. Improving connectivity will be a key factor in the continuing economic development of metropolitan and town centres and growth and opportunity areas, where accessibility for business, retail opportunities and freight deliveries, as well as education, health and other service provision, is important for social and economic development.
- 79 Some improvements have already been made, for example, the bus network has been developed to improve sub-regional and local connectivity, with an increase in service volume of about 40 per cent in the last 10 years. The transformation of the London Overground network will also deliver significant improvements, including the introduction of a

new train fleet for the network and providing additional capacity and better local connectivity between London's sub-regions. However, connectivity remains strongest on radial corridors into central London (where current demands are highest), links to town centres not on these radial corridors are in many cases poorer.

- 80 Finally, connectivity to the kerbside and doorstep is also important. Appropriate provision of bus stops, taxi ranks, bicycle racks, kerbside loading and delivery bays, coach parking, 'kiss and ride' facilities and car parking are all essential elements of the transport system.

## 3.2 Integrating transport and land use planning

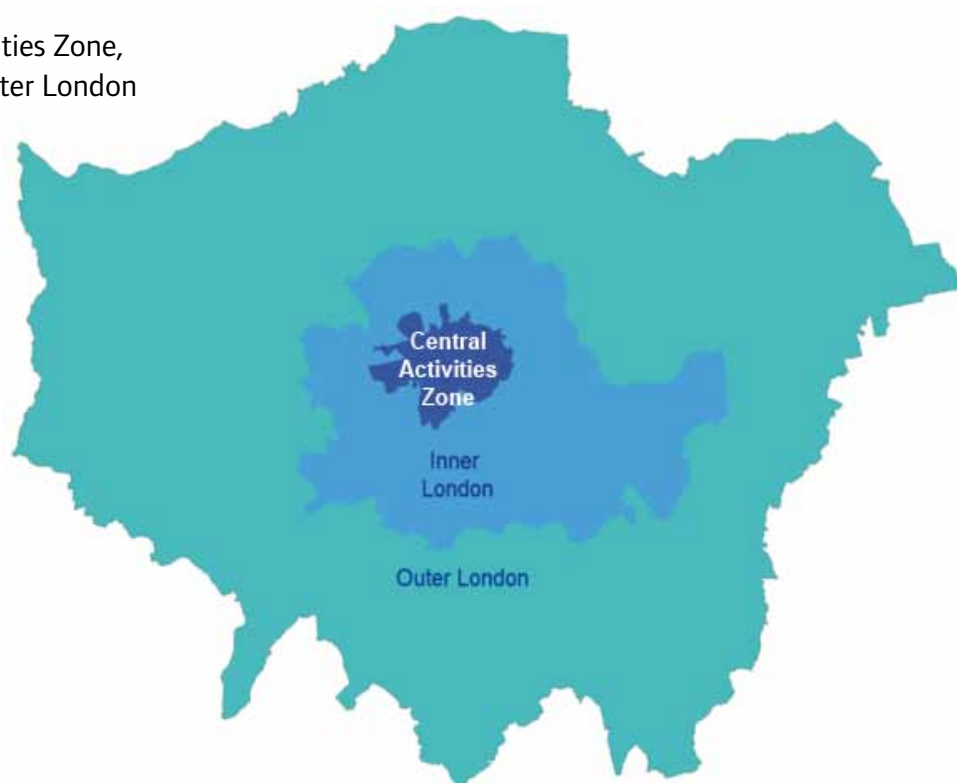
- 81 One of the Mayor's guiding principles underpinning the development of the new MTS is to improve the integration of transport and land use planning. The combined review of the London Plan and the MTS, together with the parallel review of the Mayor's Economic Development Strategy, represents a major opportunity to achieve this.
- 82 London's land use planning geography can be divided into three discrete areas: central, Inner and Outer London, shown in Figure 4.

While these areas can of course be further subdivided in terms of specific land uses, they have a number of defining features that characterise them and help shape the transport challenges and priorities that the MTS must address.

### Central London

- 83 This area consists of the City of London, Canary Wharf, the West End, and parts of the City of Westminster and the London Boroughs of Camden, Islington, Hackney, Lambeth and Southwark. It is of major importance to London's economy – particularly the CAZ, principally comprising the City and West End.

**Figure 4**  
Central Activities Zone,  
Inner and Outer London





- 84 The CAZ, while relatively small in area and home to only around three per cent of the population (see Figure 5), currently contains almost a third of all London's jobs and is the most economically productive part of the city. Uniquely (in both London and the UK generally) much of this economic activity is global in scale, requiring high quality national and international connectivity to sustain it. On current trends, over the next 20 years, 35 per cent of London's future employment growth is expected to be located within the CAZ. Central London will therefore continue to be important not only for London's economy but for the UK as a whole.
- 85 Morning peak travel into central London is predominantly by public transport, with around 90 per cent of journeys made by bus, rail, or Underground. Walking plays a key role in the onward dispersal of passengers arriving in central London. Within central London, the primary transport challenges are, and will continue to be, about dispersal of these passengers from key interchanges, alleviating crowding and congestion, maximising access to business and employment markets (on a London-wide, national and international scale), improving connectivity, improving passenger journey experiences, and addressing key environmental and quality of life concerns such as air quality, health and noise pollution. In addition, maintaining and enhancing access for freight deliveries and servicing is a particular challenge.
- Inner London**
- 86 This area contains around a third of London's population. Many of London's areas of deprivation and regeneration are concentrated in Inner London, particularly around central London in a band from the northeast to the southeast. The London Plan identifies a number of Opportunity Areas on the eastern and southern fringes of the CAZ, and also in the Lower Lea Valley, around Brent Cross/

**Figure 5**

Population and employment, 2007 and 2026

	Population				Jobs			
	2007 (m)	2026 (m)	2007 (%)	2026 (%)	2007 (m)	2026 (m)	2007 (%)	2026 (%)
<b>CAZ</b>	0.25	0.30	3	4	1.4	1.6	31	31
<b>Inner (excl. CAZ)</b>	2.5	2.9	33	34	1.2	1.4	25	26
<b>Outer</b>	4.8	5.4	64	62	2.0	2.2	44	42
<b>Total</b>	7.6	8.5	100	100	4.7	5.2	100	100

2026 figures are the latest provided by GLA Economics and GLA Data Management & Analysis Group. Jobs figures are interim. Figures may not add up due to rounding.

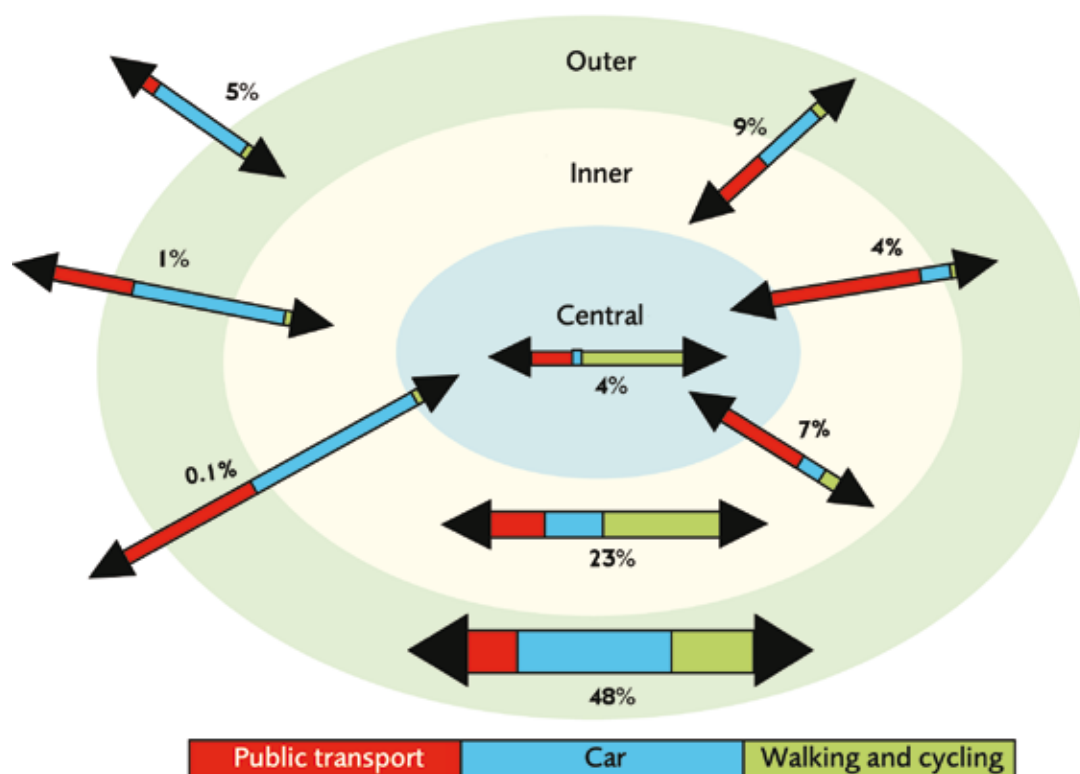
Cricklewood in the north and in inner east London along the Thames Gateway.

- 87 Inner London is also the location for many Olympic and Paralympic events with the Olympic Park at Stratford, and events being held around Greenwich, Docklands, Earls Court and Wembley, among other places. Ensuring that there is a lasting transport legacy for Inner London, with improved infrastructure and opportunities, is an important challenge.

- 88 Although less densely developed than central London, the Inner London boroughs are characterised by higher population and land use densities than those in Outer London (see below). Although car use is higher than in central London, travel is generally still highly dependent on public transport. While public transport accessibility is much higher in Inner than in Outer London, there remain pockets (mainly away from the radial rail corridors and the Underground network) where accessibility is lower.

**Figure 6**

Spatial pattern of travel across London with mode shares



(Daily, 2005 to 2008 three year average, London residents only, excludes movement of freight)  
 Figures show trips by London residents within or between areas (central, Inner and Outer London)  
 as percentages of their average daily total of trips.

- 89 One of the key challenges for Inner London is tackling public transport crowding and road congestion, which impacts on the quality of life of Londoners and the economic development of town centres within the area. The rail network is still dominated by radial lines into central London which mostly originate from Outer or 'out of' London. As a consequence, Inner Londoners often experience severe crowding on radial rail services, making journeys less reliable and significantly less comfortable. Highway congestion is also a major issue. This has a negative impact on the reliability and efficiency of bus services, taxi and car journeys and the movement of freight.
- Outer London**
- 90 Sixty-four per cent of Londoners live in Outer London, which tends to be characterised by lower density development and higher residential populations. Outer London contributes significantly to the city's economy, providing 44 per cent of its jobs. Employment tends to be concentrated in the 11 metropolitan town centres which are the equivalent, in terms of the size of their economies, to many regional cities across the UK. While there are, in general, fewer deprived areas than in Inner London, significant areas of deprivation still exist – for example in Barking & Dagenham and parts of Bromley and Enfield. A challenge for Outer London is therefore to improve access to jobs, services and opportunities in order to tackle deprivation and encourage inward investment and local job creation.
- 91 In Outer London, the car is the dominant mode of transport for trips originating there, accounting for 50 per cent of all trips by residents. London-wide, 48 per cent of all trips are solely within Outer London. In 2006, around 70 per cent of London's road-freight mileage was in Outer London. Figure 6 shows the different modal split between journeys in Outer, Inner and central London and illustrates the higher mode share of car journeys in Outer London. Trip patterns tend to be more dispersed within the area due to larger distances between town centres. Much of this trip making is radial to, and within, Outer London centres. Bus services provide an extensive network of local services into town centre hubs. However, with suburban trips being longer distance and/or 'edge of centre' to 'edge of centre' in character, public transport connections therefore tend to be less direct, and take longer relative to car journeys.
- 92 While average vehicle delays are lower in Outer London, there are still areas where significant congestion occurs, particularly in and around metropolitan town centres. Without adequate transport infrastructure improvements, as population and employment levels grow, delays to private, business, public transport and freight journeys are likely to increase, with journey time reliability deteriorating.

### 3.3 Planning for London's development

<sup>93</sup> Historically, the spatial planning of London has reflected market developments and perpetuated an overall 'radial-centric' pattern of planning. Employment growth has been concentrated in central London (making the most of its economic productivity and agglomeration benefits) while housing development has been more dispersed across the city (see Figure 7).

<sup>94</sup> This has been an economically successful strategy. The ability of public transport networks to more easily support such movements has contributed to a positive modal shift away from private car use that is unique in a city of London's size and scale. It has, however, placed ever greater strains on the capacity of the radial transport networks into and out of central London, requiring the provision of ever more transport capacity.

<sup>95</sup> The Mayor is determined to improve the provision of public transport while also placing more emphasis on the economic development of Outer London. He has set up an Outer London Commission specifically to investigate and report on how this might be achieved. He is keen to see whether a more 'polycentric' pattern of land use and economic development, and in particular a focus on a number of 'strategic Outer London development centres', can sustain London's economic success, reinvigorate and enhance Outer London town centres, and deliver a more

inherently sustainable pattern of development through reducing the length of journeys and/or the need to travel at all. This is the key question facing the development of the new London Plan, the MTS and the new Economic Development Strategy.

