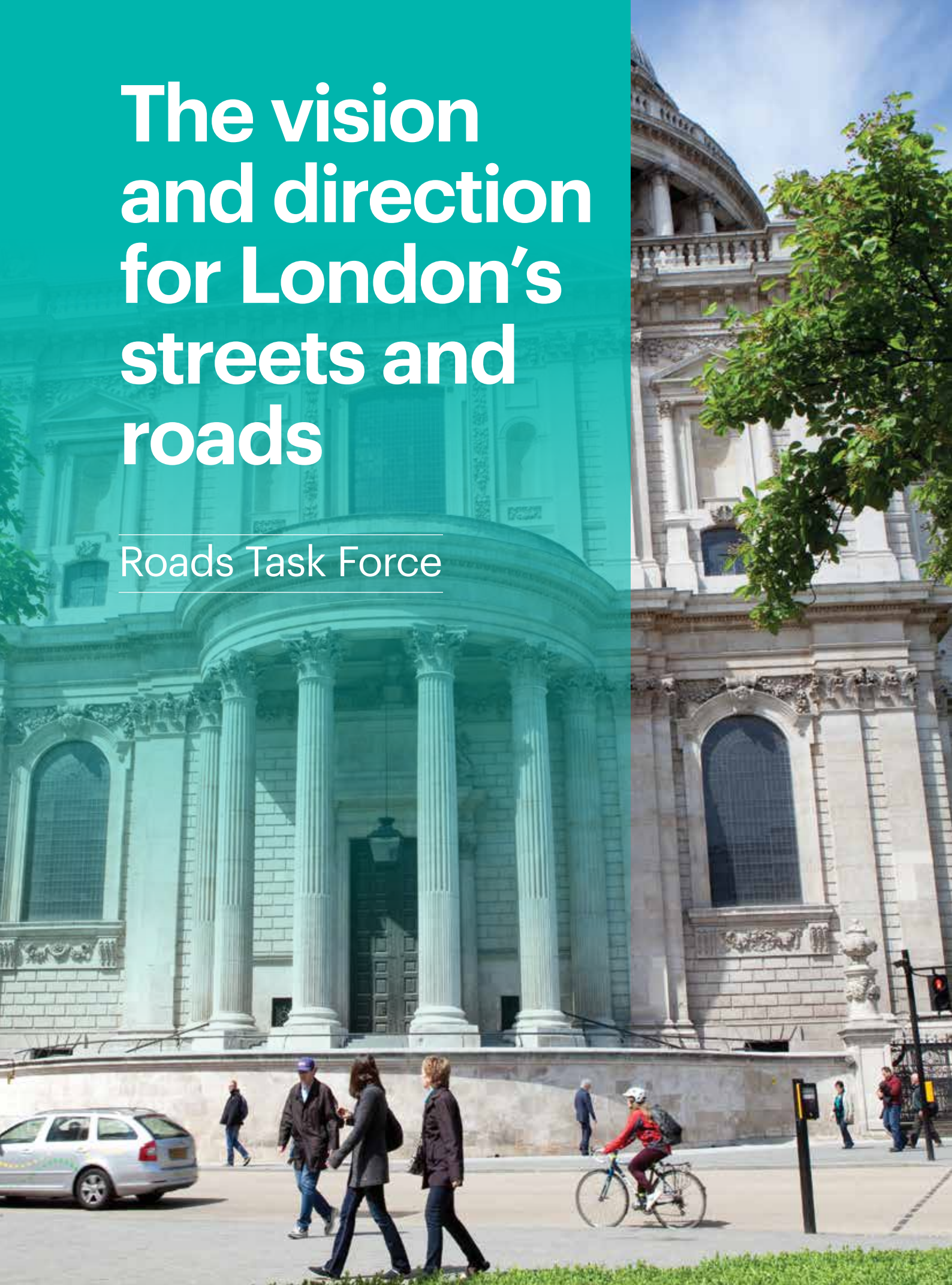


The vision and direction for London's streets and roads

Roads Task Force



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Roads Task Force Membership

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Isabel is Deputy Mayor for Transport. Prior to this she was the Mayor's Environment adviser. Isabel is a qualified lawyer and has worked across a range of regulated industries.

Steve Agg, Chartered Institute of Logistics & Transport (CILT)

Steve is Chief Executive Officer of CILT(UK), the national council of the global CILT. With a presence in more than 30 countries across the world, CILT International's network of members and contacts enables the sharing of worldwide expertise across all areas of logistics and transport.

Tony Armstrong, Living Streets

Living Streets is the UK charity for pedestrians. It works to create safe, attractive, enjoyable streets where it is great to walk. Appointed Chief Executive in March 2008, Tony was formerly Head of the Cross-Government Obesity Unit at the Department of Health, and a Policy Adviser at the Office of the Deputy Prime Minister, where he worked mainly on urban renewal.

Steve Bagge, IBM

Steve is a business development executive for IBM where he has worked for 16 years across a range of technical, business consulting and sales roles, giving him a broad knowledge of industry solutions. He is now the IBM Client Executive for the Greater London Authority, (GLA), Transport for London (TfL) and Crossrail with a specific focus on intelligent transport and smarter city technologies.

German Dector-Vega, Sustrans

German is the London Director of Sustrans. He is an expert on sustainable transport and transport strategy. German pioneered and planned the Barclays Cycle Hire scheme, introduced Trixi mirrors in London and delivered the first Barclays Cycle Superhighways. He has also worked on major projects, for example the redevelopment of King's Cross station and the Tube improvement programme.

Professor Peter Jones, University College London (UCL)

Peter is Professor of Transport and Sustainable Development in the Centre for Transport Studies at UCL. His research covers transport policy making, travel behaviour and public attitudes, new methods of data collection and analysis, and new approaches to street planning and design. He is currently advising the Chinese Government on how to address traffic problems in China's major cities.

David Leam, London First

David is Executive Director for Infrastructure Policy for London First, a business membership organisation with the mission to make London the best city in the world in which to do business. David is a former special adviser at the Department for Transport (DfT).

David Leibling, London TravelWatch

David is former vice-chair of London TravelWatch, the independent watchdog for transport users in London. Its aim is to speak for all passengers on all modes and to ensure the best journey experience possible for everyone. David was also the creator of the RAC Report on Motoring in 1989 and has been involved with it every year since.

**Nick Lester,
London Councils**

Nick is Corporate Director of Services for London Councils, a think-tank and lobbying organisation that promotes the interests of London's 33 councils. It also runs a number of pan-London services.

Dr Leon Mannings, Motorcycle Action Group (MAG UK)

Leon is a transport policy consultant and columnist. He is an adviser for various organisations including MAG and writes for several publications. His PhD from the University of London focused on 'An Analysis of Shifts in UK Transport Policy: From Accommodation to Constraint'. He was chairman of the British Motorcyclists Federation until 2005, and worked on Local Transport Today's editorial team until 2008.

Dr Alice Maynard, Independent Disability Advisory Group

Alice founded Future Inclusion, a consultancy working with public, private and third-sector clients, having previously been Head of Disability Strategy for Network Rail. Her doctorate is in transport economics, demonstrating a more inclusive approach to transport appraisal. She is an experienced third sector non-executive director and the current Chair of TfL's Independent Disability Advisory Group.

**Miles Price,
British Land**

Miles is a Director at British Land which owns and manages a portfolio of commercial property worth £16.4bn. British Land is a real estate investment company that create value by actively managing, financing and developing property. In London, British Land has more than £1.2bn of capital committed to developments.

David Quarmby CBE, RAC Foundation

David is Chairman of the RAC Foundation, which represents the interests of the responsible road user. David has been a director of consultants Colin Buchanan, a director of Abellio (international subsidiary of Netherland Railways), a board member of TfL, deputy chairman of the Strategic Rail Authority, and chairman of the Docklands Light Railway (DLR). He was also a board director for logistics at Sainsbury's then joint managing director.

**Iain Simmons,
City of London**

Iain is the Assistant Director responsible for transportation for the City of London. He has worked at all levels of government within London for more than 30 years. He currently chairs the London Technical Advisors Group's Transportation sub-group.

Danny Williams, Blogger, Cyclists in the City

Danny has lived for more than eight years in the Capital and works in the City of London. He writes a blog entitled Cyclists in the City where he talks about his perspective on transport policies and the politicians who influence them.

Other members of the Roads Task Force

These members contributed during the process, but were not involved all the way through:

Martin Brown

Former Director of London Region Operations, DHL Express

Patrick Clarke

Director of Network Operations at UK Power Networks

Robert Gifford

Former Executive Director, Parliamentary Advisory Council for Transport Safety (PACTS)

Edmund King

President of the Automobile Association (AA)

Jon Rouse

Former Chief Executive London Borough of Croydon

A representative of the London Cycling Campaign

Support from the GLA and TfL

The RTF was supported in its work by officers from the GLA and TfL, led by the following:

Michèle Dix

Managing Director of Planning, TfL

Leon Daniels

Managing Director for Surface Transport, TfL

Ben Plowden

Director of Surface Planning, TfL

Garrett Emmerson

Chief Operating Officer of Streets, TfL

The secretariat which has ably assisted the RTF throughout the process comprises:

Lucinda Turner, Mike Keegan, Erica Walker and Edward Rhys-Thomas

Preface

The establishment of the RTF was a Mayoral manifesto commitment. It was set up in 2012 by the Mayor to consider the challenges facing London's roads now and in the future. It is an independent group with a wide range of different interests and expertise. The RTF has worked closely with, and been supported by, a TfL team which has undertaken research, analysis and high level assessment of potential scenarios, as well as offering its perspective and experience.

During the past year, TfL has organised a series of major RTF events, smaller workshops and a range of one-to-one meetings to engage as widely as possible with stakeholder groups. This coming together of different interests throughout the process has been extremely valuable.

The views expressed in this report are collectively those of the RTF and reflect the conclusions made to date following this programme of work and engagement. Although there are some differences of view on certain details, there is broad agreement on the overall strategy.

Over the next 20 years, London's growth is expected to be equivalent to absorbing the population of both Birmingham and Leeds².

What unites the Mayor and the RTF is a common belief that London's roads and streets – which carry 80 per cent of people's trips, 90 per cent of freight in London and account for 80 per cent of its public space¹ – deserve a long-term strategy, commitment to investment and increased ambition in how they are planned, managed and developed.

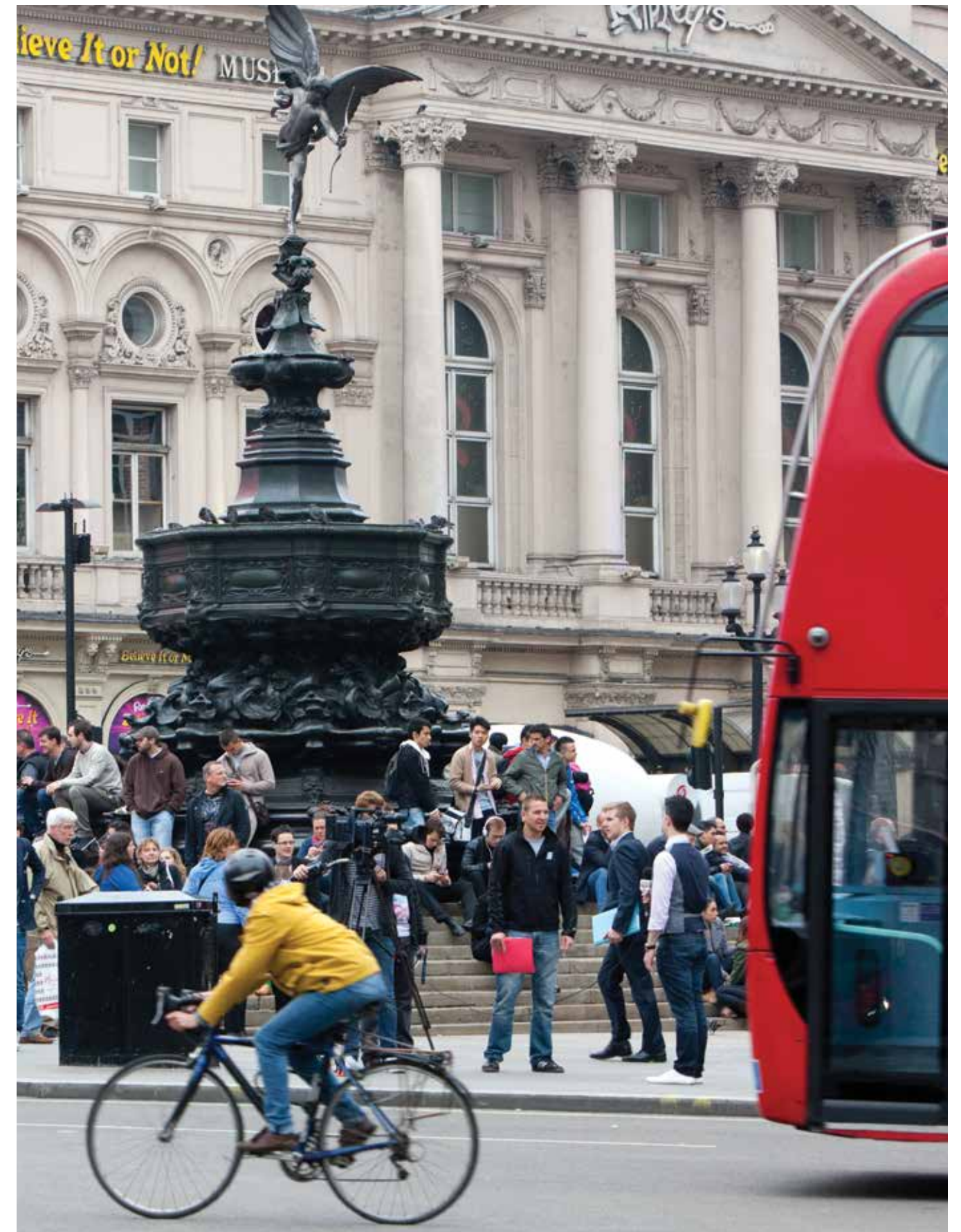
The aim is to tackle road congestion, and also to ensure London's streets and roads provide better and safer places for all the activities that go on there, along with transformed conditions for walking and cycling.

Offering both world-class places and efficient and effective transport networks is vital to support London's continuing success as a vibrant and internationally competitive city.

The Mayor's 2020 Vision sets out his overall ambition for London. This report is a signal of the same serious ambition for the city's roads and streets that goes along with the vision for London to be the greatest city on earth, and how this can be delivered.

¹ Commission for Architecture and the Built Environment (CABE)

² ONS Census 2011 and GLA population projections



The Mayor's Transport Strategy (MTS) also provides a framework for this report. The report will see an increase of 70 per cent in morning peak rail capacity, helping to underpin London's growth. More now must be done to deliver the world-class streets and roads that London also needs.

A range of schemes in recent years has delivered improvements (streetscape, safety, cycling, congestion busting) in different parts of the Capital, but the scale of the challenges means many problems on London's roads and streets remain unaddressed.

A clear, shared vision of the aims, both overall and in different locations, is needed. It must be accompanied by an even more ambitious trajectory for delivery with further and accelerated action.

The RTF sets out a vision for how London's roads and streets should be planned, managed and developed in the short, medium and long term. This vision and the approach that underpins it recognises three core priorities – to enable people and vehicles to move more efficiently on London's roads, to transform the environment for walking, cycling and public transport, and to improve the public realm and quality of life on our streets.

This provides the context within which choices will need to be made at the local all the way up to the strategic level. One of the biggest

challenges for TfL and the boroughs is to balance the many different demands and to support the many different functions of London's streets – and to set priorities road by road, street by street, with a rationale that can be understood and explained.

This report is intended to help provide a more structured framework for interventions. Win-wins are the aim, but it will also help to make trade-offs where necessary, and to recognise the need to mitigate impacts for others as far as possible within this. It is important that people understand the constraints as well as the opportunities. The sense of a shared city is vital for London as it continues to grow and diversify.

The RTF is proposing a family of 'street-types', recognising the diversity of function and purpose across London's roads and streets. The RTF expects that plans and schemes which come forward should reflect this 'street-types' approach.

At the same time, the RTF has concluded that if the full aspirations for different streets and places, and for increased use of more sustainable modes of travel, are to be achieved without undermining the ability to get around the city efficiently, this will require the application of more strategic interventions – including both managing demand and investing in improved/new infrastructure.

The RTF has looked at what other cities around the world are doing.

There is a clear trend of an ambition to become more people-oriented and greener, and to reduce the impact of motorised traffic to boost cities' attraction as places to live and invest. Alongside this, many of them are also delivering 21st century road infrastructure – using emerging technologies and smart systems to get the most out of their road networks – thereby continuing to ensure that people and goods can move around the city efficiently and safely.

The RTF believes many of the concepts and ideas from other cities that are highlighted in this report are transferable to the London context, although solutions for London must be carefully designed to recognise the particular features of our city.

There are also many world-leading schemes and ideas within London itself that should be celebrated and rolled out.

The RTF has made many suggestions for ideas to trial and to make more imaginative and flexible use of existing space, not only to help deliver direct benefits for road users but also to reinforce the perception of London as an innovative and dynamic place to be.

If this vision is adopted, there are elements which can be delivered quickly, facilitated by necessary changes to processes between TfL, the boroughs and third parties, while a number of feasibility studies will

be needed for some of the more strategic long-term interventions. As well as a commitment to the main principles outlined, delivering the vision will also require a commitment to a major investment programme in London's streets and roads over the long term – but no more a commitment than already exists to develop and upgrade the rail and Tube system.

Every Londoner, every business and every visitor is affected one way or another by what happens on the city's streets and roads. In exhorting the Mayor to promote this vision and to secure the means necessary to deliver it, the RTF also urges him to engage stakeholders and the public in debating the way forward, and to continue to provide the leadership and set the ambition that will ensure London remains one of the world's most attractive and competitive cities.

What unites the Mayor and all RTF members is a common belief that London's streets and roads deserve a long term strategy, commitment to investment and increased ambition.

The Roads Task Force vision: World-class streets, fit for the future





Key points

Chapter 1

London's continued economic success is vital to the UK economy.

The Capital needs world-class roads and streets, fit for the future to thrive in an increasingly competitive world economy.

Roads and streets must not only provide for the efficient and safe movement of people, goods and services, but must also provide great places which contribute to the look, feel and reputation of the city.

Different priorities will apply to different areas, reflecting their different characteristics. London's roads need to perform six broad actions.

Moving

- Efficient and reliable movement, supporting access for people and goods

Living

- Inclusive streets and neighbourhoods, vibrant town centres and world-class places

Unlocking

- Accessibility to growth areas and enhanced development potential

Functioning

- Essential access to frontages for loading and 21st century utilities

Protecting

- Safer and secure streets, particularly for vulnerable users

Sustaining

- Greener, cleaner, quieter streets and a healthier more active city

The aim must be to deliver better quality places across London and to transform conditions for more sustainable modes of transport while also ensuring that vehicles can still get about reliably and without too much delay. And, in doing so, promote a safer, more inclusive and cleaner, greener city.

This is ambitious. As London grows, the demands on our roads will also grow and continue to diversify.

While this will sometimes inevitably mean trade-offs, the RTF considers that clearer choices along with practicable mitigations are preferable to unsatisfactory compromises.

Even with the 70 per cent increase in peak public transport capacity envisaged by the MTS, congestion is still expected to worsen. More sustainable modes still need road space. The economic impact of congestion means that we cannot allow it to increase further.

If London is to respond successfully in a changing world environment, there must be a clearer vision and direction for the Capital's roads: ad hoc decision making on the way we plan, use and manage roads must end.

The need to maintain London's competitiveness

Cities are increasingly the focus for the future of global competition

Those cities that thrive will be the most sustainable overall, economically but also socially and environmentally. The UK as a whole depends on London continuing to succeed in the ever more competitive global economy.

The 600 largest cities in the world together generate around 60 per cent of global GDP³. McKinsey forecasts that London will be the only European city in the top 25 in the world in terms of GDP growth between 2007 and 2025. But this will depend on London responding effectively to the challenges it is facing.

London is the gateway to the UK for valuable flows of people, ideas and capital from overseas. The city's highly productive economy generates vital tax receipts and drives innovation and growth well beyond its boundaries. It is estimated that London generated a fiscal surplus of nearly £10bn in

'London is unique and a national asset of incalculable value. Every policy should encourage it on.'
Lord Heseltine

2011/12 alone and that this surplus will grow to more than £50bn in 2025/26⁴.

With the emerging economic might of China, India and other younger economies, more established economies must do everything in their power to remain competitive and enhance their offer. Those charting the world's economy point to technology levels, human capital and skills as factors which will make the difference between continued economic success and mid-table mediocrity.

London's traditional strengths in areas such as financial and business services, creative industries, higher education and tourism will remain important, but its economy needs to diversify, to develop new areas of strength and to drive innovation and increase resilience for the future.

The Capital must be able to attract the brightest and best to work in



a range of key knowledge sectors, both private and public, and must encourage businesses to decide London is the place to be. It is ever more important that London invests to maintain its premium city brand, radiating confidence around the world and ensuring its quality, efficiency and attractiveness.

London is facing a period of major growth which presents both great challenges and opportunities.

Every week, London is forecast to grow by more than 1,500 people and need around 800 new homes⁵.

³ A McKinsey Global Institute report, Urban world: Mapping the economic power of cities, March 2011

⁴ London's Finances and Revenues Report prepared for the City of London Corporation by Oxford Economics December 2012

⁵ GLA population projections

The city's population has been expanding far more quickly over the past decade than previously predicted and it is expected to reach never before seen levels – potentially climbing above its 1939 peak of 8.6 million people in only three years from now. By 2031, the population is expected to be around 10 million⁶. While there are opportunities for increasing homes and jobs in established areas, it is clear that major growth areas will need to be unlocked to accommodate large numbers of new homes and unleash the potential for new business sectors and jobs as part of dense, high-quality development in revitalised inner-city quarters and town centres.

The city is also becoming more diverse. There is an increasing birth rate and people are living longer. If London is to be truly successful, it needs to be a city for all. Families, young people, older people, disabled people and people of all incomes should be able to get about easily, enjoy a good quality of life, and have a city of which they are proud and in which they feel safe.

London must adapt to these changes and innovate. The effectiveness of the transport system – including the roads and streets – will be a key element in the city's ongoing success. The Capital needs world-class roads and streets, fit for the future, and must be planning today for the streets and technology of tomorrow. This is not a 'nice to have' – it is a fundamental requirement in a world city.

Supporting this scale of growth and competing in this changing environment will not be possible simply by doing what has been done before.

London's roads and streets need to be planned and managed in new ways to deliver benefits for businesses large and small, for people and communities across London, and for all kinds of users. The RTF believes that with the right local and strategic framework, the right interventions, better planning and delivery processes and the right level of investment, London's road network and streets can, and must, be brought into the 21st century.

⁶ GLA population projections



World-class roads and streets to support a dynamic and diverse city

A vibrant and economically successful city requires the movement of people, goods and services

Shops and businesses need to have products delivered, waste removed and their buildings serviced; people want to receive parcels, post and home deliveries and to get to work and visit friends. London needs roads that work efficiently to move people and goods.

80 per cent of all trips by people and 90 per cent of all goods moved in London every day are on roads.

The type of movement that roads support is also important – particularly as the population grows, environmental challenges increase, and lifestyles and aspirations change.

If London is to cope with the scale of growth forecast, streets must facilitate walking and cycling and highly efficient modes such as buses. London therefore needs streets that better support more sustainable travel.

Cycles now account for nearly 25 per cent of vehicular traffic in the morning peak in central London.

But roads are not just about moving – they also play a major role in determining the quality of life, health and wellbeing of people in London and in unlocking the homes and jobs that the city needs as it grows. The streets are public places and a focus for the city's economic, cultural and social activity.

Streets account for 80 per cent of London's public space.

This is an increasing factor in the attractiveness of cities as places to invest, live and work. London therefore also needs streets and



places that are world-class. All these factors are important to the competitiveness of London.

London must offer inspiring places, exciting inner city quarters, attractive neighbourhoods and vibrant town centres which provide a base for successful thriving businesses as well as acting as a magnet for increasingly mobile employees and visitors who have ever more destinations to choose from. And the city must offer a great home and a range of opportunities

for all its residents as they grow up, have families and grow older. The quality of London's roads and streets is an inextricable part of this (see Figures 1a, 1b and 1c).

The following section looks at the RTF's aspirations across different parts of London. The levels of public transport access, density of services, lifestyle choices and land use distribution paint very different pictures and present potentially very different opportunities and constraints.

Figure 1a: Vision for London



Figure 1b: The vision illustrated



A world-class city centre: Central Activities Zone

Aspiration: To support the unique international, national and London-wide roles of the dynamic heart of the city, ensuring an enhanced reputation as a place to do business, work, visit and live, and providing the right commercial districts for the next generation of businesses.

In terms of roads and streets, this means:

- A world-class public realm and a great environment for walking and cycling
- Continued access for goods, services and visitors coming into central London
- Re-imagined iconic streets and places, for example London Bridge, Waterloo, Victoria, Oxford Street and King's Cross
- Ultra-low emissions environment and vehicles
- Efficient movement within the centre, for example for people arriving at stations or going about their working day



A dense, vibrant inner London

Aspiration: To support vibrant high streets, provide a safe, attractive and healthy home for young people, families and older people, and enhance the attractions of inner-city living through high-quality environment, design and public spaces to successfully accommodate a 20 per cent increase in homes.

In terms of roads and streets, this means:

- A more efficient allocation of space to support increasing density
- Attractive, accessible and bustling high streets
- Car-lite neighbourhoods and increased levels of cycling and walking
- High-quality bus services and efficient access for goods and services
- High-quality public realm and a safe, clean, green environment



A network of diverse, accessible and safe neighbourhoods across Outer London

Aspiration: To maintain and enhance a high quality of life and attractive places to live, work and raise families. This is one of London's strongest assets and key to its future success. There must be efficient access to jobs and services and recognition of the diversity of the area, from leafy, residential suburbs of 'Metroland' to industrial suburbs.

In terms of roads and streets, this means:

- Improved journey time reliability/ reduced congestion hot spots for drivers
- Enforcement where it matters most (for example, for congestion and safety)
- High-quality bus services
- Safer, greener streets
- Mitigating noise, air quality and severance issues
- Measures to support walking and cycling
- Efficient access for goods and services



Breathing life back into town centres across London

Aspiration: To support successful town centres (of all sizes, from metropolitan and major to district and local) across Inner and Outer London to serve as growing residential locations and economic, social and community centres, helping ensure a diverse range of employment and services accessible to all.