<sup>96</sup> To support this work, the GLA, London Development Agency (LDA) and TfL are undertaking extensive analyses of various land use, transport and economic development scenarios. These have tested differing sets of assumptions about the pattern of future jobs and housing growth, with greater levels of employment assumed in the Outer London town centres and proportionally less in the centre. In particular, by using high-level transport modelling, this work is seeking to understand the overall implications of such a shift of emphasis on the key challenges identified in chapter two. Major outcomes being analysed include the effects of economic development, population growth and provision of further transport capacity on crowding, congestion, CO<sub>2</sub> emissions and mode share.

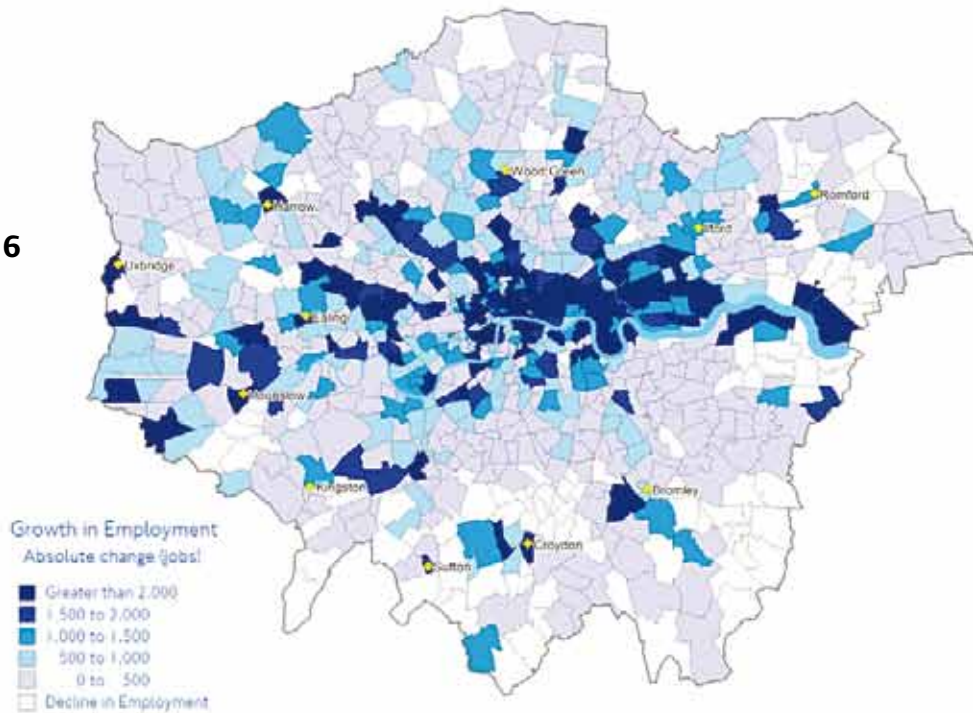
<sup>97</sup> The economic viability of these options and the exact nature of the employment created is for the London Plan and Economic Development Strategy to evaluate (and in particular for the Outer London Commission to consider). However, in transport planning terms, this work has already identified a number of significant implications. Locating more employment growth in Outer London (assuming this is offset by central London employment growing at a slower rate than previously assumed) can

**Figure 7**

Projected population and employment growth 2006 to 2026

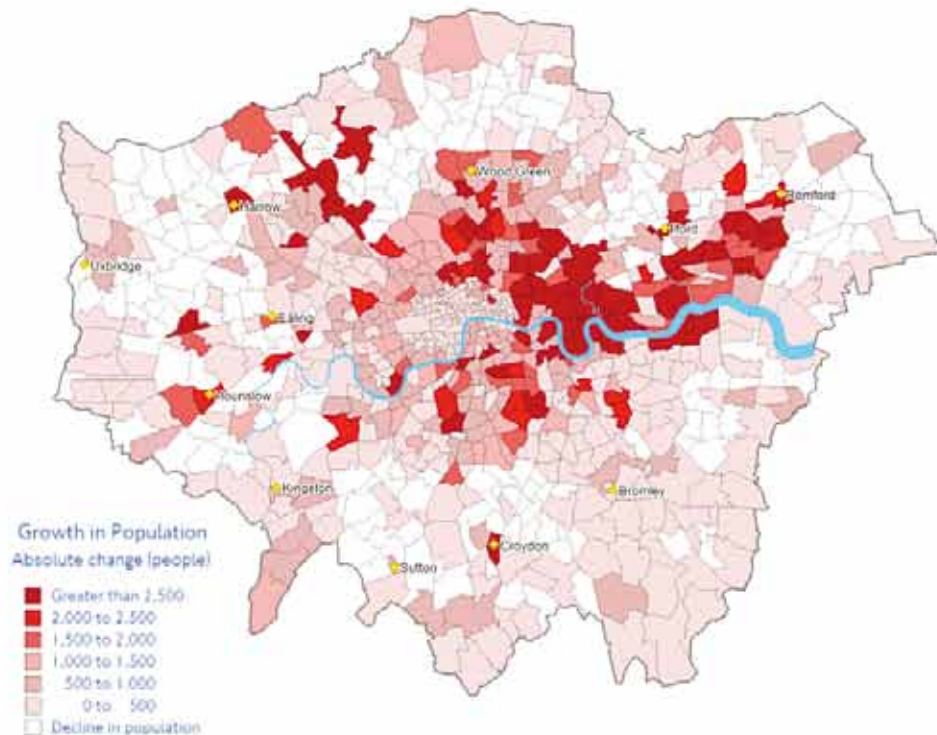
### Projected employment growth 2006 to 2026

Concentrated job growth in a central east-west corridor



### Projected population growth 2006 to 2026

Population growth across London



Based on analysis using population and job figures in the 2008 London Plan

reduce trip lengths and bring about reductions in central London crowding and congestion. However, higher growth in Outer London, without any change in transport provision, could lead to more congestion and a small overall rise in London-wide transport-based CO<sub>2</sub> emissions. This is because existing trip patterns within Outer London are more car-dependent and less public transport-focused than trips from Outer London to central London. On its own therefore, such a change of development focus does not achieve a wholly better transport outcome.

98 However, if further development growth in Outer London is concentrated in a smaller number of 'strategic Outer London development centres' (rather than being spread more evenly across all Outer London town centres), and if that development is accompanied by the densification of housing growth in those areas, appropriate public transport investment and measures to encourage walking and cycling and to generally reduce the need to travel, then such an approach could offer the potential to develop a transport strategy that can deliver significant benefits. These would potentially include lower levels of crowding, congestion, CO<sub>2</sub> emissions, improved connectivity and lower infrastructure investment costs.

99 It should also be stressed, however, that such transport outcomes are dependent on the overall economic viability of this changed pattern of growth which, as stated previously, is the focus of the Outer London Commission which will inform the development of the London Plan, the Economic Development Strategy and the MTS.



### 3.4 Sub-regional strategy development

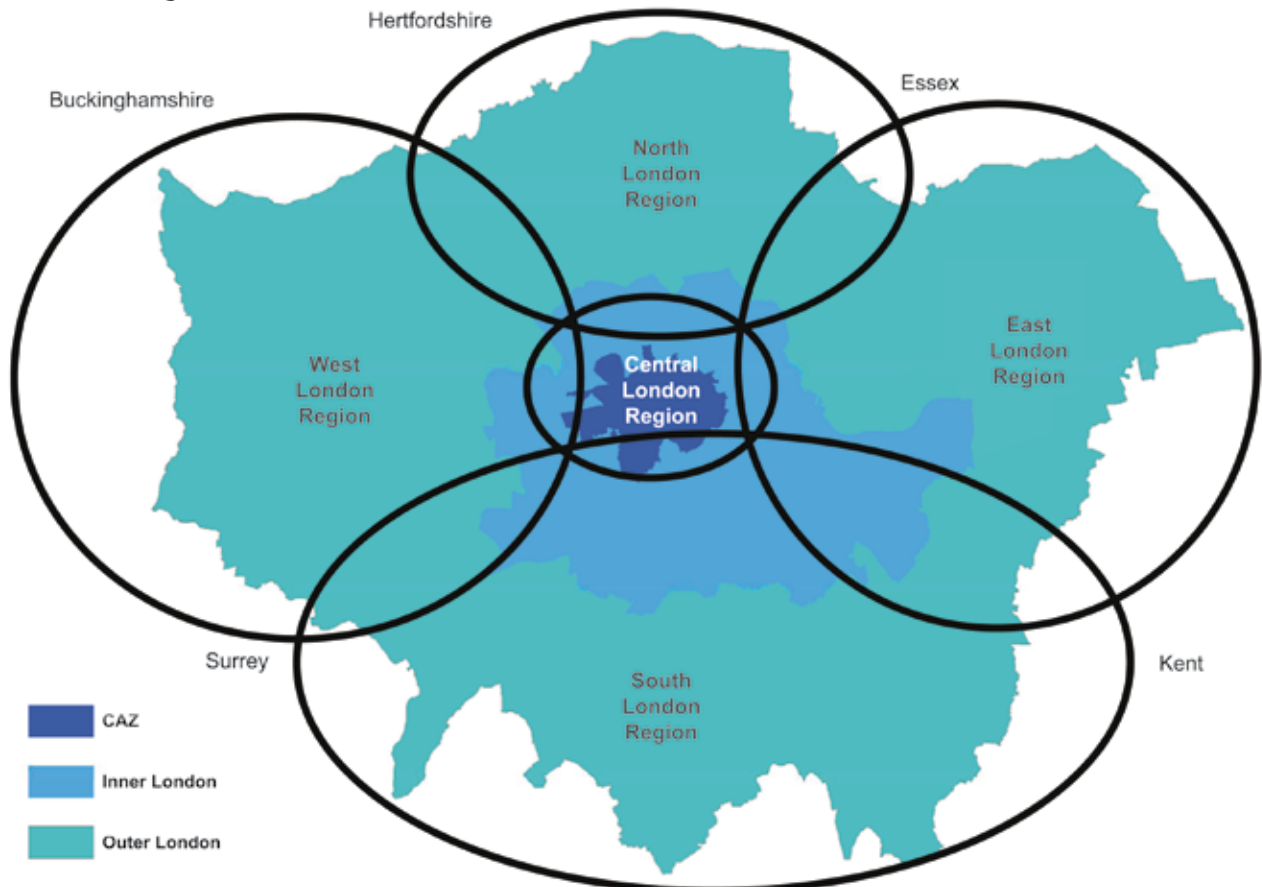
<sup>100</sup> A polycentric approach to development in London implies a greater focus on sub-regional transport strategy development and delivery than has so far been the case. To this end, TfL, in conjunction with the GLA and LDA, has been working closely with the London boroughs to develop an integrated approach to sub-regional

transport development and land use planning based around five sub-regions (central, north, south, east and west London). Throughout the remainder of this document these will be referred to as the London regions (as shown in Figure 8).

<sup>101</sup> It is proposed that the boundaries of each of the London regions should be intentionally flexible or 'fuzzy' to take account of overlapping issues, recognising that transport journeys rarely