In terms of roads and streets, this means:

- More effective land use and transport integration, enabling intensification of use (including residential)
- High levels of accessibility by a mix of modes – reflecting the diversity of centres between and within Inner and Outer London, with the car important in many Outer London centres
- Increased walking and cycling
- Improved quality of the street environment and management of the strategic traffic that runs through town centres
- Efficient access for goods, services and buses
- Good quality parking – balance of car, cycle, Blue Badge and powered two-wheeler to reflect existing/ potential characteristics



Unlocking major growth and regeneration across London

Aspiration: To help London adapt and thrive in the future by supporting major development and higher density redevelopment. Especially in opportunity and intensification areas, to provide homes and jobs and to revitalise and re-imagine key parts of the city and create new sustainable destinations and communities.

Regeneration in east London

Aspiration: To transform previously industrial/derelict land into accessible and sustainable communities, for example London Riverside and Queen Elizabeth Olympic Park, and promote social and economic convergence with other parts of London. This will enable east London to accommodate around 40 per cent of the Capital's growth.

In terms of roads and streets, this means:

- Provision of public transport access to major new developments
- Enhanced road links to connect areas, for example river crossings
- Reduced congestion hot spots
- Improved corridors like the A12 and A13 and mitigation of community impacts (for example, noise, air quality and severance)
- Efficient access for goods and services
- Transforming the quality of the environment



Right: Artist's impression of the Queen Elizabeth Olympic Park

Iconic new inner-city quarters

Aspiration: To create and shape new city quarters which extend the economic reach of the productive central core and support dense, high-quality development, and inner-city lifestyles. This will establish new city destinations, for example Elephant & Castle, Vauxhall Nine Elms Battersea, King's Cross and Old Street with an inspiring urban realm.

In terms of roads and streets, this means:

- Transforming the quality of place, and quality and nature of the road infrastructure, while protecting essential movement of people
- Efficient access for goods and services
- Innovative and high-quality design
- Ambitious levels of walking and cycling
- Car-lite development

Below: Artist's impression of redevelopment at London Bridge



High-quality growth hubs in different parts of London

Aspiration: To support new and enhanced centres of growth across Outer London to help unlock new homes and jobs, and provide a wide range of services for a rapidly growing city and support increased intensity of residential development, for example Croydon, Old Oak Common, Brent Cross (below).

In terms of roads and streets, this means:

- Improved public transport access and road links to support development
- Enhanced public realm
- Efficient access for goods and services
- Embedding walking and cycling infrastructure
- Appropriate car parking reflecting local characteristics, public transport accessibility levels and mode share aspirations



Supporting diverse employment and businesses across London

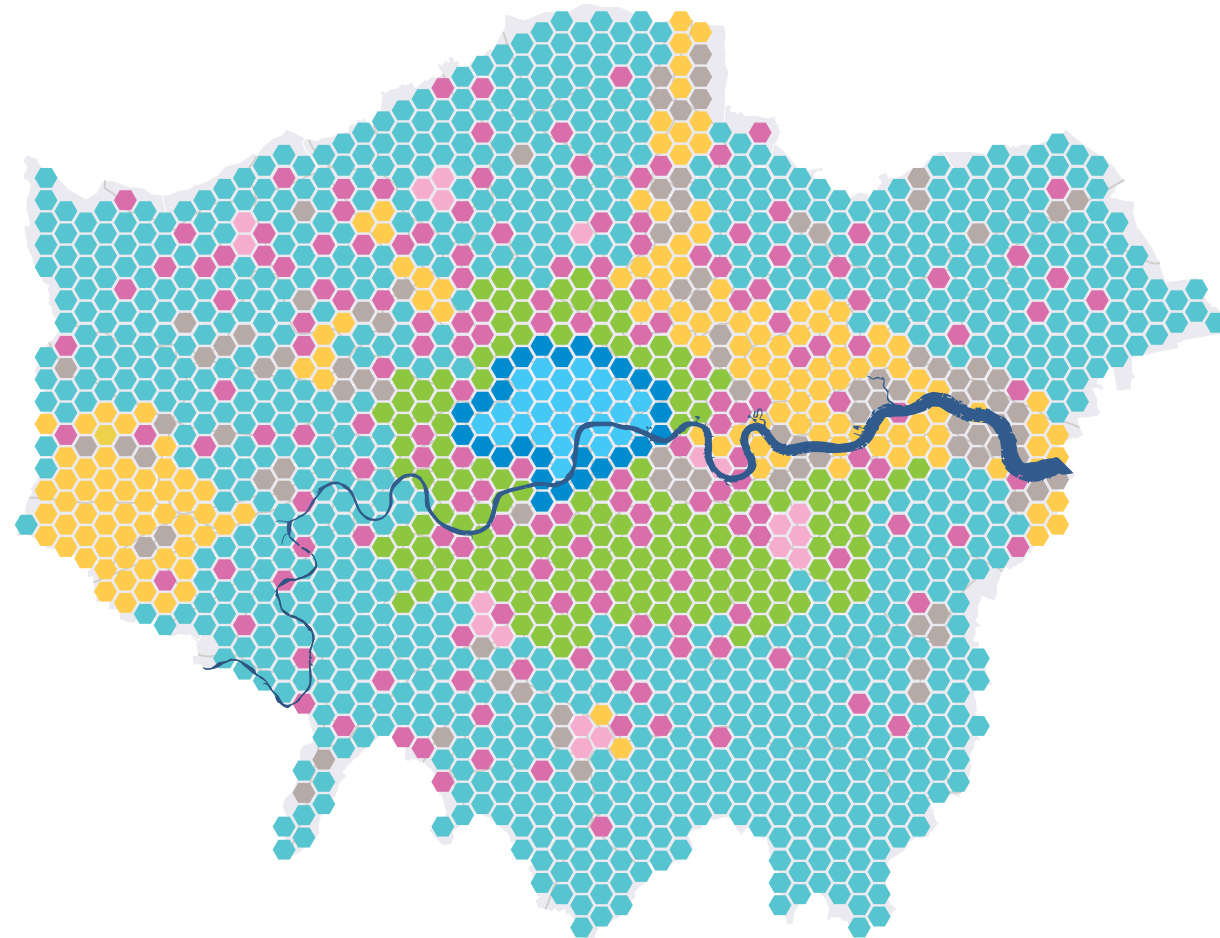
Aspiration: To support successful centres of employment and businesses across Inner and Outer London where the majority of Londoners work. To ensure a diverse economy, accessible jobs and support strategic industrial locations, including for general and light industrial uses, waste management, logistics and environment industries.

In terms of roads and streets, this means:

- Good local connectivity and accessibility to the local workforce – by road and public transport

- Efficient road links/junctions and access to the strategic road network to support business travel needs, for example tradesmen and small businesses reliant on vans, and access to suppliers and markets
- Appropriate parking (car, cycle, powered two-wheeler) for employees and customers, reflecting local characteristics, public transport accessibility levels and the nature of employment, for example shift work
- Loading/unloading provision
- Development of consolidation centres and freight break bulk points

Figure 1c: The vision applied spatially



Key

- A world-class city centre
- A dense, vibrant Inner London
- A network of diverse, accessible and safe neighbourhoods across Outer London
- Breathing life back into town centres across London
- Unlocking major growth and regeneration across London
- Iconic new inner-city quarters
- High quality growth hubs in different parts of London
- Supporting diverse employment and businesses across London

Roads need to fulfil different functions

It has been said that 95 per cent of problem solving is properly defining the problem. As London enters this new era of change and growth, it is vital that its road network and streets are fit for purpose and perform (better) across a number of functions, defined as:

Moving:

Helping people, goods and services get from A to B, providing for efficient and reliable movement by different modes, supporting access to jobs and services

Living:

Providing good and inclusive places for all which support vital activity – economic, cultural and community. Bustling high streets, successful neighbourhoods, thriving town centres and world-class destinations

Unlocking:

Increasing accessibility, connectivity and urban quality of growth areas to unlock development potential and deliver the homes, jobs and new economic sectors that London needs as it grows

Functioning:

Ensuring essential access to premises for deliveries and servicing, effective use of kerb space to support activities in town centres and upgrading utilities under the roads to serve London's growing needs

Protecting:

Improving safety and reducing collisions, particularly for vulnerable users and ensuring streets are places where people feel secure

Sustaining:

Reducing emissions from the road network and delivering greener, cleaner, quieter streets and a healthier, more active city

The context for this is challenging. London's growth and increasingly diverse population will exacerbate the demands and conflicts on the road network.

Even with the policies in the MTS, a deterioration in reliability and congestion is forecast⁷. This must be tackled at the same time as unlocking extra homes, delivering better places, and improving safety and the environment.

⁷ MTS, 2010



There are also new opportunities to seize, for example technological advances in signalling and dynamic traffic management, which should help squeeze more out of the road network than ever before.

Crucially, the same roads can perform different functions at different times of the day or day

of the week. There must be a focus on maximising the opportunities for more flexible use of streets, and making the most of the potential space available.

This section explores each of the functions in terms of why they matter, the challenges involved and the related outcomes that the RTF wants to achieve.



Moving

People need to access jobs, services, education, friends and family, and the wide range of activities on offer across the city, while businesses need to access customers, supplies and skilled labour to compete and grow.



Access can be provided by proximity and, increasingly, it can be virtual as we change the way we interact with businesses, public services and friends – but movement continues to play a fundamental role.



Each day in London the road network caters for nearly 10 million car trips, more than four million bus trips, more than six million walking trips, 500,000 cycle trips, 200,000 powered two-wheeler trips and 300,000 taxi or minicab trips.

The value of freight moved each year on London's roads is £200bn.

The modes used for travel vary significantly in different areas of London. Car is a major mode of travel in Outer London, while public transport journeys dominate for radial journeys to and from central and Inner London.

As Figure 2 shows, of trips within Outer London, about half are taken by car. (For journeys between outer boroughs and outside London, around 80 per cent are by car.) In contrast, car accounts for only 10 per cent of trips within, to or from central London.

More than 70 per cent of small businesses say they depend on their car/van to operate their business⁸. Of all motorised vehicle kilometres on London's roads, 13 per cent are by light vans with three per cent by 'other goods vehicles'⁹, and of all person kilometres by car on London's roads, 30 per cent are to/from work and 13 per cent in the course of work.

Research has highlighted that the wholesale and distribution sector, for example, viewed 'fast access to the motorway' and 'good local site access' as important features for their business operations¹⁰.

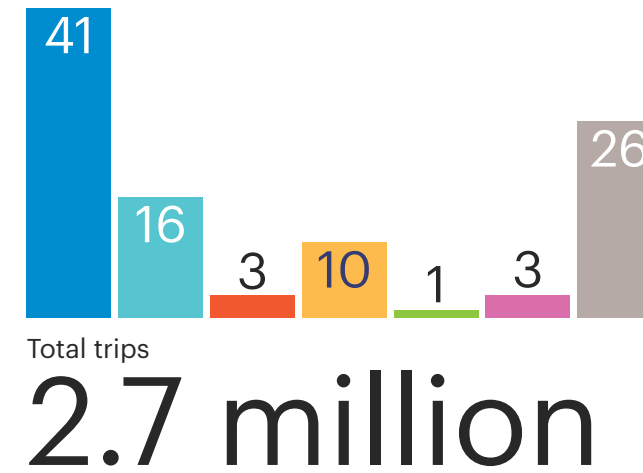
More than 80 per cent of UK firms see the quality and reliability of transport as a significant consideration in investment decisions, however around two thirds of companies report a decline in the standard of local road networks, with congestion and lack of investment cited as the main concerns¹¹.

Congestion and poor journey time reliability is caused primarily by an excess of demand for road space – whether for moving, functioning or living, compared with that available.

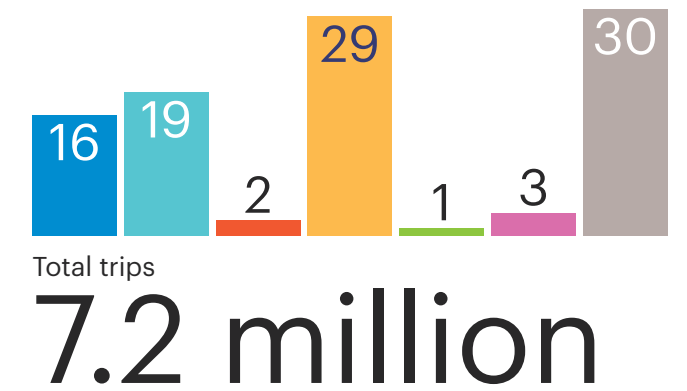
⁸ FSB, Small Business and Infrastructure: Transport 2011
⁹ DfT Road Traffic Estimates, 2011
¹⁰ GVA Grimley/URS, London Business Surveys, 2010
¹¹ CBI/KPMG Infrastructure Survey 2012

Figure 2: Mode share and volume of trips made by London residents
Percentage of average daily trips in the three-year period 2007/08 to 2009/10

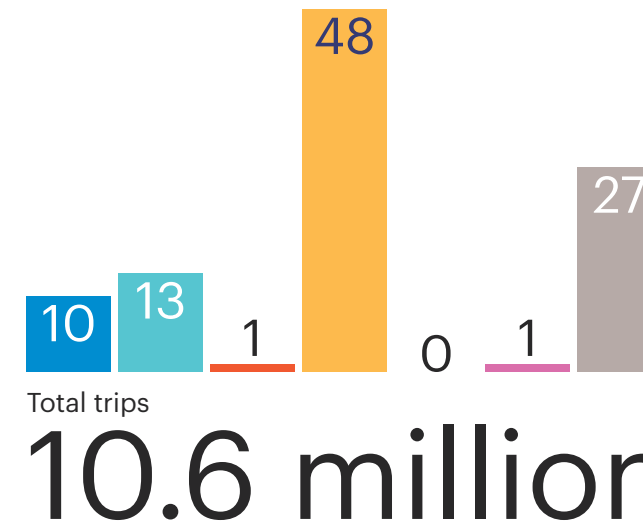
Within/to/from Central



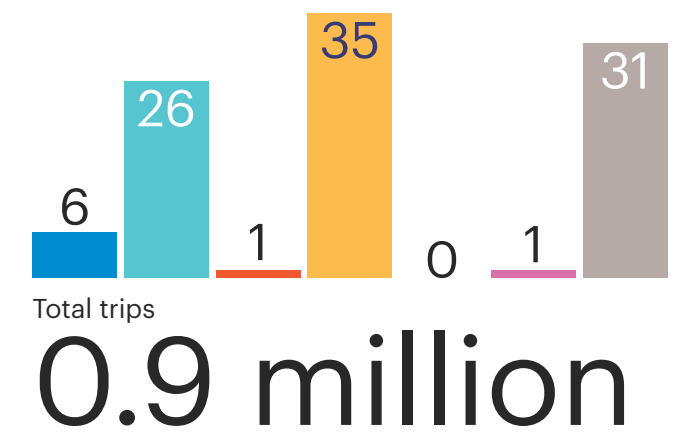
Within/to/from Inner



Within/to/from Outer (including Metropolitan Centres)



To/from/Outer London Metropolitan Town Centres



Key
■ Rail/LU/DLR ■ Taxi ■ Motorcycle ■ Walk
■ Bus/tram ■ Car driver/passenger ■ Cycle

Already there are significant levels of congestion in many areas which reduces productivity for London businesses and impacts on Londoners' access to opportunities and quality of life.