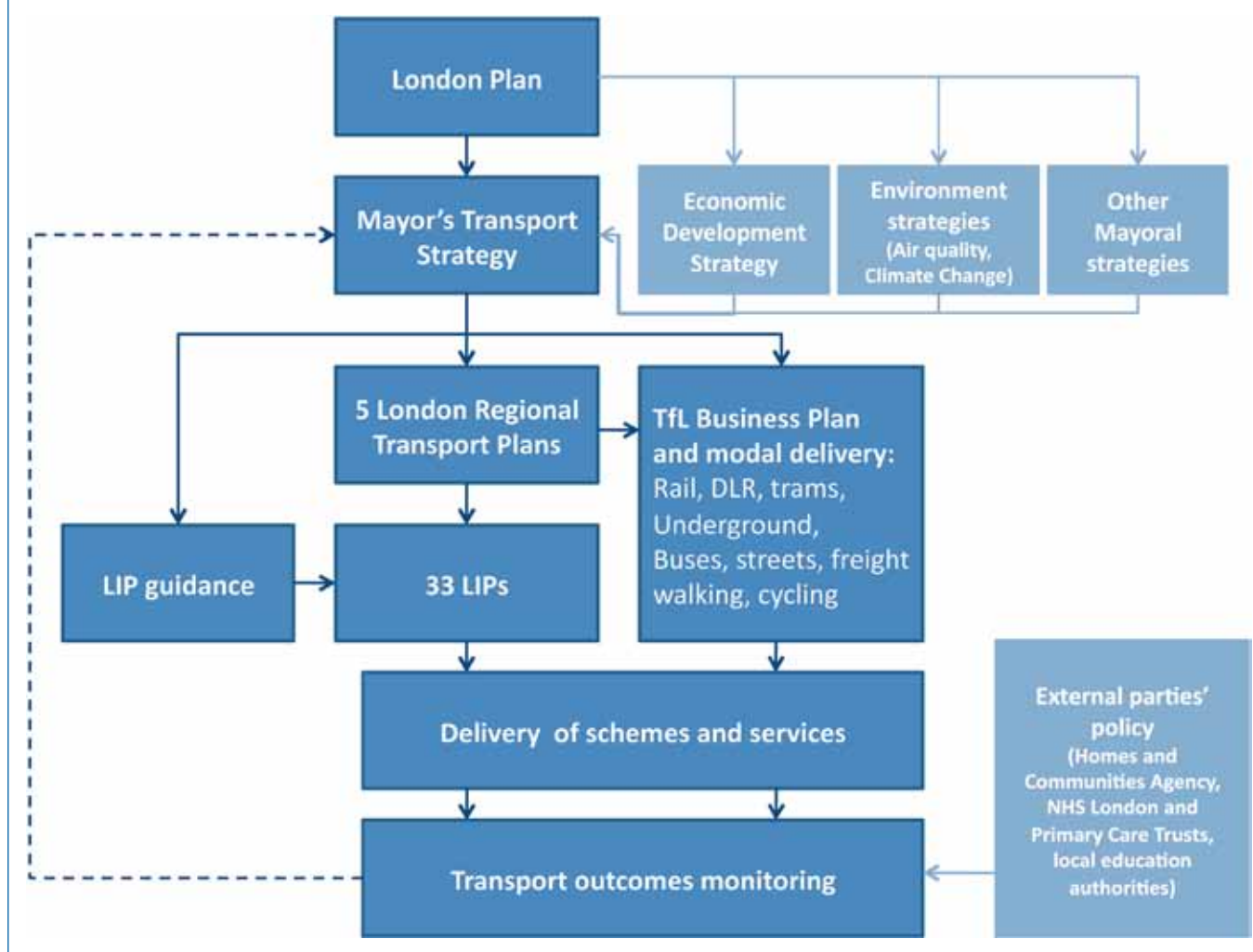
**Figure 8**

London regions



**Figure 9**

Relationship between MTS, London Regional Transport Plans, borough Local Implementation Plans (LIPs) and modal delivery



end at specific boundaries. It is also envisaged that, while the central London region continues to develop around the existing CAZ, each of the other London regions will, in due course, coalesce around potential 'strategic Outer London development centres' in each area.

102 Specifically in relation to transport, London regional development work has included the implementation of stronger strategy development partnerships with the boroughs to take this work forward. TfL is also taking steps to ensure the involvement of county and unitary strategic transport authorities immediately outside the Greater London area.

103 TfL is working in collaboration with the boroughs and London regional partnerships to develop more detailed transport plans that will reflect the MTS and to translate the policies into specific schemes and measures. They will set out the issues within each London region and the options for addressing them. The approach will be underpinned by enhanced modelling capability and analysis against which transport and land use scenarios can be assessed. This will assist with the identification of key priorities, help ensure consistent assessment of schemes and proposals, and provide a basis for monitoring the delivery of outcomes.

104 Good transport is vital to creating safe, strong, prosperous and sustainable local communities. London Regional Transport Plans will support the overall MTS (particularly in relation to project prioritisation) and provide a more detailed template from which to develop both TfL modal implementation plans and borough Local Implementation Plans (LIPs). Figure 9 sets out the relationship between these plans and strategies.

105 The MTS and London Regional Transport Plans will provide the overarching framework for the development of LIPs. However, it is important that the LIPs also link effectively with, for instance, Local Area Agreements, Local Development Frameworks and Local Strategic Partnerships to ensure delivery of wider community and economic development priorities. Detailed guidance for boroughs on funding and how to prepare their LIP will be contained in the Second London LIP Guidance, to be published by the Mayor in spring 2010 following consultation with the boroughs and key partners.

**Figure 10**

Proposed high level outcomes

Goals	Challenges	Outcomes
<b>Economic development and growth</b>	Supporting population and employment growth	<ul style="list-style-type: none"> <li>• Balancing capacity and demand for travel through increasing public transport capacity and/or reducing the need to travel</li> </ul>
	Improving transport connectivity	<ul style="list-style-type: none"> <li>• Improving employers' access to labour markets</li> <li>• Improving access to commercial markets for freight movements and business travel</li> </ul>
	Delivering an efficient and effective transport system for goods and people	<ul style="list-style-type: none"> <li>• Smoothing traffic flow (managing road congestion and reducing traffic journey time variability)</li> <li>• Improving public transport reliability</li> <li>• Reducing operating costs</li> <li>• Bringing and maintaining all assets to a state of good repair</li> </ul>
<b>Quality of life</b>	Improving journey experience	<ul style="list-style-type: none"> <li>• Improving public transport customer satisfaction</li> <li>• Improving road user satisfaction</li> <li>• Reducing public transport crowding</li> </ul>
	Enhancing the built and natural environment	<ul style="list-style-type: none"> <li>• Enhancing streetscapes, improving the perception of urban realm and developing shared space initiatives</li> </ul>
	Improving air quality	<ul style="list-style-type: none"> <li>• Reducing air pollutant emissions from ground-based transport, contributing to EU air quality targets</li> </ul>
	Improving noise impacts	<ul style="list-style-type: none"> <li>• Improving perceptions and reducing impacts of noise</li> </ul>
	Improving health impacts	<ul style="list-style-type: none"> <li>• Facilitating an increase in active travel</li> </ul>
<b>Safety and security</b>	Reducing crime, fear of crime and antisocial behaviour	<ul style="list-style-type: none"> <li>• Reducing crime rates (and improved perceptions of personal safety and security)</li> </ul>
	Improving road safety	<ul style="list-style-type: none"> <li>• Reducing the numbers of road traffic casualties</li> </ul>
	Improving public transport safety	<ul style="list-style-type: none"> <li>• Reducing casualties on public transport networks</li> </ul>
<b>Transport opportunities</b>	Improving accessibility	<ul style="list-style-type: none"> <li>• Improving the physical accessibility of the transport system</li> <li>• Improving access to jobs and services</li> <li>• Ensuring the affordability of public transport fares</li> </ul>
	Supporting regeneration and tackling deprivation	<ul style="list-style-type: none"> <li>• Supporting wider regeneration outcomes</li> </ul>
<b>Climate change</b>	Reducing CO <sub>2</sub> emissions	<ul style="list-style-type: none"> <li>• Reducing CO<sub>2</sub> emissions from ground-based transport, contributing to a London-wide 60 per cent reduction by 2025</li> </ul>
	Adapting for climate change	<ul style="list-style-type: none"> <li>• Maintaining the reliability of transport networks</li> </ul>

# Chapter four – Proposed outcomes, policies and proposals

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## 4.1 Introduction

<sup>106</sup> Chapter two highlighted the transport challenges facing London over the next 20 years while chapter three sets out the broad spatial context in which they need to be addressed. This chapter looks at the high level policy outcomes that are proposed for the MTS to seek to deliver, together with what is already being done, in terms of existing proposals, to achieve these objectives over the lifetime of the strategy.

## 4.2 Proposed high level outcomes

<sup>107</sup> In order to prioritise the need for policy interventions and specific proposals, the MTS first needs to identify a clear set of objectives in relation to the challenges set out in chapter two. Following analysis of the consultation responses from 'Way to Go! – Planning for Better Transport', the Mayor is proposing to prioritise the high level outcomes as detailed in Figure 10.

## 4.3 Existing proposals

<sup>108</sup> The existing proposals largely relate to the projects and proposals already committed to in TfL's nine-year Business Plan, financially supported to 2017/18 through a funding agreement with the Government in 2007. In addition, they also include those improvements to the National Rail network to be delivered by Network Rail and the Government up to 2014, as part of the current High Level Output Specification (HLOS) Control Period 4 (CP4) funding package, and by other major agencies (eg BAA and the Highways Agency) delivering transport improvements impacting on London.

<sup>109</sup> These proposals, which are set out in more detail below, will go some way towards delivering the high level outcomes desired. The impact of their assumed implementation forms the basis of the 'reference case' analysis (what is assumed to be in place in 2026, taking account of funded transport policies and programmes, and population and employment levels and distribution – see the glossary for more information). The need for further interventions required to meet the challenges set out in chapter two has been considered in the context of the outcomes of the reference case.

## TfL Business Plan

<sup>110</sup> Published in November 2008, the TfL Business Plan sets out six delivery priorities:

- To expand public transport capacity
- To smooth traffic flows
- To lead a revolution in cycling and walking
- To deliver the London 2012 transport projects and leave a lasting legacy
- To improve further the safety and security of the travelling public
- To improve dramatically the experience of travelling in London

The major components of the Plan are set out below:

### Building Crossrail

<sup>111</sup> Crossrail is the biggest transport project in Europe and will connect the outer suburbs in the east and west to the heart of the city and the West End, as well as provide connections to Heathrow and Stratford. It will provide 24 high capacity, 10-coach trains an hour in each direction in the central section during peak periods and will be part of a fully integrated transport system. It will link nine Tube lines in central London, as well as the London Overground and the Docklands Light Railway (DLR), and will be served by numerous bus routes. On the National Rail network, it will provide increased train capacity on lines into Liverpool Street and Paddington, delivering a 10 per cent increase in London's rail capacity and an estimated £36bn boost to the wider UK economy.



## Transforming the Tube

- 112** Over the last decade, the number of journeys made on the Tube has risen to record levels of more than one billion journeys per annum. To support this growth and correct historic under-funding, LU has embarked on its largest investment programme for 70 years, focusing on reliability, capacity and passenger safety. Further capacity from major line upgrades, which includes new trains and signalling systems, will transform the Tube, providing a growing population with safer, quicker and more reliable journeys.
- 113** By 2012, this programme will deliver an upgrade of the Jubilee, Victoria and Northern lines, each providing between 20 and 30 per cent more capacity per line into central London.
- 114** By 2018, upgrades will have been completed on the District, Circle, Hammersmith & City and Metropolitan lines (including air-conditioned trains), and the Piccadilly line, providing a 25 per cent increase in overall Tube capacity (the Bakerloo line upgrade is planned to follow by 2022). Other enhancements include major station improvements at Victoria, Paddington, Tottenham Court Road, Bank and Bond Street; power upgrades to cater for expanded services; and a programme of step-free access improvements.

## Improving TfL Rail

- 115** TfL's London Rail will focus on delivering capacity, quality and reliability. The main components of this will include the completion of the East London line extension to the London

Overground network, increasing capacity on an expanded DLR, and delivering service quality and frequency enhancements on the Tramlink network in south London. Key improvements to be delivered by 2017/18 include:

- Completion of the first and second phases of the East London line extensions
- Improvements to the rest of the London Overground network (the North London Railway upgrade) including new trains, more frequent services and upgraded stations and passenger facilities

- 116** Work on London Overground includes reinstatement of disused National Rail routes to link the East London and North London lines at Dalston, modifying existing infrastructure to reach West Croydon and Crystal Palace and delivering a rolling stock maintenance and control centre at New Cross Gate. More recently the Mayor has announced an agreement with the Government to fund the completion of the Inner London Overground orbital rail network between Silwood Junction, Surrey Quays and Clapham Junction.
- 117** The North London line, also part of London Overground, is to be increased in capacity by up to 50 per cent and will also provide more frequent services. It will connect Richmond and Clapham Junction in southwest London to Stratford and Barking in the east. Work includes track and signalling enhancements, platform lengthening and the connection of the East London line extension to the North London Railway via new track between Dalston and Highbury & Islington.

118 Improvements to the DLR include a network extension to Stratford International and delivery of 55 new carriages to enable three-car operation on most of the system by 2010 (with further station and infrastructure enhancements to follow). Improvements to Tramlink include refurbishment of the existing tram fleet, better passenger information systems and increases in service frequencies and capacity.

### Improving National Rail

119 Although outside of the TfL Business Plan, improvements on the National Rail network will deliver a further £6bn of investment into London's rail network by 2016. This includes:

- Improvements to capacity on each of London's main radial rail corridors, including the Thameslink programme, and 900 new carriages by 2014
- Improved reliability
- Acceptance of Oyster at all National Rail stations in London within the 2009/10 financial year
- Improving access at stations through the 'Access for All' obstacle-free stations strategy. Approximately 50 per cent of stations in the first phase are located in London or the South East
- High-speed domestic services on the High Speed One route serving Kent from the end of 2009
- Enhancements to freight gauge and route capacity on the Felixstowe-Peterborough-Nuneaton line (providing a better direct route avoiding London)
- Gauge enhancements to the Gospel Oak-Barking line, which will provide a transit route for rail freight services from the east to the north of London

### Enhancing London's buses

120 Even with the above rail and Tube-based capacity enhancements, buses will remain the dominant form of public transport in London. Every weekday about 6.3 million passengers use London's buses (more than double that in Paris or New York). Passenger numbers have been rising since the early 1990s and are currently at their highest since 1962. Following a period of significant investment, network coverage, service levels and reliability have all increased substantially in recent years. The TfL Business Plan sets out a series of further incremental improvements including:

- The development of a New Bus for London by 2011
- Phased replacement of articulated buses in the most cost-efficient way
- Improved operation of the bus network focusing on improving the value, frequency, comprehensiveness, simplicity and reliability of bus services
- Introduction of a bus transit service in northeast London
- Fleet-wide introduction of iBus technology during 2009, including next-stop information on buses and countdown signs at bus stops

## Smoothing traffic flows

**121** Delay and disruption on London's roads causes congestion and is detrimental to business efficiency, costing up to an estimated £2bn of lost time per annum. Smoothing traffic flows and ensuring improved reliability of journeys is therefore vital to the well being of road users and the economy. The TfL Business Plan includes a range of initiatives to ensure London's limited road space is used as efficiently as possible, as well as to improve the management of road works. These include:

- Upgrading and rationalisation of equipment at signal controlled junctions to help maintain traffic journey time reliability. One third of London's 6,000 sets of traffic signals are computer controlled from the London Traffic Control Centre, and a further 1,000 will be converted to maximise the efficient operation of the network
- Addressing the issue of poorly managed road works, through a programme known as 'LondonWorks'. This will provide a way of improving street works planning and coordination, by reducing their impact on traffic flows through the prevention of excess occupation of the public highway by local authorities and utility contractors
- Road enhancements, for example at Henlys Corner on the North Circular Road, with the aim of smoothing traffic flow while improving conditions for pedestrians, cyclists and neighbouring residents
- Freight Delivery and Servicing Plans, the Freight Operator Recognition Scheme and Construction Logistics Plans to increase freight efficiency
- The ongoing operation of Congestion Charging in the original central London zone, with periodic reviews to enable the Mayor to make variations to ensure the continued effectiveness of the policy and reflect best practice
- Proposals for the removal of the Western Extension Zone. While the central London Congestion Charging zone has unique characteristics, the Western Extension is similar to the areas around it which are not charged. In the future, wider road user charging may be explored in the context of a national scheme and charging in town centres may also be considered. Other measures, such as further implementation of the Scoot junction control system, and those listed above, will be used to mitigate the effects of the removal of the Western Extension

## Making more use of the river Thames

**122** The Mayor has led the development of a concordat between London's pier owners, boat operators, boroughs, and TfL to improve river services, ticketing and passenger information. This has already seen the introduction of a new direct service between Canary Wharf and London Bridge and, from November 2009, the extension of Oyster pay as you go ticketing on Thames Clipper services. TfL is also funding the extension of Tower Pier to relieve over-crowding caused by increasing numbers of passengers.

## Delivering a cycling revolution

123 There will be unprecedented levels of investment in cycling, as well as implementation of a range of local improvements in partnership with London's boroughs, to achieve collectively a cycling revolution. This will deliver significant health, environmental and congestion management benefits, including:

- The London Cycle Hire Scheme to be implemented in 2010 in central London to make it easy to collect and drop off cycles, and to help make cycling a natural and seamless part of getting about in central London
- Twelve cycle highways that will be developed for commuters and others to cycle to central London. Cycle hubs will create beacons of cycling excellence in Outer London

124 The programmes will address the key barrier to cycling in London by:

- Prioritising in favour of bicycles where there are large cycle flows and where cyclists need protection from motor traffic to feel safe
- Removing smaller obstacles that make cycling more difficult, to make a big difference to the safety of cycling
- Increasing the number of secure places where cycles can be left without worry and continuing the support for cycle training

The aim is to achieve a five per cent modal share for cycling (currently two per cent) by 2026.

## Making walking count

125 For walkers, conditions will be improved through investment of £34m between 2009/10 and 2011/12 including:

- Development of the Key Walking Route approach in partnership with the boroughs
- Addressing barriers to walking caused by local road severance
- Providing direct, convenient access (eg replacing subways and footbridges with surface crossings)
- Street audits to identify what needs to be done to meet the needs of all pedestrians
- Better information (including Legible London)
- Removing guardrails and other obstacles where appropriate

126 In addition, investment in eight enhanced walking and cycling routes (74km) will be provided for the London 2012 Olympic and Paralympic Games.

127 Public realm improvements include a number of station access and town centre enhancement schemes, including the innovative Exhibition Road shared space proposals. In addition, core maintenance and renewal works will continue to incorporate public realm, shared space proposals (which will take into account the needs of disabled people), and general streetscape improvements, whenever possible and/or practicable.

## Improving air quality

128 The Mayor is committed to improving air quality and working towards national and European targets. The Mayor's forthcoming Air Quality Strategy (MAQS) will consider transport air pollutant emissions as part of the broader London context, which also includes commercial, industrial, construction and domestic sources of air pollutant emissions. The MAQS will identify the most effective ways of improving air quality. However, there are a number of interventions that are in place or are planned:

- The current London LEZ scheme will continue to operate to reduce emissions from the heaviest vehicles. However, it is proposed that, due to the economic recession and its impact on small businesses, charities, and self-employed Londoners, phase three of the scheme, which would impose emission limits on lighter vans and minibuses and is due to commence in 2010, will be suspended
- Emissions from the bus fleet will continue to be reduced with the introduction of 56 trial hybrid bus vehicles in early 2009 and 200 more by 2011. After this it is envisaged that all new vehicles will be hybrids, contributing significantly to reducing the emissions of the bus fleet
- The Mayor is also committed to making it easier for drivers to choose electric vehicles

129 The forthcoming MAQS will contain more detailed proposals and will consider any potential air quality impacts of the removal of the Western Extension of the Congestion Charging zone or the suspension of phase three of the LEZ as part of the broader London context. A draft will be published for London Assembly and functional body consultation in summer 2009.

## Catalysing the shift to electric road vehicles

130 The Mayor is committed to ensuring London takes a lead in the switch to electric powered road vehicles. Leading by example in the development, trial and mass market implementation of electric vehicle technology will not only bring air quality, noise and CO<sub>2</sub> emission benefits, but also secure long-term jobs for Londoners in emerging environmental industries. The Mayor aims to have 100,000 electric vehicles in use in the Capital, equating to around five per cent of road vehicles. The first tranche of committed measures to support this goal are:

- A total of 25,000 charging spaces across London by 2015
- Conversion of 1,000 vehicles in the GLA fleet to electric power by 2020
- Continuation of the 100 per cent Congestion Charge discount for electric vehicles
- London Plan policy to ensure at least 20 per cent of parking spaces in new developments have charging points

## Improving the safety and security of the travelling public

- 131** The Mayor has made combating crime and antisocial behaviour and making people feel safer one of his top priorities. This is being achieved through:
- The alcohol ban on TfL-run services
  - An increased police presence on the transport system
  - Piloting live CCTV on buses, plus more CCTV on the Tube and the London Overground
  - Increased support for knife scanner operations at key stations, and more work at interchanges to 'design out' crime
- 132** There are around 2,500 uniformed officers dedicated to policing the transport system. By June 2009 there will be an additional 500 deployed on the transport system to enhance visible policing at transport hubs and Outer London rail stations and to tackle taxi touting and cab-related offences more effectively. These officers, building on TfL's existing community safety, enforcement and policing activities, will work with TfL to enhance safety and security, demonstrate visible control and tackle crime, antisocial behaviour and fare evasion affecting the transport system.

## Other existing non-TfL funded proposals

- 133** Other funded proposals of significance to the MTS, which are being progressed, include initiatives and schemes being delivered by other transport operators/providers and utilities.
- 134** **Airport access:** BAA is delivering a personalised rapid transit network focused on T5, and has committed a substantial contribution towards the cost of Crossrail, which will serve Heathrow Airport. The Mayor tentatively supports Airtrack (also being promoted by BAA/Heathrow Airport Limited) which, if implemented, would deliver a new rail link connecting the existing rail line from Waterloo to Reading with Heathrow T5. This project would cost around £350-400m and could be delivered by 2014. Airtrack would significantly improve connectivity to Heathrow by enhancing public transport access from southwest London, and support its role as a major transport and employment hub.
- 135** The Government has approved expansion at Stansted Airport, which will facilitate a growth in passengers using the airport from 25 to 35 million annually. A package of measures is being developed (although as yet it is unfunded) to support this expansion. This includes widening of the M11 between junctions 6 and 8 (between the M25 and Stansted Airport) and the provision of further rail capacity.



- 136** London City Airport has plans to expand the number of flights from 80,000 to 120,000 annually by 2010. DLR infrastructure to support this growth is in place though further rail vehicles are required to provide the required service capacity.
- 137** **Trunk roads:** The Highways Agency is continuing to review options to expand highway capacity on the motorway network in the South East. This could be through widening existing motorways to dual four lanes, or extending hard shoulder running and 'active traffic management' following the successful trials on the M42 in the West Midlands.
- 138** **Sea ports:** A new container port and logistics park, known as 'London Gateway', is being developed on the site of the former Shell Haven oil refinery near Tilbury and will open in 2011. This £1.5bn project will provide substantial additional port capacity in the South East.
- 139** **Rail freight:** Prologis is developing a rail connected freight transshipment facility at Howbury Park near Slade Green, which will enable the transfer of road freight to rail, in response to the demand for additional rail freight facilities in the South East. This is expected to be opened by 2010 at a cost of £80m. A new rail freight hub is also proposed at Brent Cross/Cricklewood.

## Outcomes of the existing proposals

- 140** The proposals outlined above collectively will contribute to the challenges set out in chapter two.

**Key outcomes achieved include the following:**

### Supporting economic development and population growth

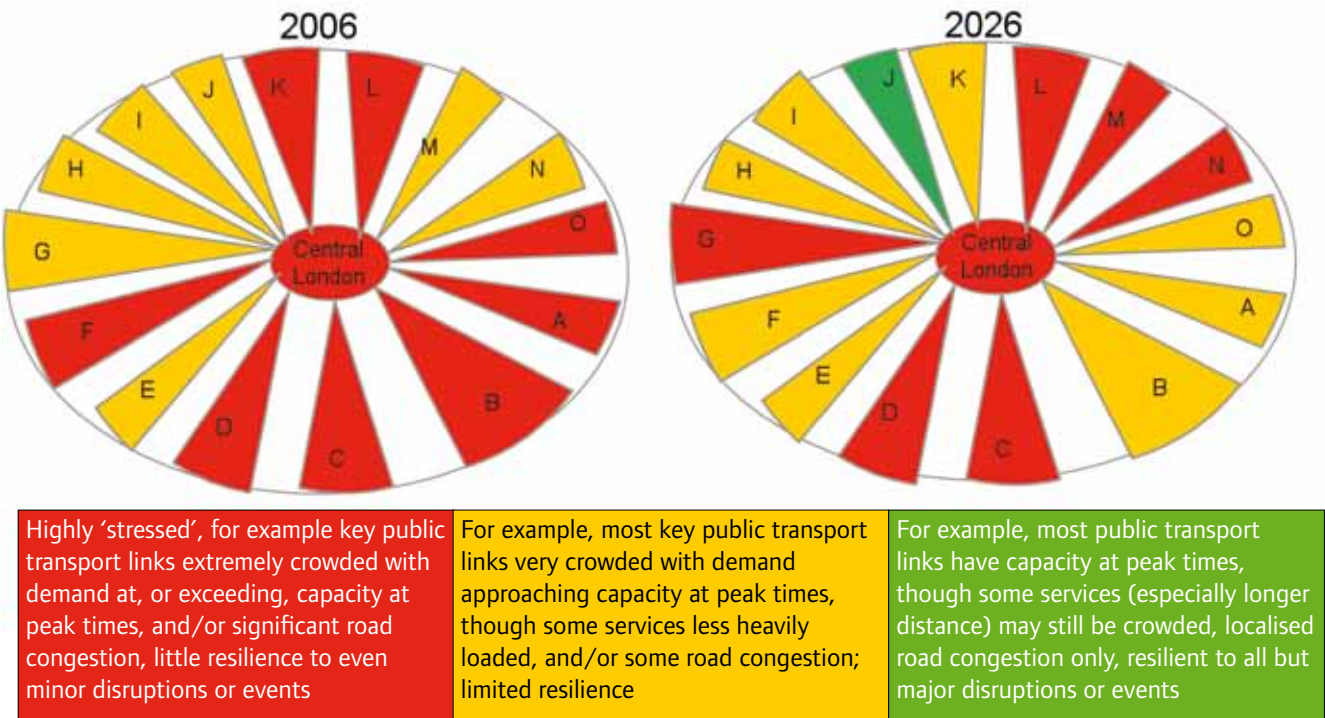
- 141** **Capacity:** Compared to 2007/08, there will be an almost 30 per cent increase in London's overall public transport network capacity (including HLOS as well as TfL's Business Plan proposals). However, as London's economy and population continues to grow, more will need to be done to accommodate the transport demands generated. In the period to 2026, major radial public transport movements into central London are expected to grow by about 300,000 trips a day, with a further 30,000 trips within the central area. This will contribute to an approximately 40 per cent increase in peak demand for rail services and a 25 per cent increase for the Underground. More will therefore need to be done.
- 142** **Connectivity:** Business access to employment markets will be improved, with an overall 30 per cent increase in the resident population within 45 minutes public transport travel time of London employment locations, by 2017/18. However, some areas, eg in southeast London, will continue to experience poor journey times.