It is estimated that London's road congestion costs the economy £4bn per year, with an average cost of around £17 per hour delay to a vehicle in London¹². Nearly two thirds of these costs accrue from delays in Outer London.

15 per cent of the UK's total traffic congestion is on less than 0.5 per cent of the country's roads in London.



The success of London depends on the movement of goods and services as well as people.

Growth in London will unquestionably lead to increased need for freight movement. The needs are far from homogenous.

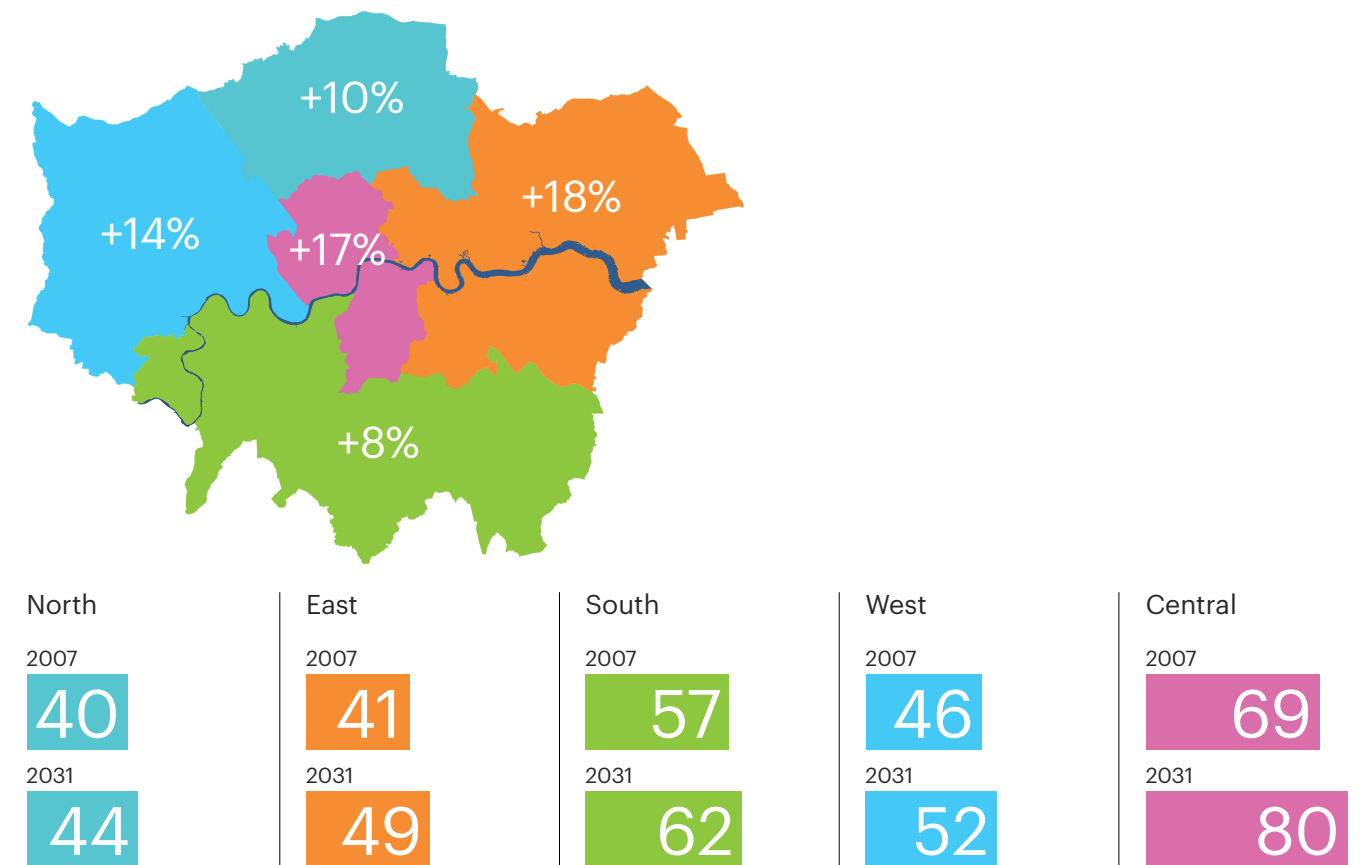
For example, construction sites across London rely on detailed logistic plans for the delivery of materials when they are needed. Even short delays due to traffic congestion can have significant knock-on impacts.

London's supermarkets receive a large number of deliveries across

the day to ensure fresh products are always on the shelves. Behind those supermarkets are distribution centres.

Meanwhile, London's 800,000 small and medium-sized enterprises (SMEs) depend on goods being delivered at convenient times. These businesses also need servicing to function while many operate their own vans.

Figure 3: Indicative increase in delay per kilometre travelled by motorised traffic*
Seconds delay per km



* Forecast by TfL's strategic models based on committed transport investment and forecast growth to 2031

Congestion levels are currently highest in central and south London and forecast to rise further across all regions. Figure 3 shows current and forecast increases in morning peak congestion, over the next 10-20 years.

Unless congestion is tackled where most needed, London's businesses will face rising costs and reduced productivity, and bus passengers, drivers and freight will all face increasing delays.

Journey time reliability is also an important aim – people and businesses need to plan their journeys and have confidence

in how long they will take. This is particularly important for business travel, where 'time is money'. Reliability is largely a function of congestion but is also affected by the number of events and incidents that occur on the road network.

The forecast increase in congestion will cost the London economy around £1bn more a year.

¹² RNPR/Traffic Note 4: Total vehicle delay for London 2008/09 TfL (January 2010)

Each year there are around 2,000 serious and severe disruption hours across the road network arising from planned and unplanned events such as roadworks¹³.

Almost all of us walk as part of our daily journeys. The world's great cities are attractive and safe for walking. There has been a clear recognition of the many benefits – for congestion, health, quality of life and economic vitality – associated with walking-friendly cities.

The needs of pedestrians must feature strongly in what we do with London's roads and streets.

Roads need to enable all Londoners to get around more easily, with well-

Walking in London generates around £2.5bn in health benefits each year.

designed crossings, footways, kerbs, lighting, seating and signage. This applies in areas with high walking rates such as central London, but equally in Outer London town centres.

Pedestrians experience congestion and delay due to delays in crossing roads and where footways have insufficient capacity to cater for the volumes of people using them. It is estimated that reducing the time taken for each walking trip in the city by one minute would have economic benefits of around £350m per year¹⁴.

Small businesses can lose around £13,600 each year from the poor condition of roads¹⁵.



Footways have suffered from inadequate maintenance and renewal. It is estimated that eight per cent of footways on the Transport for London Road Network (TLRN) require structural maintenance¹⁶.

Measures should be taken to improve conditions for pedestrians and increase the proportion of trips made by foot. Increasing the mode share of walking would account for a significant number of the additional trips forecast to be made.

As London grows, the extra trips must be accommodated as efficiently and sustainably as possible.

Buses are particularly efficient in terms of people movement – carrying around 28 per cent of all person-trips by vehicles on London's road network, while comprising approximately two per cent of vehicular traffic on major roads (see Figure 4).

Londoners on average spend 17.7 minutes per day travelling on foot.

London's buses now carry around 2.3 billion passengers a year – 60 per cent above 2000 levels. They are also an accessible form of transport, with relatively low fares, ramps and more than 95 per cent of Londoners living within 400 metres of a bus stop.

¹³ TfL Streets performance report, Q2, 2012/13

¹⁴ TfL estimate

¹⁵ Estimates from research conducted by YouGov among local authority highway engineers for the Asphalt Industry Alliance: The Economic Impact of Local Road Condition, March 2010

¹⁶ TfL Surface Transport – Key Performance Indicators 2010/11 to 2012/13

However, as London grows, bus journey times and reliability will be threatened by increasing pressure on road space from other road users. Given the important role of buses in moving large numbers of people, it is essential that bus reliability and journey times are at least maintained as London grows.

In one week in 2013, 49.5 million journeys were made on London's bus network – around half the total number of bus journeys in England.

Cycling is also an efficient mode and there are increasing numbers of people getting on their bike to travel around London. The Mayor has launched his Vision for Cycling with an aim to transform the environment for cycling in London and make it a mass mode of transport¹⁷.

Approximately 10 per cent of all trips to work in the City of London are made by bike and it is an increasing factor in the perceived quality of London for certain types of business and employees. In Hackney, more people now cycle than drive to work¹⁸.

Major employers like IBM, GSK, BSKyB, Ernst & Young and groups of businesses and landowners in particular areas, are directly investing in cycling infrastructure, recognising its value and importance to their businesses, tenants and employees.

Measures should be taken to significantly improve conditions for cyclists and increase the proportion of trips made by bike.

In many places, particularly in Outer London where the highest proportion of daily journeys takes place, car travel continues to play an important role in access for people. Almost 70 per cent of households in Outer London own a car, compared to around 40 per cent of Inner London households¹⁹.

It is clear that car use will continue to provide an important means of access for people, especially for certain trips or in parts of London where public transport doesn't adequately support the necessary movements. It is therefore important to ensure that London drivers do not face ever-increasing delays and frustration.

Cars offer freedom of movement in 'any' direction. They are faster where public transport provision is relatively sparse (Outer London for example) and for journeys that are not as directly served by public transport networks (such as orbital trips).

Cyclists take one less sick day per year than non-cyclists, estimated to save UK business £128m per year and potentially £2bn over the next ten years²⁰.

They also offer flexible timing, feelings of personal security, and benefits if carrying large items or families.

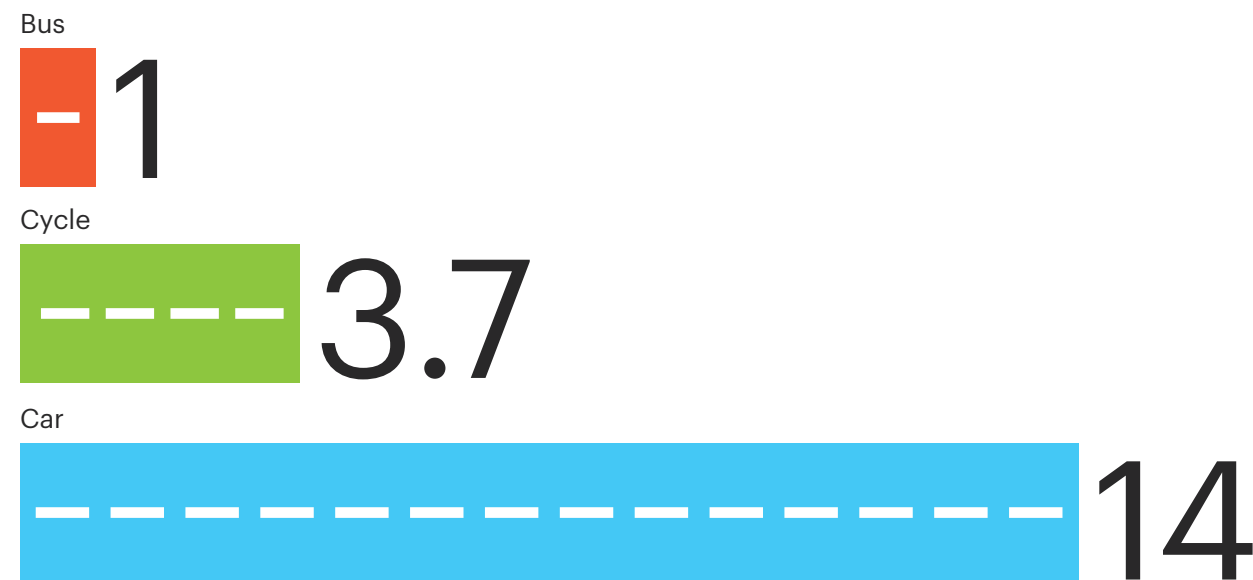
This inevitably shapes choices, but the situation is not static. In some parts of Outer London as well as other areas of London, there are emerging aspirations for more radical change with increased levels of walking, cycling and other alternatives to car travel.