- 143

**Smoothing traffic flow:** Improved phasing of traffic lights and management of the road network, together with measures to mitigate the impact of construction and utility works, will reduce journey time variability for road users, and help to reduce ‘stop-start’ driving conditions. The ongoing operation of Congestion Charging in the central zone will continue to mean reduced numbers of cars in central London. However, based on conservative population growth assumptions, traffic demands will lead to an increase in congestion of around 15 per cent.
- 144

**Maintenance and renewals:** The planned investment is expected to increase the proportion of London’s public transport infrastructure in a good state of repair, especially on the Underground, by 2017/18. However, the proportion of the TfL Road Network in a state of good repair is expected to decline slightly over the period.
- In Outer London, growth in travel will significantly increase the pressure on orbital links between town centres, industrial and leisure areas.

**Figure 11**  
Indicative corridor ‘stress’ levels for radial trips, all modes, 2006 and 2026

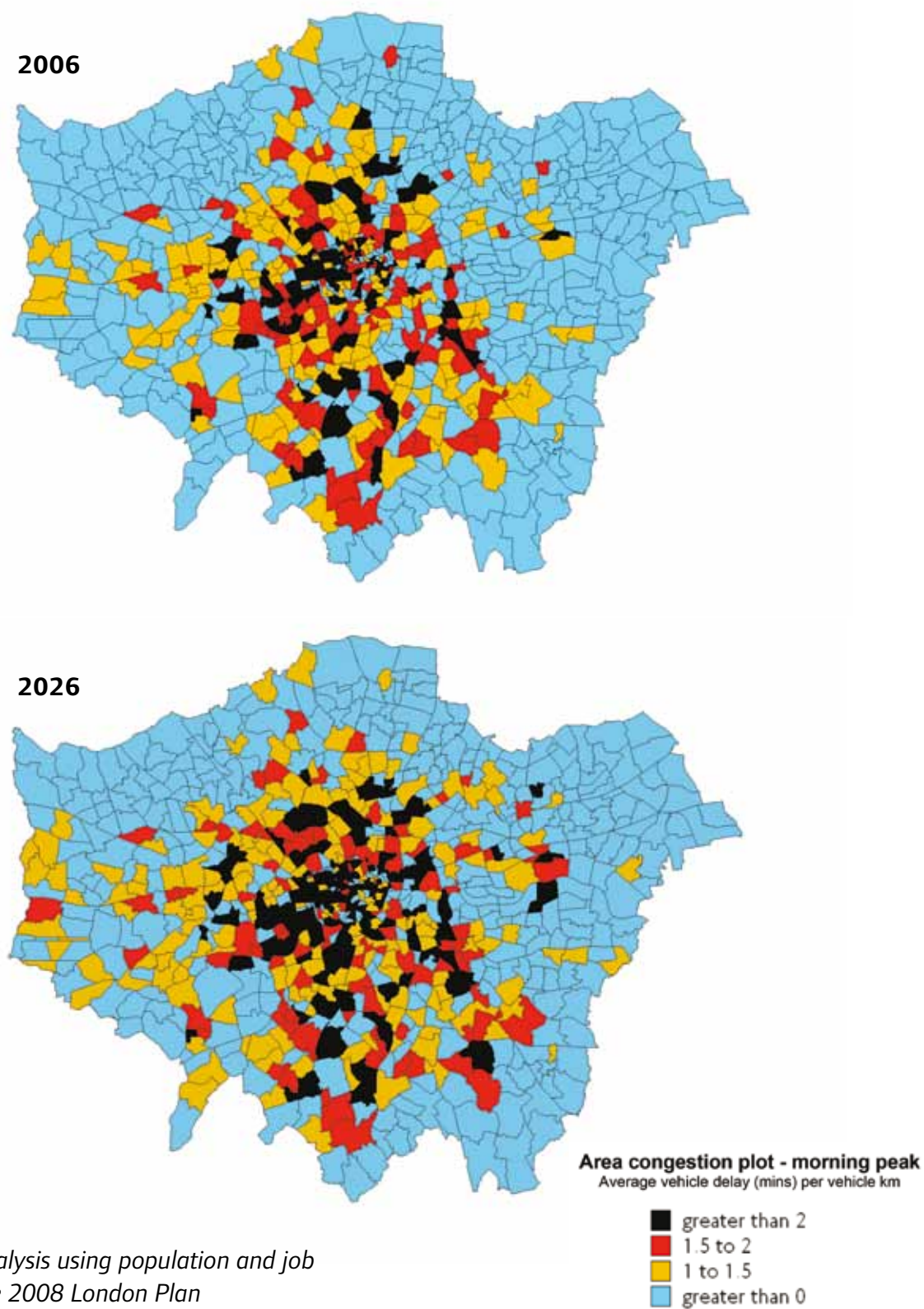


*(‘Stress’ is a combination of road congestion, rail crowding and overall resilience)*  
*Based on analysis using population and job figures in the 2008 London Plan*

- 145 Improving public transport reliability:** Upgrade of the Tube and other infrastructure investment will improve public transport reliability, meaning fewer delays and delivering productivity benefits for London's economy of about £150m per annum. However, bus reliability and journey times are expected to deteriorate, due to increased traffic congestion.
- 146 Cost and efficiency savings:** A total of £2.4bn of efficiency savings will be made across the transport system over the nine-year period of the TfL Business Plan. Freight and business efficiencies are expected to be realised through freight initiatives. Existing TfL Business Plan commitments for freight should reduce freight traffic in the morning peak to 2006 levels, even with the growth of population and jobs.
- 147** However, in spite of these beneficial outputs, as can be seen from the figures opposite, the combined effect of economic development and population growth will be continued 'stress' on the radial corridors to central London, notably by 2025 on corridors from northeast, west and south London (see Figure 11). There will also be a continuing high level of stress on the system in central London – in terms of pedestrian congestion at rail termini, interchanges and on pavements – and vehicle and cycle congestion on roads, exacerbated by necessary road and street works.

**Figure 12**

Highway congestion, 2006 and 2026



**148** Worsening road congestion will also hamper journeys to Outer London town centres and orbital movement. This will reduce the productivity and competitiveness of London as a whole, but particularly those areas where local economies depend on reliable road transport (see Figure 12).

### Providing a better quality of life for all Londoners

**149 Journey experience:** A number of factors will contribute to people's everyday travel experiences in London. These include improving customer satisfaction; smoothing traffic flows to reduce motoring stress; enhancing bus travel through introducing a New Bus for London; making Underground journeys more pleasant through more reliable and frequent services (thus reducing crowding), combined with a high quality of customer care that is particularly attributable to motivated, well trained staff; new air-conditioned trains on the District, Circle, Hammersmith & City and Metropolitan Tube lines and London Overground; and simplifying fares payment through the further roll out of Oyster.

**150 Built and natural environment:** Creating and promoting safe, accessible and attractive environments for cyclists, pedestrians and disabled people, including shared space initiatives such as that at Exhibition Road, will improve both the public realm and people's perceptions.

**151 Air quality:** This will be improved through the operation of the LEZ, more low emission hybrid buses, and increased use of electric vehicles. By 2015, a 20 per cent decrease in air pollution emissions from ground-based transport is expected. While not forgetting the influence of pollution sources outside London and meteorology, London's air quality is expected to meet the EU limit values for particulate matter (PM10) should an extension to 2011 be secured. However, more will need to be done to ensure the limit value for nitrogen dioxide is met by 2015.

**152 Noise impacts:** Initiatives to increase the use of electric vehicles, replacing road surfaces with those that have lower noise characteristics and engineering initiatives to reduce noise from Underground trains and track will positively impact the quality of life of many Londoners.

**153 Health impacts:** Existing proposals are expected to increase the rates of walking and cycling, improving general health levels. However, much more remains to be done. Applying recent Cycling England research on the health benefits of cycling in a London context suggests that further walking and cycling improvements, to achieve a quadrupling of cycling trips between 2000 and 2025, would significantly reduce NHS costs (treating cases of lung disease and asthma), premature deaths and absence from work.



## Ensuring the safety and security of Londoners

### 154 **Crime, fear of crime and antisocial behaviour:**

As a result of TfL's latest Business Plan proposals and other initiatives, crime is expected to fall on the bus and Tube/DLR networks from around 12 and 13 incidents respectively per million passenger journeys today, to around 11 and 12 in 2017/18. The existing proposals will also work to reduce fear of crime on the transport system and reduce antisocial behaviour.

**155 Road safety:** The existing proposals will significantly improve road safety, with an expected 66 per cent decrease in the number of people killed or seriously injured on London's roads against 1994–1998 levels. There will be a need for ongoing effort to ensure the numbers continue to be reduced.

**156 Public transport safety:** The existing proposals will improve the already very high levels of safety on the public transport system.

## Improving transport opportunities for all

**157 Better accessibility:** By the end of TfL's Business Plan period the percentage of Londoners with high levels of accessibility to the public transport network (Public Transport Accessibility Level 4 or above) will rise from 25 per cent in 2009 to 31 per cent.

**158** All LU and Overground stations will continue to be staffed, providing customers with assistance and reassurance when required. Most LU stations

and trains will receive access and information enhancements including visual and audible information systems, tactile markings, brightly coloured handrails and wide-aisle gates. The percentage of Underground stations offering step-free access from street to platform will rise from 20 per cent today to 29 per cent in 2017. The percentage of step-free accessible London Overground stations will rise from 31 per cent to 47 per cent and the DfT has committed funding for step-free access to 47 per cent of National Rail stations in London by 2017, compared to 31 per cent today.

**159** New infrastructure for projects including Crossrail will be designed from the outset with accessibility in mind. All new trains will comply with the Rail Vehicle Accessibility Regulations (RVAR), meaning they will have dedicated wheelchair spaces and improved customer information.

**160** All of London's buses have step-free access. However, today only 45 per cent of bus stops are fully accessible. By 2017, this figure will rise to 76 per cent. Pedestrians will benefit from improved conditions through better information and urban realm enhancements.

**161 Transport and regeneration:** The existing proposals will support development of London Plan areas for intensification by improving transport connectivity, accessibility and capacity to those areas, enabling higher employment densities, as well as improving the urban realm.



Tackling climate change

162 **Climate change mitigation:** As a result of TfL’s Business Plan and other committed investment in the carbon-efficient travel choices of walking, cycling and public transport, and smarter travel initiatives in London, a continued reduction in mode share away from the car is anticipated to contribute the majority of the five per cent reduction in CO<sub>2</sub> emissions (based on current levels of demand) that committed investment is expected to achieve. Further committed initiatives such as eco-driving and the provision of a modern, carbon-efficient public transport vehicle fleet will also contribute to CO<sub>2</sub> savings. In addition to the above, the MTS 2026 reference case assumes improvements in the carbon efficiency of the general road vehicle fleet and National Grid electricity supply, resulting in a 2026 outcome of around a 10 per cent reduction in ground-based transport CO<sub>2</sub> emissions, from 1990 levels, in spite of rising population and employment levels.

163 Expansion of public transport services and the network will inevitably increase associated carbon emissions. However, on a per person km travelled basis, rail-based public transport CO<sub>2</sub> emissions are currently around a third that of car trips, and for buses around a half. Therefore, CO<sub>2</sub> savings achieved through people switching from cars to public transport as a result of enhanced services far outweigh the additional energy requirements.

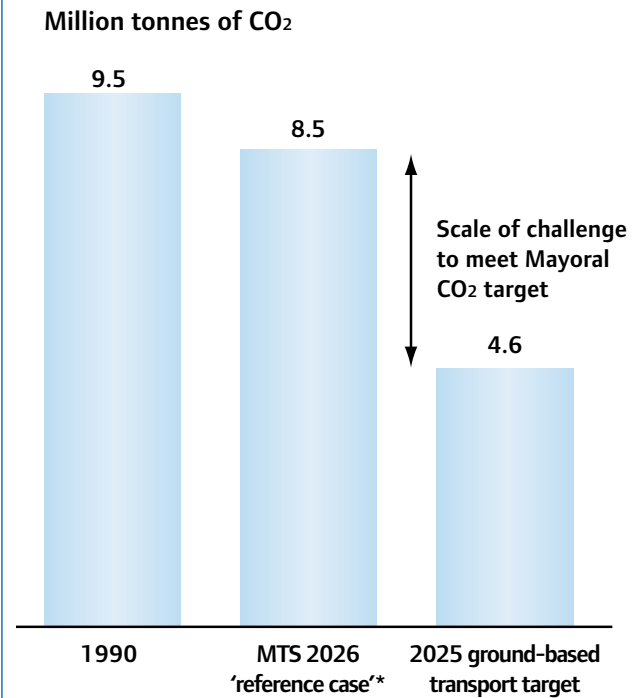
164 However, if transport is to achieve its proportional contribution to the Mayor’s target

of a London-wide reduction in CO<sub>2</sub> emissions of 60 per cent, action will be required not only from Mayoral functional bodies, but also from national Government on issues such as meeting National Grid renewable energy targets and nationwide initiatives, for example, the recently introduced vehicle scrappage scheme or further carbon-based vehicle excise duty incentives.