Cycles and powered two-wheelers actually offer the same freedom of movement in terms of 'any direction' as a car, as does walking for shorter trips.

Meanwhile in new or transforming areas of London there may be more significant scope for change and an opportunity to embed different travel patterns as part of their planning and development.

Figure 4: Indicative average amount of road capacity required per person

Based on 2011 morning peak period, inbound central London cordon count and national transport modelling assumptions



¹⁷ The Mayor's Vision for Cycling in London – An Olympic Legacy for all Londoners March 2012

¹⁸ ONS, Census 2011

¹⁹ ONS, Census 2011

²⁰ The British Cycling Economy London School of Economics and Political Science on behalf of Sky 2011

As London grows it will be important to continue to promote mode shift from cars wherever possible and also potentially from crowded public transport services to walking and cycling (as with previous initiatives such as Walk the Tube).

The approach must promote and facilitate the use of more space-efficient and sustainable modes, while also ensuring that remaining car journeys are more reliable.

Currently, however, only 31 per cent of drivers in London actually feel that TfL cares about their needs²¹. In a recent RAC Foundation survey, 30 per cent of drivers interviewed found driving in London a 'negative' or 'very negative' experience, with vehicle congestion and delays due to signals or roadworks accounting for nearly 60 per cent of the significant downsides of using a car in London²².

The road network must also be developed in a way which better recognises the specific needs of certain groups of users.

London's emergency services respond by road to thousands of call-outs each day. The number of incidents attended by ambulances has increased by more than 20

per cent since 2005²³. Rapid response times are essential. Despite the use of lights and sirens, increasing congestion is a threat to maintaining response times.

Coaches and lorries need layover and overnight resting points. Buses and taxis need well-managed stands. Provision needs to be made for powered two-wheelers. Reflecting the nature of London's diverse economy, the specific requirements of all road users must be considered as we go forward.

The quality of the road network is important for all modes. Weak bridges mean diversions for buses and lorries. Potholes mean damaged suspension for car drivers and dangerous conditions for cyclists. Loose paving slabs can mean broken ankles or worse for pedestrians.

Inadequate investment in maintaining roads can cause unplanned disruption on a major scale. The closure of the Hammersmith Flyover in 2012 for emergency re-strengthening work caused widespread disruption across large areas of west London. Ten per cent of the TLRN now requires structural maintenance, which is the highest proportion since these records started in 2005/06.

Forty-four per cent of businesses in London said poorly maintained roads harmed their business productivity. Meanwhile 20 per cent of people say they are put off cycling because of the poor quality of roads.

There is a significant shortfall in the maintenance of London's roads²⁴, with individual boroughs estimating backlogs of more than £100m²⁵. The amount now being paid in compensation claims is estimated to cost London boroughs as a whole £6.3m every year²⁶.

A step change in the overall quality of the road network is needed to ensure the network operates efficiently and reliably, and better meets the needs of all users.

What the RTF wants to see achieved:

- A transformation in the quality of the road network, with assets in a state of good repair
- Improved journey time reliability on key corridors (and reasonable journey times)
- The network less congested than currently forecast
- Reliable bus services that are accessible for all
- An improved environment for walking and cycling
- Higher cycling (potentially beyond the Mayor's current target) and walking mode shares

²¹ TfL Reputation Tracker March 2013: this covers car drivers, passengers, taxi users, motorbike/scooter users
²² RAC Foundation London Drivers' Survey, May 2013 (online survey of 2,000 drivers resident in London)
²³ London Ambulance Service Annual Report 2012
²⁴ Asphalt Industry Alliance, The Economic Impact of Local Road Condition, October 2013
²⁵ London Councils 2013
²⁶ Asphalt Industry Alliance Annual Local Authority Road Maintenance (ALARM) Survey 2013



Living

Streets are not simply for getting around, they also shape a city and how people perceive it. The quality of London's streets and places affects businesses and the city's bottom line, and London's global standing.

World cities must meet expectations for a high-quality environment and 'city living' to help attract the brightest and the best mobile employees and foster new sectors to drive economic growth.

As the Mayor has recognised, one of the marks of a truly world-class city is having iconic, safe, attractive public spaces for people to enjoy, to rest, to gather, to relax and to soak up the city.

Great Queen Street, central London: £0.8m invested in urban realm improvements... £6.3m estimated return for retailers and property owners.

Half of all international visitors to the UK come to London²⁷. The area around Bond Street, Oxford Street and Regent Street alone attracts 200 million visitors and generates around £7.6bn annually²⁸ and the quality of the visitor experience is fundamental to its ongoing success.

People's health and wellbeing are positively influenced by space and community events²⁹.

Making our streets lively and fun (at night-time as well as during the day) not only provides enjoyment for people but delivers economic benefits – the Very Important Pedestrians (VIP) day in the West End for example, is estimated to generate an additional £50m spend³⁰.



Likewise, more widely across London, providing attractive and safe streets – from town centres and high streets to local residential roads – is important not just for people's quality of life but economically and culturally as well.

London's high streets are home to nearly 1.5 million jobs – more than half of all jobs outside the centre of the Capital³¹. And two-thirds of Londoners live within a five-minute walk of their local high street³². Once there, they are as likely to engage in social as in economic exchange.

London's centres need to be economically, commercially and culturally resilient. In an age of out-of-town and online shopping, London's town centres must radically reinvent themselves to remain relevant to their communities and tackle shop vacancy rates of up to 20 per

cent³³. They must change, from being primarily shopping destinations to dynamic and mixed centres for communities offering a range of retail, leisure, public services and housing, and this needs to be supported.

²⁷ Visit England Tourism Factsheet, May 2013
²⁸ Cited in West End Commission report 2013: Letter from the New West End Company, 2012
²⁹ TfL Urban Design: Valuing Urban Realm Research
³⁰ Oxford Street Press Release: American Express Shop West End VIP Weekend, 10/11 December 2011. During 'Very Important Pedestrian' (VIP) Day, Oxford Street and Regent Street are traffic-free to encourage more people to come to the area and shop
³¹ Gort Scott, UCL 2010
³² Gort Scott, UCL 2010
³³ London Assembly Planning Committee, The Future of London's Town Centres, May 2013

People value high-quality streets and specific factors such as cleanliness³⁴.

In Kingston, investment by the Business Improvement District in the town centre helped increase annual footfall by around 2.5 million and reduce violent crime by 38 per cent between 2005 and 2011³⁵.

As with 'moving', there are many challenges in ensuring that London's streets fulfil their 'living' functions, with the growing numbers of people placing ever more pressures on space and tensions between functions.

Investment in rail for example puts pressure on the streets around stations as more people spill out. In many parts of London, communities have been severed by major roads. And, some iconic destinations are let down by poor quality urban realm and the impacts of traffic.

Each 'unit' of improvement in quality of urban realm increases shop rental values by 1.22 per cent and the sale price of flats by 1.62 per cent³⁶.

Areas of London with large numbers of people who suffer a lack of access to economic opportunities are often those where the public realm has been neglected. Investment in the public realm may help restore confidence in such areas, helping establish a positive cycle and enabling people to participate more easily in local economies and communities.

Older and disabled people are currently most likely to be deterred by vehicle-dominated environments, crowded pavements, and perceived safety issues.

Making streets feel more welcoming and inclusive can support the independence of vulnerable (and growing) groups such as older people, helping increase their social interaction and community engagement.

Street design can reduce barriers to access for disabled people and provide spaces for children to play in. In turn, this can encourage community cohesion and greater inter-generational interaction.

For older people, good street design can also reduce reliance on care in the home and significantly improve quality of life³⁷. This could generate major physical and mental health treatment savings for the NHS.

³⁴ Valuing Urban Realm, TfL

³⁵ Kingston First

³⁶ Valuing Urban Realm, TfL

³⁷ Newton et al (2010) 'Increasing Independence for Older People Through Good Street Design', Journal of Integrated Care, Vol. 18 Iss: 3, pp 24-29



Schemes which improve the street layout, such as Kingsland High Street, Walworth Road and Barking town centre, and the creation of community and events spaces in Dalston, are good examples of how streets are being redesigned to increase their inclusivity and have transformative effects on communities. This shows what can be achieved, even with a relatively light touch.

The Mayor's Great Outdoors programme and regeneration fund have delivered significant benefits and improved the streetscape and sense of place in different parts of London. A range of other examples is

included in the new Better Streets report which accompanies this document. Many more schemes are required so more communities across London can benefit.

What the RTF wants to see achieved:

- Streets that are welcoming and accessible for everyone
- Revitalised/new city destinations serving large catchment areas
- Vibrant, accessible and inclusive town centres, high streets and local centres
- More active and flexible streets
- Reduced severance and increased cohesion of communities
- Places for children to play and focal points for communities to interact



Unlocking

As London grows it needs sufficient homes and jobs alongside new sectors to drive economic growth. It is now estimated that London needs more than 40,000 new homes every year³⁸.

There are huge challenges in increasing the supply and making homes more affordable. There are many potential opportunity areas across London that could deliver significant numbers of new homes and jobs (see Figure 5).

However the potential of many of these sites and specific development proposals are currently constrained or delayed because of the inability of the road network to cope, a lack of connectivity or the impacts of existing road layouts on 'place value'.

This must be tackled, alongside improvements to public transport, to unlock the full potential of different areas of the city.

Around the fringes of central London are areas with significant potential for densification and mixed-use development, for example

Vauxhall Nine Elms Battersea, Elephant & Castle and Tech City Old Street. These new city quarters will provide employment hubs and new destinations, helping expand London's core economic base (see Figure 6).

They will also intensify London's inner core and establish new, highly accessible and sustainable communities with high mode shares for public transport, walking and cycling – radically reversing the 20th century process of denuding the more central and accessible parts of the city of residents.

The current road layout and impacts of motorised traffic are seen as constraints – and there are increasing aspirations for change (as shown opposite in the visualisation of Vauxhall Nine Elms Battersea) in order to deliver a high quality environment and major improvements for walking and cycling.

However, many of these new city quarter sites are also on the Inner Ring Road which currently plays a vital strategic role for 'moving'.