165 Transport’s contribution to reducing London’s CO<sub>2</sub> emissions is shown in Figure 13.

Figure 13

CO<sub>2</sub> emissions, 1990, 2026 and Mayoral target



\* Assume ground-based aviation CO<sub>2</sub> emissions grow in line with DfT central case aviation demand projection

Based on analysis using population and job figures in the 2008 London Plan

**166 Climate change adaptation:** The existing proposals include initiatives that will help the transport network adapt to the inevitable impacts of climate change, for example new air-conditioned trains on parts of the Tube network and on London Overground, and better ventilated bus design through the development of a New Bus for London. However, the transport sector needs to introduce a risk-based strategy to adapt to these impacts, which could include more frequent extreme-weather events such as higher summer temperatures and flooding. There is a need therefore for the MTS to consider where new infrastructure is located with regard, at least, to the increased flooding risk posed by climate change.

## Conclusion

**167** Despite everything that will be achieved by the substantial programme of investment and service improvements that TfL's Business Plan and HLOS will deliver, existing proposals will not address all the challenges identified in chapter two. Without a commitment to additional investment in transport infrastructure and services beyond 2017, there remains a significant risk that London's future economic, social and environmental success could be threatened. This risk has been magnified by the uncertainties surrounding the current economic downturn. It is therefore imperative that the most efficient and sustainable transport strategy possible is developed to guide the future of London.

## 4.4 Further policies and proposals

<sup>168</sup> The existing proposals largely cover the period to 2017. It is clear that these alone will not fulfil the high level outcomes described in section 4.2, that outcomes will deteriorate between 2017 and 2031, and therefore that more needs to be done to meet the challenges which remain unaddressed by TfL's Business Plan and HLOS. The Mayor is therefore reviewing the potential of three broad policy approaches to better balance supply and demand for travel, and maximise transport's contribution to economic, environmental and social outcomes.

### Changing land use assumptions

<sup>169</sup> Changes in land use affect the origins and destinations of trips and can significantly influence the distance travelled and the mode used. Of particular interest is how possible changes in land use patterns – in particular the promotion of 'strategic Outer London development centres' – to reflect a more polycentric approach to development could affect the volume of radial journeys into central London and the number of journeys to Outer London town centres. (A key constraint of course is likely to be the economic viability of any changed assumptions).

## Providing further transport capacity

<sup>170</sup> **Including measures necessary to improve connectivity as well as catering for demand on existing corridors:** Under present land use and economic development assumptions, London's growth will increase demand for transport by around an extra two million trips a day by 2031. Simply providing for this increase in demand would entail provision of significant further public transport capacity and potentially more road capacity.

## Managing demand for transport

<sup>171</sup> **Introducing measures to control or 'manage' demand for transport to meet capacity constraints:** For example, smarter travel programmes (workplace and school travel plans), variations in public transport fares, parking charges, Congestion Charging and road pricing, or restrictions (physical, time of day and vehicle type) to encourage changes in the journeys people make. These can be used to change the time a journey is made, the mode used, the type of vehicle used (engine type), the destination, and even whether the journey is made at all.

<sup>172</sup> Final decisions on the nature of demand management and transport capacity-related interventions (whether road or public transport based), and the relative priority accorded to them, will therefore inevitably depend on the final shape of the London Plan. However, the following sections outline the broad policy and proposal directions that the Mayor is considering adopting in the development of his new transport strategy.

## 4.5 Economic development and population growth

<sup>173</sup> The Mayor proposes supporting economic development and population growth by delivering transport capacity and connectivity improvements, managing demand for travel and ensuring an efficient and effective transport system. This will be achieved through policy interventions and proposals in the following main areas:

- Policies to support, maintain and develop London's inter-regional, national and international transport connectivity
- Measures to improve the capacity, efficiency and effectiveness of the transport system, and manage the demand for travel, having an effect on a London-wide basis
- Radial transport capacity and connectivity improvements to and from central London
- Radial capacity and connectivity improvements to and from Outer London metropolitan town centres and potential 'strategic Outer London development centres'
- Measures to improve orbital connectivity, particularly in Outer London
- Measures to improve accessibility and manage the demand for travel in central London, potential 'strategic Outer London development centres' and other metropolitan town centres
- Enhanced interchange and integration of the transport system

In developing the new MTS the Mayor is considering the following policy measures:

### Supporting, maintaining and developing London's inter-regional, national and international transport connectivity

- <sup>174</sup> • Supporting enhancements to inter-regional, national and international rail and coach services and high-speed rail hubs serving London
- Recognising that further airport runway capacity will be needed in the South East to meet London's needs, emphasising sustainable airport operations, resisting the provision of further capacity at Heathrow (referring to work being carried out to evaluate alternatives elsewhere in the South East including, but not limited to, the possibility of a Thames estuary airport)

### Improving capacity, efficiency and effectiveness, and managing demand for travel on a London-wide basis

- <sup>175</sup> • Encouraging the use of more sustainable, less congesting, modes of transport (public transport, cycling and walking etc), and reducing the need to travel, through investment in infrastructure and service improvements and through promotion of smarter travel initiatives
- Through investment in intelligent traffic control systems and the infrastructure to support it (and other measures), smoothing traffic flows to manage congestion, reduce journey time variability for all passenger and freight movements, and maximise the efficiency of the road system from a business and individual perspective

- Improving the efficiency and effectiveness of the operation of the transport system to bring to and then maintain transport assets in a good state of repair, improve the reliability of services, and maximise value for money for tax and fare payers
- Improving the distribution of freight through servicing plans and other efficiency measures, across London
- If required to address the challenge, managing the demand for travel through pricing incentives on roads and public transport systems (through fares, road pricing and other potential charging regimes) to balance the supply and demand for travel and maximise the economic efficiency of the transport network

#### **Radial transport capacity and connectivity improvements into central London**

- 176 • Ensuring appropriate transport connectivity on the key radial transport corridors into central London as shown in Figure 3 (page 25) to maximise business access to employment and freight access to business and commercial markets
- In particular, the MTS will focus on maximising public transport connectivity and capacity benefits on the two main east-west and north-south corridors (incorporating the Crossrail and Thameslink projects respectively) and also examining opportunities to make more use of the River Thames for east-west travel across the city

### **Radial transport capacity and connectivity improvements into potential 'strategic Outer London development centres' and other metropolitan town centres**

- 177 • Through the development of the London regional transport strategies, ensuring appropriate connectivity on major radial transport corridors into potential 'strategic Outer London development centres' and other metropolitan town centres

### **Improving orbital connectivity**

- 178 • Improving orbital public transport connectivity in Inner London (eg through completion of the London Overground infrastructure project)
- Through the development of the London regional transport strategies, improving orbital connectivity in Outer London, particularly between potential 'strategic Outer London development centres', but also between adjacent metropolitan town centres
  - Improving Outer London rail connectivity by focusing on the development of 'chordal' links between potential 'strategic Outer London development centres', and the development of new interchanges to facilitate orbital movement

- Improving road-based connectivity (including for bus services and cycling) by focusing on the development of orbital links through the joining up of existing radial corridors into metropolitan town centres and potential 'strategic Outer London development centres'

### **Transport improvements in central London, potential 'strategic Outer London development centres' and other metropolitan town centres**

- 179 • In central London, potential 'strategic Outer London development centres' and other metropolitan town centres, ensuring efficient access and egress for freight and passenger transport vehicles, enabling the efficient onward movement of passengers from major public transport interchanges to their final destinations, through providing improved connectivity and adequate capacity (whether public transport, walking or cycling-related)

### **Enhanced interchange and integration of the transport system**

- 180 • Improving physical connectivity and integration of services at transport hubs and interchanges across London, facilitating multi-modal journeys and encouraging modal shift

## The London Plan's influence on the MTS policies to support economic growth

181 The priorities for the MTS in this area in particular will be dependent on the direction taken by the London Plan. As stated earlier, the Outer London Commission is informing the revision of the London Plan and is considering two broad land use options (this does not mean that other land use options cannot be considered). These are:

- A focus of employment growth in central London with population growth largely in Inner and east London (as per the February 2008 edition of the London Plan)
- A more dispersed growth, with higher levels of growth in Outer London, centred on several 'strategic Outer London development centres'

The Outer London Commission is due to present its preliminary findings in July 2009.

182 As stated, TfL's initial analysis of alternative land use options indicates that there could be some transport advantages in a more dispersed growth option. Its benefits would be to marginally reduce trips on busy corridors into central London. However, without specific interventions in Outer London, this would be at the cost of generating additional car trips and congestion in the area. Further investment in local transport infrastructure and demand management would be needed.

183 While both options would include a number of common transport policy themes, each option would prioritise different specific policy interventions.

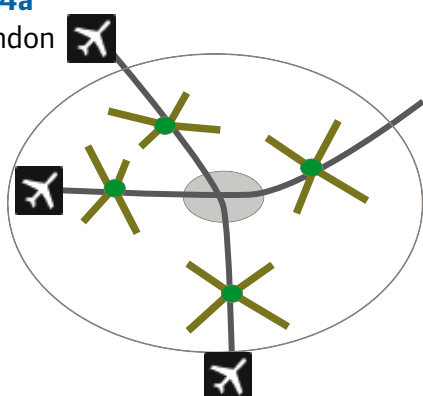
184 Of these policy measures, the option based on current London Plan spatial patterns would place more emphasis on radial transport capacity and connectivity improvements into central London and transport improvements within central London itself. A more dispersed growth option would prioritise radial transport capacity and connectivity improvements into 'strategic Outer London development centres' and other metropolitan town centres, while continuing to support the provision of appropriate transport in the Thames Gateway.

185 The more dispersed growth option has significant knock-on implications for transport strategy development and implies a considerably greater focus on Outer London. In particular, it focuses attention on the capacity of radial transport links into and out of potential 'strategic Outer London development centres' (and the physical transport accessibility of their town centres, eg for bus services, cycling and walking), in addition to the traditional focus on radial transport links to and from central London.

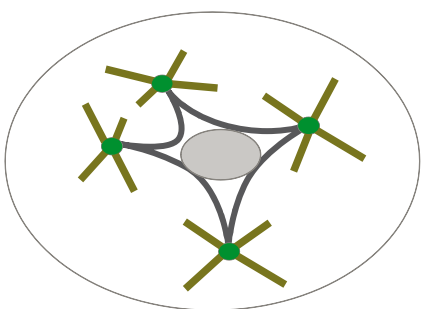


**Figure 14a**

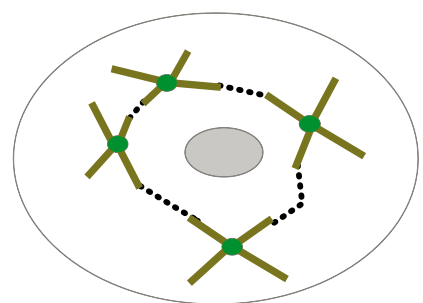
Cross-London strategic links

**Figure 14b**

Chordal links

**Figure 14c**

Outer London orbital links



186 As well as ensuring adequate radial connectivity into and out of these potential ‘strategic Outer London development centres’ to support enhanced employment and housing growth, a particular question also arises about the extent to which these development centres should be inter-connected with each other through enhanced orbital connections, and how these connections could or should be provided. Conceptually there are three different ways to achieve this (Figures 14a, b and c):

- Through existing, or planned cross-London strategic links (ie north-south via Thameslink or east-west via Crossrail). These cross-London links also offer connections to three major London airports (Heathrow, Gatwick and Luton). (Figure 14a)
- Developing connecting ‘chordal’ links via Inner London, either through direct services or enhanced interchange facilities at key locations on Inner London orbital transport corridors (eg Croydon-Stratford via East London line to Whitechapel and Crossrail to Stratford). (Figure 14b)
- Thirdly, via the provision of dedicated Outer London orbital transport links between development centres, composed of either single strategic transport corridors between them, or through developing inter-connecting radial corridors emanating from each ‘strategic Outer London development centre’ (possibly connecting via smaller Outer London town centres). (Figure 14c)

<sup>187</sup> These three options will all need to be considered thoroughly in the development of the MTS. Options which help support central and Inner London as well as improving connections in Outer London may be more advantageous. This will be subject to greater review pending the outcome of the Outer London Commission.