³⁸ GLA London Plan Team

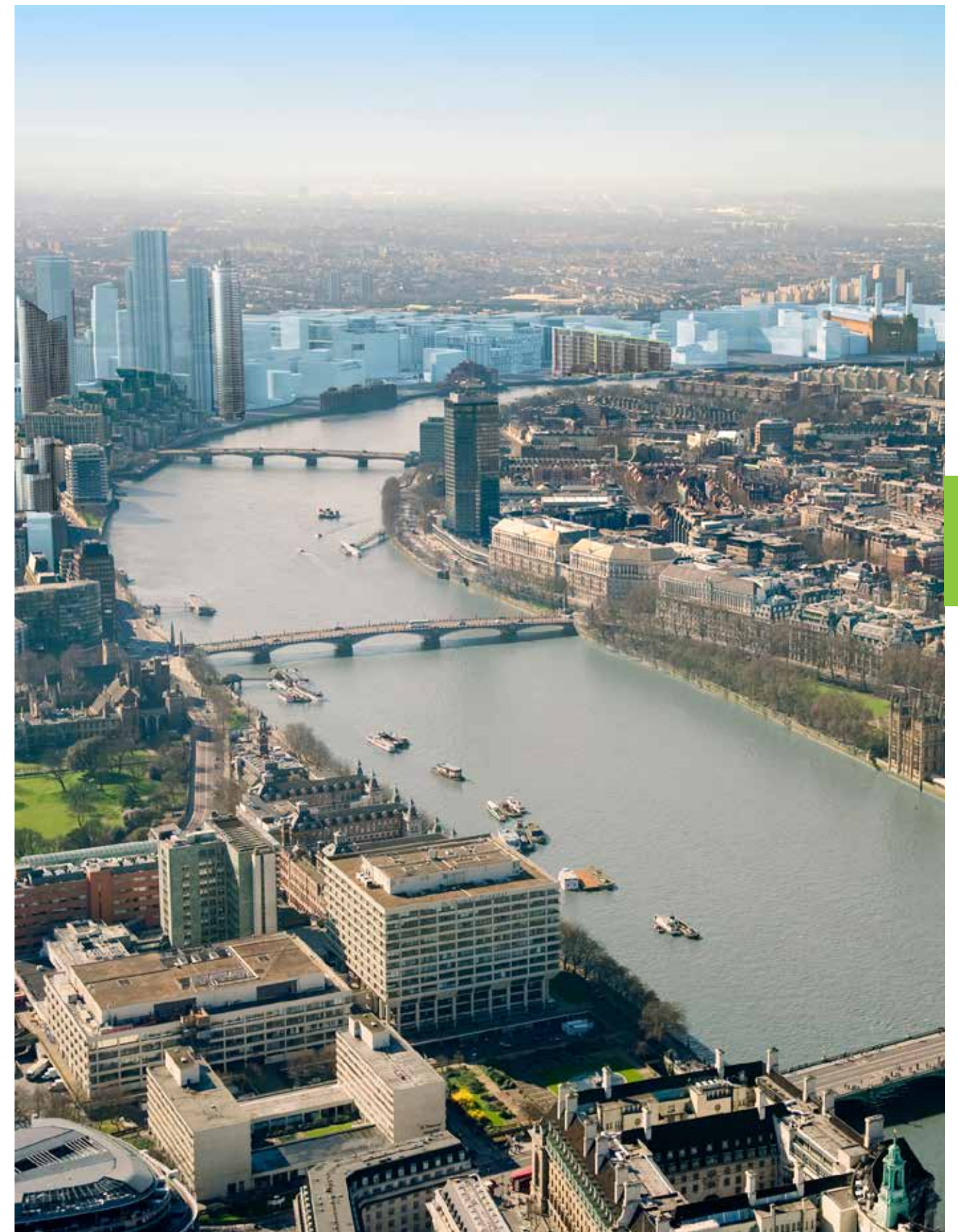


Figure 5: Future growth across London

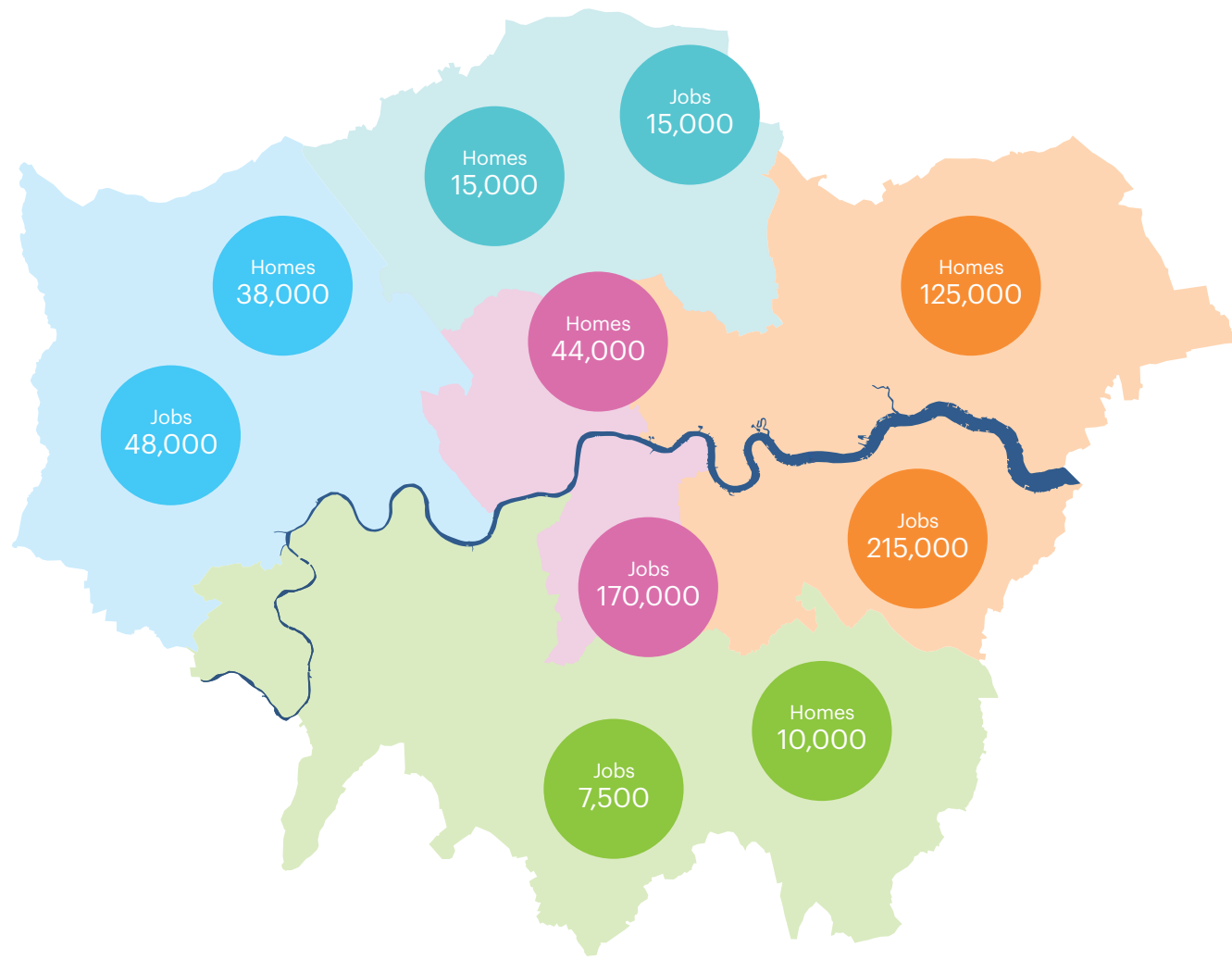
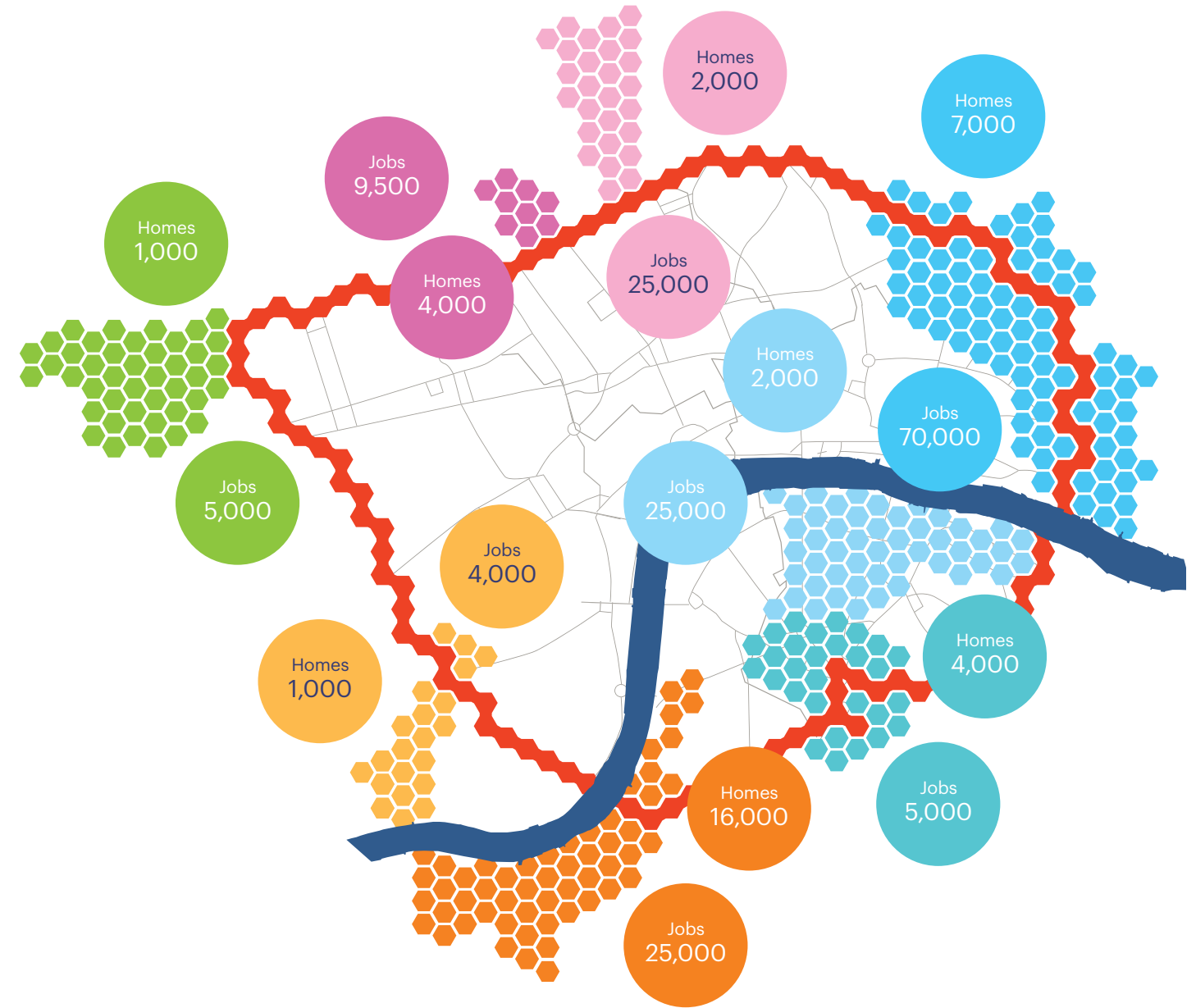


Figure 6: Growth areas on the Inner Ring Road



There are also some major reserves of under-used land in other parts of London, with significant capacity for affordable homes and employment for the growing city.

Many of these, however, are in places where until recently the development market has not thrived and lack the transport infrastructure needed to make development viable (see Figure 7). This includes roads as well as rail.

The 150,000 homes planned in the Thames Gateway, Lea Valley and North West London Opportunity Areas cannot be delivered unless improved road connectivity is provided.

London Riverside (Barking), for example, has the capacity for 15,000 new homes but requires an efficient road network – for buses, freight, service vehicles, walking, cycling and cars – as well as new rail infrastructure.

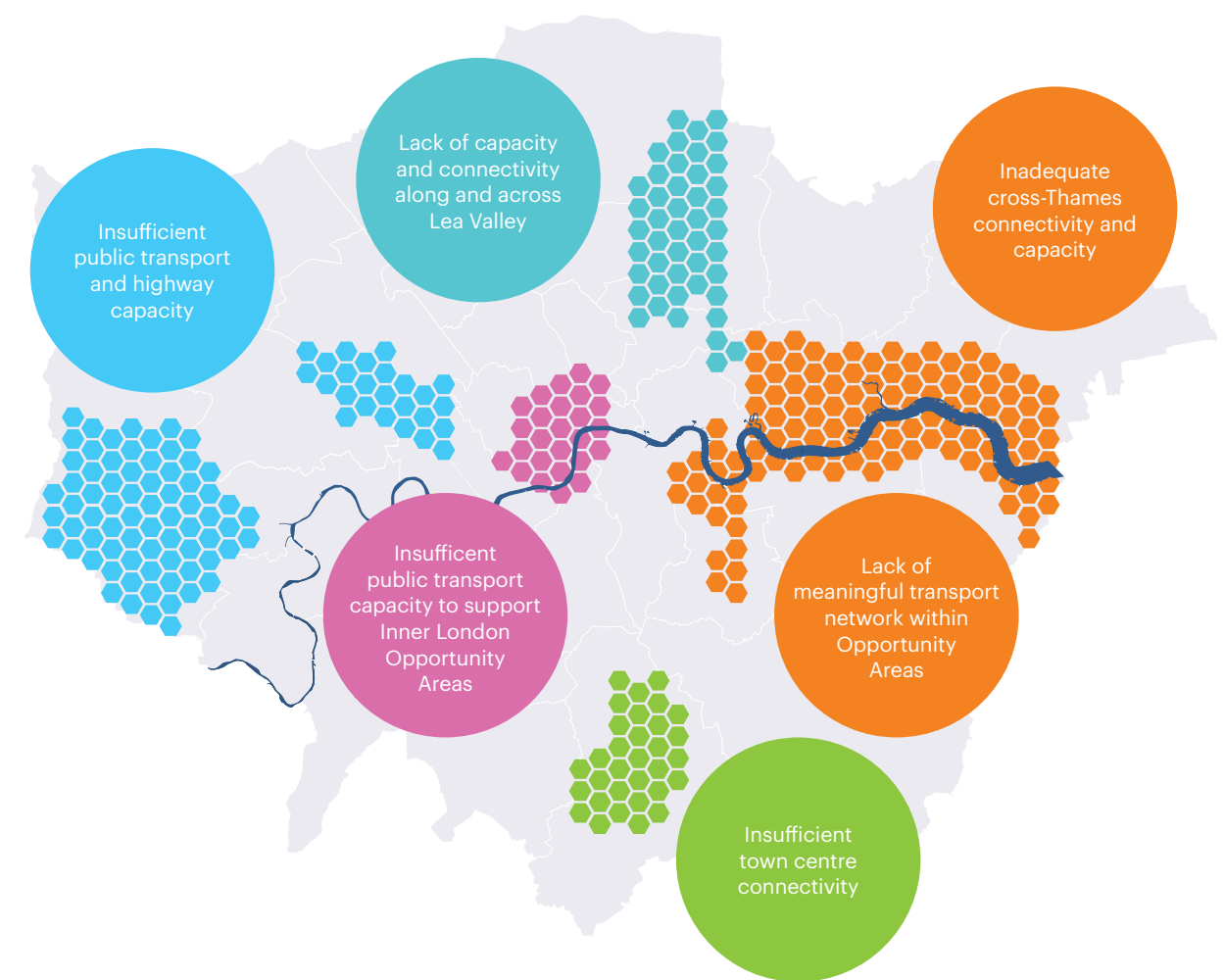
Some of the primary considerations of businesses and industries looking to invest in these areas are around the quality of the road network, in providing access for customers and employees and for freight and servicing.

It is also vital for the success of these areas to reflect an increasing quality of ‘place’ and to establish vibrant and successful new communities.

What the RTF wants to see achieved:

- Improved environment to unlock development values in new city quarters
- Better road connections to support housing and commercial development in major growth areas

Figure 7: Connectivity issues for some of London’s growth areas





Functioning

Businesses and the overall functioning of London rely on getting goods and services to and from premises which often front onto busy streets – for example, shops and businesses need a range of products to be delivered and waste removed.

Efficient access and the provision of loading and stopping facilities are fundamental. There are many challenges involved, however. For example, with increasing cycling infrastructure, kerbside operations can be difficult.

There are also other demands on pavement or kerb space, such as parking – whether for bikes, powered two-wheelers, bus stops, particular users such as Blue Badge holders or, more generally, for people in cars who want to stop and shop or access services.