## 4.6 Providing a better quality of life for all Londoners

<sup>188</sup> In further improving quality of life through transport interventions the Mayor proposes that the MTS should focus on five key areas:

- Improving journey experience
- Enhancing the built and natural environment
- Improving air quality
- Reducing the noise impacts of transport
- Improving the health impacts of transport

**In developing the new MTS the Mayor is considering the following policy measures:**

### Improving journey experience

- <sup>189</sup> • Improving strategic management and day-to-day operation of the road network to benefit all users, whether drivers, cyclists or pedestrians
- Expanding the capacity and quality of public transport services (introducing a New Bus for London, new high capacity Tube rolling stock with air-conditioning etc) to improve passenger comfort and focus on the development of transport hubs

- Whether in relation to travel on public transport or using the road network (for passenger or freight movements), focusing on measures to improve the provision of information to improve customers' knowledge and understanding on service availability, delays and other information
- Increasing flexibility of public transport ticketing, while improving customer knowledge and understanding of ticketing options and developing quicker and easier payment systems
- Ensuring fairness through better targeted and more effective enforcement activity across transport networks

### Enhancing the built and natural environment

- <sup>190</sup> • Improving the layout and design of streets; removing dysfunctional gyratories, one-way streets and unnecessary street furniture etc; increasing permeability of streets; introducing shared spaces and prioritising use by time of day
- Increasing ease of movement through creating clear and easily understandable routes and spaces
  - Enhancing the quality of the urban realm through improving the quality of street furniture, promoting improvements to green spaces in appropriate locations on streets and around stations, encouraging public art projects and promoting high quality design, while ensuring accessibility, designing out crime and preventing deterioration of the urban realm with appropriate levels of maintenance

- Making the most of open spaces across the transport system (eg green spaces alongside roads and railway lines, roof tops) to encourage biodiversity and enhance the quality of the natural environment
- Improving public engagement in enhancement of the built and natural environment through better communication to improve modal shift and other outcomes

### Improving air quality

- <sup>191</sup> • Introducing or promoting stricter performance standards for vehicles controlled, procured or regulated by the Mayor, GLA Group and/or other public sector bodies (eg public transport vehicles, taxis, other vehicles contracted to or operated by such organisations) to reduce emissions from these vehicles
- Introducing initiatives to incentivise the purchase or use of cleaner vehicles (eg through car clubs), the scrapping of older, more polluting vehicles, and/or the uptake of electric vehicle technology, further railway electrification
- Promoting behavioural changes to smooth driving techniques, better maintenance and operating regimes (eg reducing vehicle idling or ground-based aircraft emissions at airports) to reduce vehicle emissions
- Targeted physical measures at air quality hotspots to reduce emissions and improve local air quality with a particular focus on achieving improvements in health outcomes (eg around schools)
- If required to address the challenge, using further emissions control schemes (eg LEZ) to include charges or restrictions on movements for vehicles that do not meet minimum emission standards

### The MAQS's influence on the MTS policies to improve air quality

<sup>192</sup> The priorities for the MTS in this area will be dependent on the direction taken by the MAQS. This is currently being developed and a draft will be published for London Assembly and functional body consultation in summer 2009.

<sup>193</sup> As stated earlier, the MAQS will look at all sources of air pollutant emissions (including commercial, industrial, domestic, construction and transport) and then identify the most appropriate and effective interventions in order to help achieve national and European targets. While previous transport initiatives such as the Western Extension of the Congestion Charging zone have reduced emissions of air pollutants, these were outcomes of a scheme primarily designed to reduce congestion and there may be more effective ways of having a comparable effect on air quality. Alternative measures will be considered in the MAQS and will focus on encouraging lower emission vehicles, behavioural change and smoothing traffic flows. These are reflected in the policy statements above.

### Reducing the noise impacts of transport

- <sup>194</sup> • Specifying, subsidising or incentivising the provision of noise reduction measures (eg

lower noise road or rail treatments) and noise mitigation measures (eg double glazing or noise barriers) in areas significantly affected by transport noise

- Introducing stricter regulations and/or tougher standards for vehicles controlled, procured or regulated by the Mayor, GLA Group and/or other public sector bodies (eg public transport vehicles, taxis, other vehicles contracted to or operated by such organisations) to reduce noise from these vehicles, or limit times of operation
- Introducing initiatives to incentivise the purchase or use of quieter vehicles, the scrapping of older, noisier vehicles and/or the uptake of electric vehicle technology
- Promoting behavioural changes to quieten transport operations, and moving noisier transport operations further away from those affected by them

### Improving the health impacts of transport

- 195 • Investing in improved infrastructure and facilities to encourage the increased take up of more physically active modes of transport (eg cycling and walking)
- Promoting information, training and behavioural change measures (eg smarter travel) targeted at encouraging the take up of physically active forms of transport
  - Promoting land use planning and development policies to increase the attractiveness and take up of physically active forms of transport

## 4.7 Ensuring the safety and security of all Londoners

196 In further improving the safety and security of people using London's transport services and networks, the Mayor proposes that the MTS should focus on the following areas:

- Reducing crime, fear of crime and antisocial behaviour
- Improving road safety
- Improving public transport safety

**In developing the new MTS the Mayor is considering the following policy measures:**

### Reducing crime, fear of crime and antisocial behaviour

- 197 • Implementing an integrated local policing structure for the transport system ensuring coordination and the targeting of resources to achieve the most appropriate allocation of resources between different policing units
- Establishing joint intelligence structures between TfL and London's police forces
  - Enhancing the quality of urban realm and transport infrastructure to improve safety and security by designing out crime
  - Public education and engagement to increase positive behaviours among the travelling public and discourage antisocial behaviour
  - Implement and integrate technology solutions to improve the safety and security of the travelling public across London's transport systems

- Target resources to reduce occurrences of priority crimes and antisocial behaviour on and around the transport system
- Ensure provision of safe, secure and regulated transport services at night – focusing in particular on homeward travel from areas with a high concentration of late night venues and/or large volumes of late night travellers between midnight and 06:00

### Improving road safety

- 198
- Implementing physical engineering and other measures to improve road safety across London's road network when required
  - Public information and engagement to increase positive road user behaviours among the travelling public and reduce the risk of collisions
  - Implementing effective enforcement measures targeted at locations with poor collision records across London's road network
  - Ensuring a safer working environment for those driving while at work
  - Improving the safety of construction employees working on London's highways (also railways and other transport infrastructure)

### Improving public transport safety

- 199
- Implementing measures to maintain and improve safety across all public transport modes, minimising risk to public transport users, staff and the general public as far as is reasonably practical

- To plan and prepare for major incidents, responding to changing risks and threats

## 4.8 Improving transport opportunities for all Londoners

200 In improving transport opportunities for all Londoners, the Mayor proposes that the MTS should focus on the following areas:

- Increasing accessibility
- Supporting regeneration and tackling deprivation

**In developing the new MTS the Mayor is considering the following policy measures:**

### Increasing accessibility

- 201
- Ensuring access to opportunities and services for all Londoners, in particular improving access to jobs, health care, education, retail and leisure facilities
  - Promoting measures to increase accessibility of the transport system through improving the physical accessibility of transport networks, services and vehicles for all Londoners
  - Improving the availability, quality, quantity and timeliness of information about the transport system to remove barriers to travel
  - Improving attitudes of transport staff and travellers towards each other to ensure excellence in customer service and a courteous and friendly travelling environment that does not present a barrier to travel

- Ensuring that the costs of transport necessary to go about their daily lives remain affordable to all Londoners

202 The GLA Act 1999 requires the production of a specific accessibility plan covering the full remit of the policies and proposals in this area. It is currently intended that a draft will be prepared alongside the public consultation draft of the MTS.

### Supporting regeneration and tackling deprivation

- 203
- Focusing on measures to enhance connectivity, reducing community severance, promoting community safety, enhancing the urban realm and improving access to jobs and services
  - Prioritising measures in London's most deprived areas, as well as 'opportunity areas' and 'areas for intensification' as described in the London Plan, to support wider regeneration initiative across the city

## 4.9 Tackling climate change

204 In tackling climate change and its consequences, the Mayor proposes that the MTS should focus on the following areas:

- Reducing CO<sub>2</sub> emissions
- Adapting for climate change

**In developing the new MTS the Mayor is considering the following policy measures:**

### Reducing CO<sub>2</sub> emissions

- 205
- Encouraging the use of more sustainable, less CO<sub>2</sub>-emitting modes of transport (such as public transport, cycling and walking) and reducing the need to travel, through investment in infrastructure and service improvements and through the promotion of smarter travel initiatives
  - Smoothing traffic flows to reduce road traffic emissions and maximise the efficiency of the road network
  - Introducing initiatives to incentivise the purchase or use of cleaner vehicles (including car clubs); the scrapping of older, higher CO<sub>2</sub>-emitting vehicles, and/or the uptake of electric vehicle and other lower carbon technologies; further railway electrification
  - Introducing or promoting stricter carbon emission standards for vehicles controlled, procured or regulated by the Mayor, GLA Group and/or other public sector bodies (eg public transport vehicles, taxis, other vehicles contracted to, or operated by, such organisations) to reduce CO<sub>2</sub> emissions from these vehicles

- Promoting behavioural change measures aimed at encouraging smoother driving techniques, better maintenance and operating regimes (eg reducing vehicle idling or reducing ground-based aircraft emissions at airports) to reduce CO<sub>2</sub> emissions
- Implementing operational efficiency measures including the use of low/zero carbon energy, the utilisation of low carbon infrastructure including rolling stock and station lighting
- Securing additional low carbon, electricity-generating capacity to provide power for transport purposes
- Improving efficiency of freight movement through greater consolidation of freight deliveries, more off-peak freight movement and a shift from road to water and rail where feasible
- If required to address the challenge, managing the demand for travel through pricing interventions to influence a shift to lower carbon travel options such as walking, cycling and public transport, reduce road congestion and improve the carbon efficiency of private road vehicles

### Adapting for climate change

- 206
- Risk assessing existing transport assets to determine where there is vulnerability to the impacts of climate change and designing/siting new transport infrastructure to minimise and/or withstand the impacts of climate change
  - Developing and testing plans and procedures to manage and respond to disruption resulting from the impacts of climate change, eg flooding, impacts of heatwaves etc



The Mayor of London is interested in your views on the emerging direction of the MTS and the options identified in this Statement of Intent.

Responses to the following questions would be particularly welcome, and should be received by the Mayor on **Monday, 13 July 2009 by 17:00**.

Please send your responses by email to [mts@london.gov.uk](mailto:mts@london.gov.uk) with 'MTS Statement of Intent' in the subject box; or write to:

Boris Johnson  
Mayor of London  
(MTS Statement of Intent)  
Greater London Authority  
City Hall  
More London  
The Queen's Walk  
London SE1 2AA

## Question 1

Referring to chapters one and two, are there any other transport challenges facing London that the MTS should address?

## Question 2

Referring to chapter three, the MTS Statement of Intent proposes adopting a spatial approach similar to that set out by the DfT's Delivering a Sustainable Transport System (see Figure 1). Does anything need to be added or improved to ensure this approach fully complements the national strategy while meeting London's needs?

## Question 3

Referring to chapter three, the MTS will be implemented in partnership with boroughs and other stakeholders through London Regional

Transport Plans and LIPs. With this in mind, how should the MTS ensure consistent outcomes and progress across London?

## Question 4

Referring to chapter four, what is the right balance between the three broad policy approaches: changing land use assumptions, managing demand and providing further transport capacity?

What role can new technologies play in tackling London's transport challenges?

- a. For **land use assumptions**, your views would be welcomed on the following:
  - What transport interventions are required to support economic development focused on 'strategic Outer London development centres'?
  - What transport interventions are required to support more growth in Outer London generally?
  - If there were to be a greater focus on economic development in Outer London, what additional transport interventions would still be required to maintain central London's economic vitality?
- b. For **managing demand**, your views would be welcomed on the following:
  - What is the role of pricing (eg targeted local road pricing or London-wide road pricing) to help manage demand?
  - Would your view of pricing change if there was more economic development in Outer London where car usage is higher and public transport less pervasive?

- c. For providing **further transport capacity** and connectivity your views would be welcomed on the following:
- Where is additional transport capacity and connectivity most needed, in the context of proposals to alter land user assumptions and manage demand?
- d. For using **new technologies** your views would be welcomed on the following:
- What role can be played by new technologies, for example electric vehicles, in tackling challenges such as climate change, air quality and noise?
  - What steps should be taken to support their development and use?

## Question 5

In chapter four, two broad land use transport options are identified:

- **Option 1** prioritises focused economic development in central London, with more emphasis on radial transport capacity and connectivity improvements into central London and transport improvements within central London itself
- **Option 2** prioritises a more dispersed growth scenario, with more radial transport capacity and connectivity improvements into potential 'strategic Outer London development centres' and other metropolitan town centres

Any final decision about which option is taken forward will be strongly influenced by economic viability. With this proviso, what are your views on the two broad options given the transport and economic challenges London faces?

## Question 6

Referring to chapter four:

- To support **economic development and population growth** a number of broad policies have been outlined to improve London's national and international links, capacity and efficiency London-wide, radial links into central London and 'strategic Outer London development centres' and orbital connectivity. What are the policy priorities? Are there any other policies that should be included in the MTS under the economy theme?
- To enhance **quality of life** a number of broad policies have been outlined to improve journey experience, the built and natural environment, air quality, reduce noise impacts and improve health. What are the policy priorities? Are there any other policies that should be included in the MTS under the quality of life theme?
- To improve **safety and security** a number of broad policies have been outlined to reduce crime, the fear of crime and antisocial behaviour, and to improve road safety and public transport safety. What are the policy priorities? Are there any other policies that should be included in the MTS under the safety and security theme?
- To improve **transport opportunities for all** a number of broad policies have been outlined to increase accessibility, support regeneration and enhance access to opportunities and services. What are the policy priorities? Are there any other policies that should be included in the MTS under the transport opportunities for all theme?
- To tackle **climate change** a number of broad policies have been outlined. What are the policy priorities? Are there any other policies that should be included in the MTS under the climate change theme?