The importance of car parking to the success of town centres varies and will relate to accessibility levels and other factors. London Councils found that a good mix of shops, and services and a quality environment tend to be more important factors in attracting

visitors to town centres, and that more parking does not necessarily mean greater commercial success³⁹. However, well-managed parking schemes where spaces ‘turn over’ frequently can help to increase the number of visitors coming to a town centre and thereby help business.

Roads are also an important conduit for underground utility infrastructure, such as electricity, water, gas, sewage and ICT. The digital infrastructure of our city is increasingly as important as the transport infrastructure. Successful cities must be well connected not just physically but technologically.

The provision of high-speed broadband across the city, new connections (for example electricity) for re-locating businesses alongside major asset replacement programmes to ensure safe and reliable utility services are essential to facilitate economic growth and ensure London remains competitive. This will necessitate a variety of important ongoing utility works which must be effectively managed to minimise disruption.



What the RTF wants to see achieved:

- Efficient access for freight/servicing and good facilities for loading/unloading
- Provision underground/off-street for deliveries and servicing in new development without creating physical/visual barriers
- Good quality visitor parking – cycling, car, Blue Badge – reflecting an area’s need/characteristics
- Modern utility infrastructure and well-managed works

³⁹ London Councils, Review of the relevance of parking to the success of urban centres, November 2012



Protecting

Keeping people safe as they go about their daily lives is a fundamental part of making London a great city.

The safety of London's roads is critical. In 2012, 3,018 people were killed or seriously injured (KSI) on London's roads. While the number of KSIs has been reduced significantly over the last decade, the rate of improvement has slowed over the last five years and the 2012 figure is actually eight per cent higher than in 2011. Clearly, major challenges remain.

As London grows and demands on the road network rise, other issues are emerging. This includes the disproportionate number of pedestrian, powered two-wheeler and pedal cycle casualties, known as 'vulnerable road users'.

For example, powered two-wheelers represent less than one per cent of daily journeys but 21 per cent of KSIs. Cycling accounts for between two and three per cent of daily journeys but 22 per cent of KSIs (2012).

Also of concern is that the increase in KSIs between 2011 and 2012 was higher for vulnerable road users, at 13 per cent, than the overall increase.

Speed of vehicles is the most important determinant of safety. For example, pedestrian safety at all ages is inversely associated with high vehicle speeds.

There are also some particular challenges. Of the 14 cyclists killed on London's roads in 2012, six were killed by lorries or vans.

Such safety issues are a significant barrier to increasing cycling. More than 90 per cent of Londoners see cyclists as vulnerable to motorised traffic and are afraid to cycle⁴⁰.

In Copenhagen, 75 per cent of motorists are also cyclists⁴¹, helping foster greater mutual understanding. All road users in London – whether driving a van, or a car, riding a bike or walking – should recognise their duty of care to one another.



It is important to recognise the different vulnerabilities of users and in many locations the duty of care may need to be reinforced through, for example, road design as well as more widely through vehicle design.

Road safety efforts rightly focus on the human cost and personal tragedy of death and injury on our roads, but collisions also have a significant economic cost. Investment in road safety, and its consequent reduction in collisions and casualties, can deliver substantial economic value. Achieving TfL's target to reduce KSIs by 40 per cent by 2020 would deliver economic benefits valued at £1bn.

Vulnerable road users now make up 80 per cent of all KSIs on London's roads.

People also want to feel secure as they use the city's streets. The way streets are designed and lit can help reduce crime and improve people's perceptions of security.

⁴⁰ TfL Attitudes to Walking and Cycling Survey 2011

⁴¹ Living Suburbs: Getting to Copenhagen from car domination to cycling city, report of the Symposium on Friday 30 November 2012

Making the streets feel safer can help encourage vulnerable groups such as older people to feel comfortable using them, supporting their participation in social opportunities and reducing social isolation.

Urban realm design and investment can help deter crime. Investment unlocked by the Business Improvement District (BID) around London Bridge, for example, contributed to a 15 per cent fall in street crime⁴².

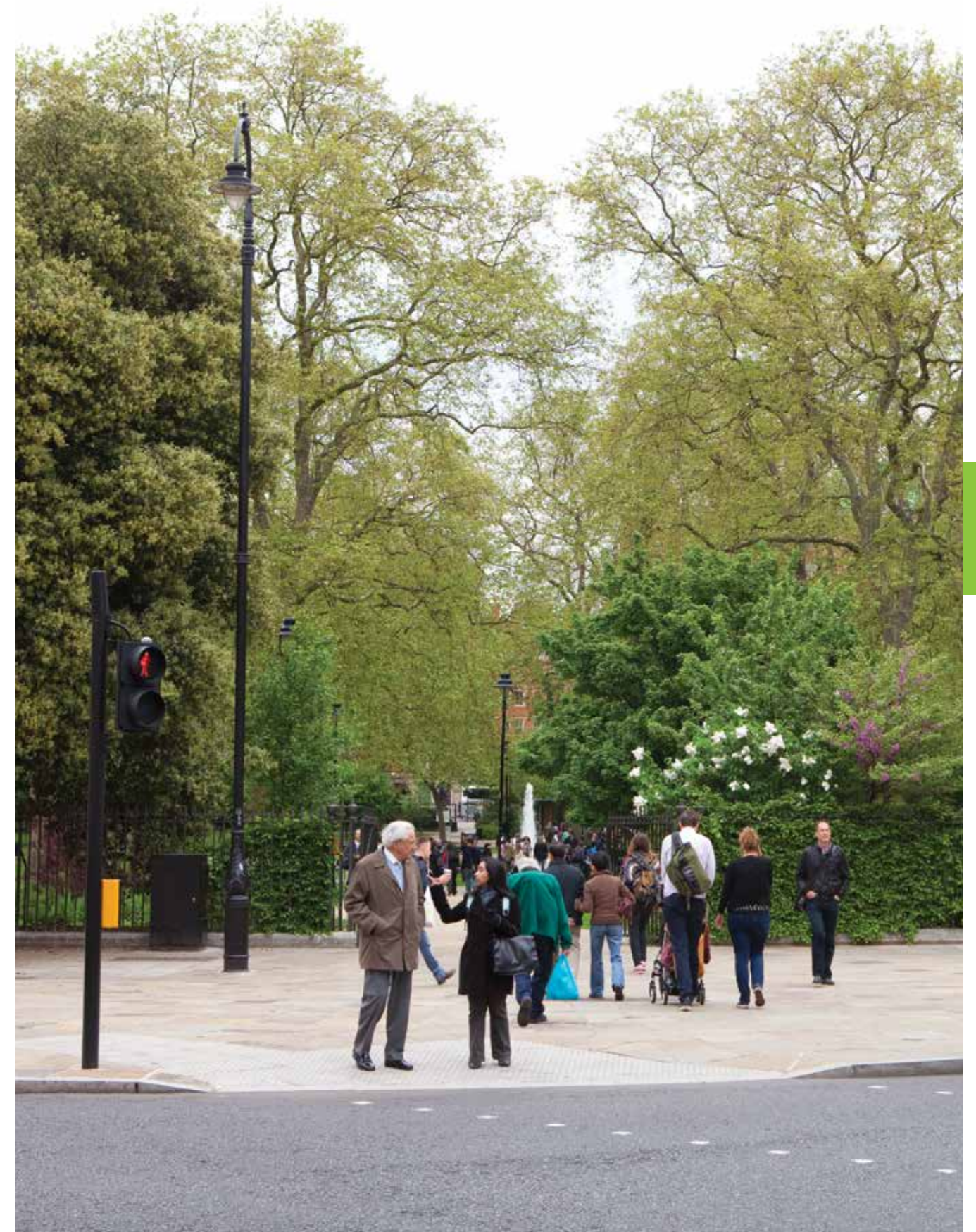
It is estimated that a 15 per cent reduction in street crime in London could generate benefits worth up to £200m per year⁴³.

What the RTF wants to see achieved:

- Continued reduction in KSIs
- Improved safety for vulnerable users (pedestrians, cyclists and riders of powered two-wheelers)
- Shared duty of care between road users
- Streets that feel safe and secure and reduced street crime

⁴² A BID for Renewal, London Bridge Business Improvement District: 2011-2016 Proposal, 2010

⁴³ TfL estimate





Sustaining

Roads also affect Londoners' health and the city's environmental quality.

Road transport accounts for around 60 per cent of particulate emissions in London and nearly 50 per cent of emissions of nitrogen oxides (NO_x) in London⁴⁴.

It is estimated that particulate pollution contributed to an equivalent of 4,300 premature deaths in London in 2008⁴⁵.

Meanwhile, road transport generated 6.8m tonnes of carbon dioxide (CO₂)⁴⁶ in 2010 – around 70 per cent of the CO₂ emissions from transport.

Transport is required to contribute to the Mayor's London-wide target to reduce CO₂ emissions by 60 per cent by 2025 compared to 1990 levels. TfL's data suggest that the current rate of progress is insufficient to meet this target (see Figure 8) and significant further reductions from road use will be required at a time when London is growing.

Increasing the physical activity of just a quarter of Londoners to meet the minimum recommended level could achieve a five per cent reduction in deaths every year⁴⁷.

Like other cities in Europe, London has missed its EU targets for nitrogen dioxide (NO₂). In some locations, NO_x emissions may need to be reduced by up to 90 per cent to meet this target, also requiring significant action beyond current commitments.

The overall number and type of vehicles on London's roads are important, as is the level of congestion.

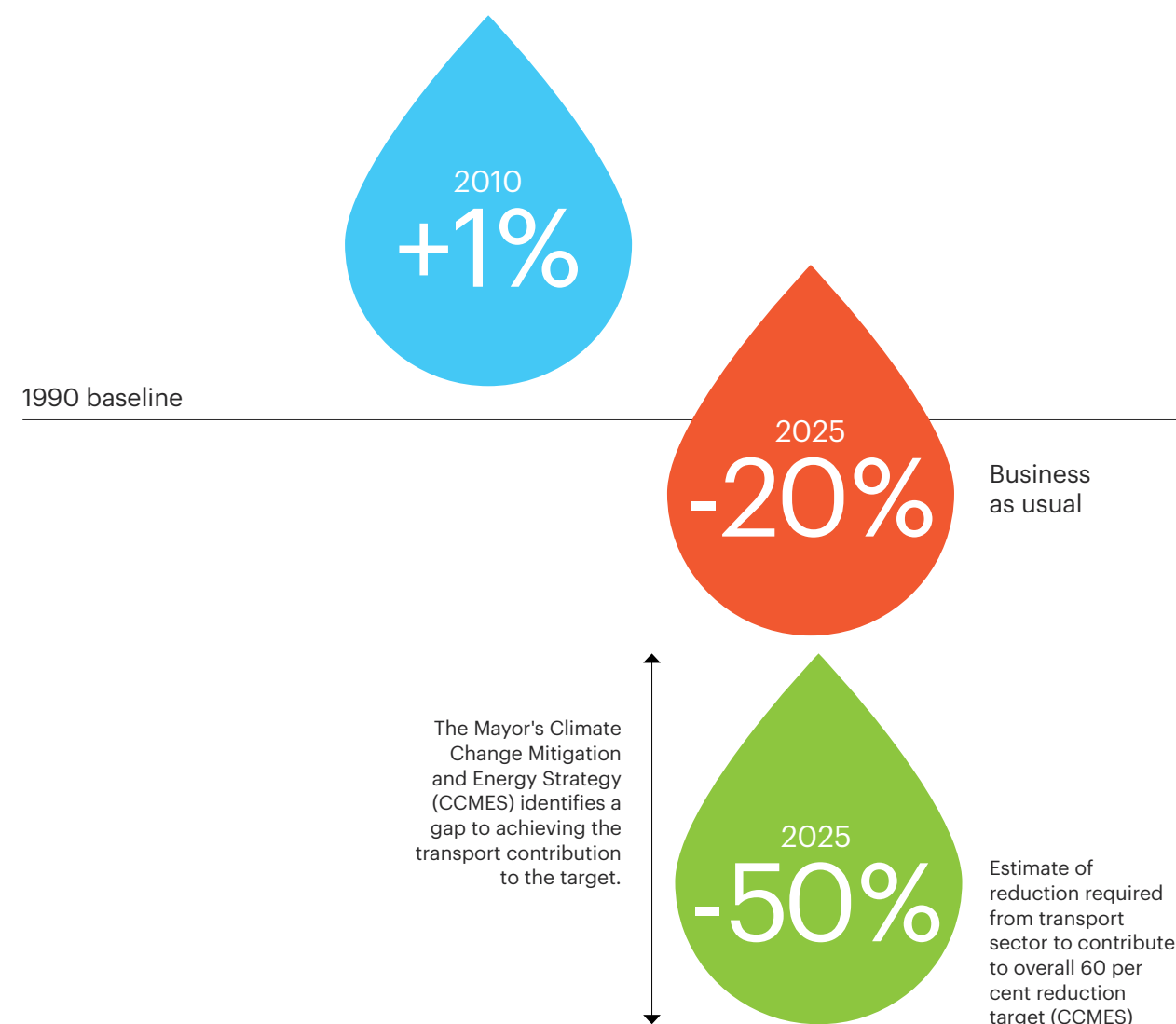
For example, on average, a diesel vehicle will emit 22 times as much particulate matter and four times as much NO_x as a petrol equivalent. Changes in vehicle technology are continuing to deliver some reductions (such as the introduction of Euro 6 vehicles and the shift to electric vehicles) but take-up needs to be accelerated.

Risk of cardiovascular disease increases significantly when noise levels exceed 60 decibels⁴⁸.