- 207 In preparation of a draft MTS for public consultation, the Mayor will consider comments made by the London Assembly, GLA functional bodies and the ODA on this Statement of Intent (comments to be received by **17:00 on Monday, 13 July 2009**), as well as their comments on the draft London Plan, Economic Development Strategy and Mayoral environmental strategies.
- 208 The Outer London Commission is expected to publish its preliminary findings in July 2009. This will guide the MTS development with respect to the growth in Outer London that the strategy should cater for. The core issue for the Commission (with regard to transport strategy) is the economic viability of growth in Outer London.
- 209 A draft of the MAQS is expected to be published in summer 2009. This will guide the MTS development with respect to air quality and will consider any potential air quality impacts of the removal of the Western Extension of the Congestion Charging zone or the suspension of phase three of the LEZ as part of the broader London context.
- 210 The version of the MTS for public consultation will translate the ideas set out in this Statement of Intent into more focused (but still high level) policy statements and proposals. The public consultation draft will also set out a more detailed accessibility plan. **Public consultation is scheduled to begin in autumn 2009.**
- 211 Subject to the outcome of the public consultation, **the MTS is expected to be published in spring 2010.** The publication of the MTS forms part of the statutory process to remove the Western Extension of the Congestion Charging zone and will be followed by a Variation Order to effect this.
- 212 A Variation Order will also be used to effect any cancellation (rather than postponement) of further phases of the LEZ implementation.
- 213 During the development of the MTS there remain opportunities to discuss transport strategy issues with national Government, for example with regard to the next steps for 'Delivering a Sustainable Transport System', and rail investment priorities for the period 2015 to 2019. The priorities for London may evolve during this period of development and therefore investment priorities may differ depending on the direction taken by the MTS.
- 214 The published MTS will be a relatively high level, outcome-focused strategy and is expected to be non-prescriptive for boroughs. This clearly has implications for the LIP process, on which boroughs will be consulted in summer 2009, with LIP guidance being developed in parallel with the MTS.
- 215 TfL's Business Plan will be revised annually (the next publication will be in late autumn 2009) to reflect MTS priorities, and during 2010 boroughs will be invited to draft their LIPs to demonstrate to the Mayor how they will contribute to the outcomes of the MTS.
- 216 Transport outcomes will be monitored and reported annually in the Travel in London report. Subsequent revisions of the strategy may be required to ensure outcomes are achieved.

**Accessibility plan:** The GLA Act 1999 requires the production of a specific accessibility plan covering the full remit of the policies and proposals in this area. It is currently intended that a draft will be prepared alongside the public consultation draft of the MTS.

**Active traffic management:** The range of real time traffic management measures (including hard shoulder running, variable speed limit control etc) used by the Highways Agency to maximise traffic throughput on congested sections of the motorway network (eg M42 around Birmingham and M25 around Heathrow).

**Air quality:** The main air pollutant emissions from ground-based transport are:

- Oxides of nitrogen
- Particulate matter of varying size fractions, notably PM10 and PM2.5

The forthcoming MAQS will consider emissions of these pollutants from all sources in London, including transport.

**Areas for regeneration:** The wards in greatest socio-economic need, defined on the basis of the 20 per cent most deprived wards in the London Index.

**BAA:** The body that owns and operates seven UK airports.

**Central Activities Zone (CAZ):** The area where planning policy promotes finance, specialist retail, tourist and cultural uses and activities.

**Central London:** The area, broadly speaking, within the Inner Ring Road, similar to the area covered by the central London Congestion Charge.

**Central London Congestion Charging scheme:** The charge applied to vehicles entering a defined area of central London to reduce congestion.

**Climate change:** Long-term significant change in the expected patterns of average weather conditions of a specific region over an appropriately significant period of time.

**Carbon dioxide (CO<sub>2</sub>):** The primary greenhouse gas emission associated with transport. Produced through the burning of fossil fuels, either in engines or electricity generators, to produce power for transport purposes.

**Economic Development Strategy:** A strategy produced on behalf of the Mayor of London by the LDA to support the development of the Capital's economy.

**Freight Operator Recognition Scheme:** An industry-led membership scheme aiming to improve freight efficiency and operation in London.

**Greater London Authority (GLA):** The region-wide governing body for London. It consists of a directly elected executive Mayor of London and an elected 25-member London Assembly with scrutiny powers.

**Gross Value Added (GVA):** A measurement of the contribution to the economy from each individual producer, industry or sector.

**High Level Output Specification 1 (HLOS1):** The railway investment and service improvements the Government has committed to funding for the period 2009–2014.

**Highways Agency:** An Executive Agency of the Department for Transport (DfT) and is responsible for operating, maintaining and improving the strategic road network in England.

**iBus:** An Automatic Vehicle Location (AVL) scheme to improve the reliability and operation of London's buses.

**Inner London:** Includes the boroughs of Camden, Greenwich, Hackney, Hammersmith & Fulham, Islington, Kensington & Chelsea, Lambeth, Lewisham, City of London, Southwark, Tower Hamlets, Wandsworth and the City of Westminster.

**'Kiss and Ride':** The drop-off of passengers by car at transport interchanges so that they can continue their journey by public transport. The car driver then continues on his/her way.

**Local Implementation Plans (LIPs):** Statutory transport plans produced by London boroughs bringing together transport proposals to implement the MTS at the local level.

**London Plan:** The Mayor of London's spatial development strategy for London.

**London regions:** While having 'fuzzy' boundaries to encourage cross boundary working, London regions are proposed to contain the following boroughs:

- Central London region: Cities of London and Westminster, plus the boroughs of Camden, Islington, Kensington & Chelsea, Lambeth and Southwark
- North London region: Boroughs of Barnet, Enfield, Haringey and Waltham Forest
- East London region: Boroughs of Barking & Dagenham, Bexley, Greenwich, Hackney, Havering, Lewisham, Newham, Redbridge and Tower Hamlets
- South London region: Boroughs of Bromley, Croydon, Kingston upon Thames, Merton, Richmond, Sutton and Wandsworth
- West London region: Boroughs of Brent, Ealing, Hammersmith & Fulham, Harrow, Hillingdon and Hounslow

**LondonWorks:** Planning software used by TfL and London boroughs to coordinate utility street works in the Capital with the aim of reducing negative impacts on traffic flows.

**Low Emission Zone (LEZ):** The application of charges across Greater London based on emissions of air pollutants to reduce the amount of harmful vehicular emissions in the city.

**Mayoral functional bodies:** The bodies which provide services for which the GLA are ultimately responsible. They include TfL (transport), the Metropolitan Police Authority (policing), the London Fire and Emergency Planning Authority (fire and rescue) and the LDA (development and strategic planning).

**Mayor's Air Quality Strategy (MAQS):** See air quality.

**Metropolitan town centres:** The 11 metropolitan centres currently identified are Bromley, Croydon, Ealing, Wood Green, Harrow, Romford, Uxbridge, Hounslow, Kingston, Ilford and Sutton.

**Opportunity areas:** London's principal opportunities for accommodating large scale development to provide substantial numbers of new employment and housing. Each typically has more than 5,000 jobs and/or 2,500 homes, with a mixed and intensive use of land and assisted by good public transport accessibility.

**Outer London:** Includes the boroughs of Barking & Dagenham, Barnet, Bexley, Brent, Bromley, Croydon, Ealing, Enfield, Haringey, Harrow, Havering, Hillingdon, Hounslow, Kingston upon Thames, Merton, Newham, Redbridge, Richmond upon Thames, Sutton and Waltham Forest.

**Outer London Commission:** The Outer London Commission was established by the Mayor to explore how Outer London can better realise its economic potential, especially in town centres, as well as identify opportunity and intensification areas and industrial locations. Its membership includes representatives of business, the boroughs, the (property) development industry and the voluntary sector.

The Commission is tasked with identifying opportunities to enhance the 'quality of life' and encourage economic development. It will also examine the relationship between demographic, housing and economic growth and the transport improvements needed to facilitate this.

**Public Transport Accessibility Level (PTAL):** These are a measure of accessibility to the public transport network. For any given point in London they combine walk time to the network (stations, bus stops) with service wait time at these stops to give an overall accessibility index. This can be allocated to six accessibility levels with one being poor and six being excellent.

**Public Private Partnership (PPP):** A mechanism for using the private sector to deliver outcomes for the public sector, usually on the basis of a long-term funding agreement.

**Rail Vehicle Accessibility Regulations (RVAR):** Legislation created in 1998 which ensures that all new trains, trams and other track-based systems, are accessible to disabled people including wheelchair users.

**Reference case:** The situation that is projected to occur in a future year (analysis to date has focused on 2026) under existing policies. It is a baseline or 'default' position. The reference case underpinning the MTS Statement of Intent is based on the assumptions for population and employment set out in Further Alterations to the London Plan, published in February 2008, and the investment in the published TfL Business Plan and HLOS including:

- The investment in the TfL Business Plan up to 2017/18
- Completion of the full LU PPP line upgrade specification (including the Bakerloo line upgrade assumed to be in 2020)
- Crossrail
- HLOS improvements in 2009-14
- Removal of the Congestion Charging Western Extension Zone

**SCOOT:** An urban traffic control system which automatically optimises traffic signal settings based on traffic demand over a sequence of signalised junctions.

**Shared space:** An area of road where equal priority is given to vehicular and pedestrian traffic (taking into account the needs of disabled people)

**Sub-regions:** See London regions.

**Smarter travel:** Programmes of targeted measures to promote sustainable travel thus helping to reduce congestion and crowding and mitigate the environmental impacts of transport.

**‘Strategic Outer London development centres’:**

The areas outside central/Inner London which have been identified as having potential for intensification to support London’s future economic and population growth.

**TfL Road Network:** Described in the GLA Act 1999 as the Greater London Authority Road Network. The Mayor has decided to call this the Transport for London Road Network. It comprises 550km of London’s red routes and other important streets.

**Travel plans:** Plans promoting and providing guidance on sustainable transport options for a given location with the aim of promoting sustainable and environmentally friendly modes.

**Transport and Works Act:** Legislation created in 1992 regulating the construction and operation of railways, tramways and other guided transport schemes, and works which interfere with navigational rights.

**‘Way to Go! – Planning for Better Transport’:** This non-statutory publication, published in November 2008, sets out the Mayor of London’s vision for transport in the Capital.





## Other formats and languages

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### Chinese

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### Vietnamese

Nếu bạn muốn có văn bản tài liệu này bằng ngôn ngữ của mình, hãy liên hệ theo số điện thoại hoặc địa chỉ dưới đây.

### Greek

Αν θέλετε να αποκτήσετε αντίγραφο του παρόντος εγγράφου στη δική σας γλώσσα, παρακαλείστε να επικοινωνήσετε τηλεφωνικά στον αριθμό αυτό ή ταχυδρομικά στην παρακάτω διεύθυνση.

### Turkish

Bu belgenin kendi dilinizde hazırlanmış bir nüshasını edinmek için, lütfen aşağıdaki telefon numarasını arayınız veya adrese başvurunuz.

### Punjabi

ਜੇ ਤੁਹਾਨੂੰ ਇਸ ਦਸਤਾਵੇਜ਼ ਦੀ ਕਾਪੀ ਤੁਹਾਡੀ ਆਪਣੀ ਭਾਸ਼ਾ ਵਿਚ ਚਾਹੀਦੀ ਹੈ, ਤਾਂ ਹੇਠ ਲਿਖੇ ਨੰਬਰ 'ਤੇ ਫ਼ੋਨ ਕਰੋ ਜਾਂ ਹੇਠ ਲਿਖੇ ਪਤੇ 'ਤੇ ਰਾਬਤਾ ਕਰੋ:

### Hindi

यदि आप इस दस्तावेज की प्रति अपनी भाषा में चाहते हैं, तो कृपया निम्नलिखित नंबर पर फोन करें अथवा नीचे दिये गये पते पर संपर्क करें

### Bengali

আপনি যদি আপনার ভাষায় এই দলিলের প্রতিলিপি (কপি) চান, তা হলে নীচের ফোন নম্বরে বা ঠিকানায় অনুগ্রহ করে যোগাযোগ করুন।

### Urdu

اگر آپ اس دستاویز کی نقل اپنی زبان میں چاہتے ہیں، تو براہ کرم نیچے دیئے گئے نمبر پر فون کریں یا دیئے گئے پتے پر رابطہ کریں

### Arabic

إذا أردت نسخة من هذه الوثيقة بلغتك، يرجى الاتصال برقم الهاتف أو مراسلة العنوان أدناه

### Gujarati

જો તમને આ દસ્તાવેજની નકલ તમારી ભાષામાં જોઈતી હોય તો, કૃપા કરી આપેલ નંબર ૭૫૨ ફોન કરો અથવા નીચેના સરનામે સંપર્ક સાધો.