Roads affect Londoners' health in terms of the noise they generate. Living less than 20 metres from a busy road has been linked to insomnia⁴⁹. A broad estimate of the social cost of London's motorised traffic noise might be £1bn each year⁵⁰.

Figure 8: Reducing transport CO₂ emissions

Contributing to the Mayor's 2025 target for London: 60 per cent reduction from 1990 CO₂ emissions



⁴⁴ London Atmospheric Emissions Inventory 2010, published by TfL and the GLA in 2013

⁴⁵ Report on estimation of mortality impacts of particulate air pollution in London, Dr Brian G Miller, Institute of Occupational Medicine

⁴⁶ TfL Travel in London Report 5

⁴⁷ GLA Health Team

⁴⁸ British Medical Association (2012). Healthy Transport = Healthy Lives BMA (bma.org.uk/transport)

⁴⁹ Kageyama et al. A population study on risk factors for insomnia among adult Japanese women: a possible effect of road traffic volume. *Sleep* 20: 963-71, 1997.

⁵⁰ At the national level, the Defra Interdepartmental Group on Costs and Benefits of Noise has estimated a social cost of road traffic noise of between £7-10bn per year in England. London has seven per cent of England's road traffic, but around 16 per cent of its population



The costs of human inactivity to the UK economy are estimated conservatively at nearly £10bn, and probably at least £1bn each year within London⁵¹.

The rise of childhood obesity is a particular cause for concern with more than 10 per cent of London's four to five-year-olds being classed as obese, rising to more than 20 per cent of 10 to 11-year-olds⁵².

Regular cyclists have the fitness of those 10 years younger⁵³.

Each additional kilometre walked per day is associated with a 4.8 per cent reduction in obesity risk⁵⁴.

One of the most significant opportunities to improve the physical health of Londoners lies in enhancing activity rates.

Walking and cycling can play a major role in this as part of Londoners' daily routines⁵⁵ – and streets can be designed to encourage this.

Moderate exercise has also been found to reduce levels of depression and stress, improve mood and raise self-esteem⁵⁶.

The Capital's street environments must help Londoners to age healthily. Walking can help protect older people from cognitive decline, dementia and falls. For every mile walked per day, over a sustained period of time, there is a 13 per cent reduction in risk of cognitive decline⁵⁷.

Meanwhile, roads and streets form an important part of the urban environment and 'provide' trees, green and open spaces and areas that support bio-diversity. This also impacts on drainage and London's resilience to climate change. Access to green space is crucial and even views of greenery can increase concentration and productivity of workers and accelerate recuperation from illness⁵⁸.

What the RTF wants to see achieved:

- Reduction in per km/person emissions (air pollutants and CO₂)
- Improved design and layout of roads to minimise exposure to air pollution
- A substantial increase in the mode share of active travel
- Reduced impacts of noise
- More trees and greenery

⁵¹ British Medical Association (2012). Health Transport = Healthy Lives BMA (bma.org.uk/transport)

⁵² National Child Measurement Programme (2011/12 data)

⁵³ Hendriksen et al, The association between commuter cycling and sickness absence, Preventive Medicine 2010

⁵⁴ Frank et al, Obesity relationships with community design, physical activity, and time spent in cars, American Journal of Preventive Medicine Vol 27(2), 2004

⁵⁵ NICE guidelines strongly encourage walking and cycling as key ways in which physical activity can be tackled guidance.nice.org.uk/PH41

⁵⁶ Stay Active; A report on physical activity for health from the home counties Chief Medical Officers, 2011

⁵⁷ Weure et al, Physical activity including walking and cognitive function in older women, Journal of the American Medical Association 292: 1545-61, 2004

⁵⁸ Faculty of Public Health, Great Outdoors, 2010



The need for a new and balanced approach to London's streets

There is a fundamental link between the function and quality of the roads and streets, and the overall success of the city

A key objective of this report is to redefine this relationship in London for the 21st century.

An efficient and reliable road network remains vital – ensuring people can get to work, visit friends and generally get around the city, and that goods and services on which London relies can be moved and delivered.

It is also about transforming conditions for more sustainable modes of transport which will be required to cope with the city's growth, meet changing lifestyle aspirations and tackle environmental challenges.

A 21st century road network is also increasingly about the ability of places to support economic and cultural activities, enable the delivery of homes and jobs, meet Londoners' aspirations for a high quality of life and to feel safe and secure, breathe clean air and not suffer from too much noise.

This is ambitious. As London grows, the demands on our roads will also grow and continue to diversify. Everyone wants different things (see Figure 9) – this competition and conflict between functions on streets is something that Londoners will all recognise in their daily lives.

This vision will deliver overall benefits for different users, but the function of certain types of streets and the intensity of different demands will not allow for all users to have their needs fully satisfied everywhere at the same time.

For some types of street, 'moving' will be more important than other functions and vice versa, and within 'moving' there will be places where motor vehicle flows (including buses, taxis and freight) are most important and should be prioritised even though this means other users will have lower levels of service.



On other streets, cycling and pedestrians should be prioritised, alongside 'living' and other functions, such as 'protecting'.

While this will inevitably mean trade-offs in some places, it is important to remember that road users tend to use multiple modes and experience the network in different ways depending on the context.

For example, drivers may also cycle and vice versa, and nearly everyone will be pedestrians and shoppers at some time during the week.

Ultimately, the RTF considers that clearer up-front choices along with practicable mitigations are preferable to ad hoc outcomes.

Figure 9: Everyone wants different things



- 1 We want regular and reliable services with well-located stops.
Four million bus trips each day across London
- 2 We want smooth, safe roads and good parking.
200,000 trips by powered two-wheelers each day
- 3 We want reliable journeys and convenient stands and ranks.
300,000 trips per day by taxi and PHVs
- 4 We want reliable, quick journeys as well as places to load/unload.
Deliveries and servicing keep London functioning

- 5 We want to feel safe and have permeable cycle-friendly streets and secure parking.
Thirty-five per cent of London households own a bike
- 6 We want safe and pleasant streets with good convenient crossings.
Six million walking trips are made every day in London
- 7 We want good quality places to sit, relax and watch the world go by.
Streets make up 80 per cent of London's public spaces⁵⁹
- 8 We want to be able to access services, and have streets that feel safe and secure with places to sit.
The number of people aged 65 and over will increase 33 per cent by 2031
- 9 We want great places to visit and spend time, and attractive streets that we can walk around safely.
In 2012 visitors to London spent £10.1bn⁶⁰

- 10 We want reliable, quick journeys with minimal disruption, and to be informed about what's going on
Cars are important for access in many areas
- 11 We want reliable journeys and easy access to businesses and to avoid conflicts with other users.
30,000 transport and logistics operations in London⁶¹
- 12 We want access to central London and places to park.
Coaches bring many visitors to London
- 13 We need to be able to get to incidents quickly and access all streets.
More than one million are incidents attended by ambulances each year⁶²
- 14 We need to access underground infrastructure to carry out repairs and upgrades to serve our customers.
We all need utilities like water and electricity

- 15 We want our staff, customers and deliveries to be able to get to us easily.
Outer London has around 40 per cent of London's employment
- 16 We want accessible services, streets with level pavements and enough space to move around comfortably.
Streets need to be accessible for all Londoners
- 17 We want accessible, vibrant and safe high streets where it's a pleasure to spend time and money.
Streets are a key focus for local economies
- 18 We want quiet streets where we feel safe and can play.
Good streets support community interaction

⁵⁹ Commission for Architecture and the Built Environment (CABE)
⁶⁰ Visit England Tourism Factsheet, May 2013
⁶¹ CILT, Maintaining Momentum: Summer 2012 Logistics Legacy Report, 2013
⁶² London Ambulance Service Annual Report 2011/12

At the same time, there must be a London-wide strategy and a clearer trajectory for what needs to be achieved overall. For too long, outcomes have been the result of incremental change and ad hoc decisions.

There must be better understanding of what's actually happening on the network and the cumulative impacts of changes locally to enable a more strategic response – critical given the scale of challenges and growth London is facing.

To date, some measures have been implemented with no real plans to deal with their wider consequences. For example, analysis suggests that significant capacity for motor vehicles (up to 30 per cent) has been 'lost' in central London as a result of various measures such as urban realm and safety schemes and re-allocating space to sustainable modes.

These measures have many benefits that were planned but their cumulative and knock-on consequences were not necessarily fully understood. Conversely, at other times TfL has focused on protecting the capacity of the network for motorised modes and not taken account of how to support other functions or meet local aspirations.

Roads capital expenditure by TfL has averaged about 14 per cent of capital expenditure on the Tube.

The RTF is clear that schemes should be implemented to support active, people-focused places, successful developments and a shift to more sustainable modes. But the RTF is equally clear that there must be a strategy for how to manage this in terms of maintaining the overall functioning of the road network.

A core message from the international review undertaken as part of this work is that successful cities don't just invest in mass transit, they do big bold things with the city itself and with their roads, for example cover over ring roads, build tunnels to maintain network functioning while reducing traffic impacts, create new spaces for city life, deliver high quality cycling networks and make their cities great for walking.

London, too, must be bold and try new things. By making the most of new technologies it should be possible to squeeze more out of the network than ever before, but more strategic interventions – including measures to reduce demands on the network and to deliver improved/new infrastructure – will also be needed to enable London to keep moving as changes are made across different parts of the city.

A new approach must also be about the way things are done and about investing over a sustained period.

Major investment has taken place to upgrade the capacity and capability of the public transport system in London and the RTF firmly believes that this must continue.



This is important in its own right to support London's continued success – but the maximum use of other modes is also essential to make the demands for road space more manageable and give some scope for improving conditions for those who need to continue to travel by car, and for freight and servicing.

Alongside this, London also needs major investment in its roads and streets. For too long there has been a lack of ambition in relation to roads. This has meant that the fundamental requirement of maintaining the assets to a state of good repair has not even been met, let alone delivering more significant improvements to transform the quality, nature and capacity of the network.

Significant capital investment is required to tackle the issues, for

'You can't keep doing it the same way over and over again and expect different results'
Albert Einstein.

example at gyratories around the Inner Ring Road and town centres, to improve the North/South Circular or support major growth areas.

Spending on public transport is often seen as 'good/green' and on roads as 'bad/unsustainable' but the quality of roads and streets is vital not just for drivers, but for freight, pedestrians, cyclists and bus passengers (which together account for more than half of trips on the road network) and for the overall success of the city which is increasingly linked to 'liveability' as well as congestion.

The starting point:

Setting out what is already known and committed

So London has a choice – either business as usual, making decisions on an ad hoc basis or signing up to a clearer and more ambitious overall vision and direction for London’s roads.

In delivering this vision, it is important to understand where we are starting from. It is not a blank sheet of paper; there is the London Plan which sets out the wider land use policies and likely ‘shape’ of London’s development and growth, and the MTS.

Nor is the situation static – the context is evolving as new planning applications are made, new schemes are implemented, further policy aspirations and priorities are set out by the Mayor, and yet more challenges emerge.

And London is far from uniform. The needs and challenges vary significantly between central, Inner and Outer London, and within Outer London. There are also major growth areas with diverse starting points and aims. The approach must be sensitive to this context.

Forecasts and assumptions of future change and trends are key to understanding the challenges of the next two decades and also the potential solutions⁶³. The RTF has also looked back and learned from the past decade of change.

⁶³ It has not been possible to update the transport modelling for this report to reflect the latest population figures and forecasts. This means some of the assumed impacts by 2031 may happen much sooner. Further work is under way by TfL to understand the implications of this.



It is inevitable, with expected growth of 20 per cent in London’s population by 2031, that the pressures on road space will increase. More people mean more demand for travel on many different modes, for new and better public spaces, for new development and for servicing – adding further to the already existing pressures.

The demand for travel overall is increasing. Forecasts suggest that every five years the transport system will need to cater for more than one million extra trips per day. The aim is to accommodate a significant proportion of these trips on rail. The starting point for the RTF already assumes the delivery

of 70 per cent additional rail-based capacity in the morning peak through schemes such as the Tube upgrades, Crossrail and Thameslink.

This is a fundamental element of the strategy, but not sufficient by itself especially in Outer London.

From 2000 to 2010, the number of people trips per day on the road network increased from 19 million to nearly 21 million (including bus, car, walking, cycling, taxi, powered two-wheelers). Many of the increasing numbers of those travelling by rail also interact with the road network as part of their overall journey (for example onward travel from stations on foot, cycle and bus) and add to these demands.

The demand for road space for other functions is also growing, with aspirations for schemes to improve safety, health and the quality of the environment. As residential densities increase, so too does the importance of high-quality public spaces; the quality of the urban realm is also of growing significance for business and tourism. There are increasing ambitions to 'reclaim' places from the impacts of motorised traffic.

The desire for – and necessity of – reallocation of road space within and between the different functions is growing. Currently across London there are many schemes designed to enhance the urban realm, improve safety, support town centres, and provide additional space for pedestrians and cyclists.

These include dozens of planned Better Junction sites, more phases of Barclays Cycle Superhighways, a dozen major schemes including the reworking of large gyratories, hundreds of smaller capital projects such as Camden town centre improvements, many growth areas such as Earls Court and large-scale developer plans such as Old Street roundabout. These have implications cumulatively on available road space for different users.

Over the past 10 years London has achieved an unprecedented change in mode shares for travel away from the private car towards public transport, cycling and walking (a nine percentage point net shift between 2000 and 2011). Ten per cent fewer vehicle kilometres were driven in London in 2011 than in 2000, even in the context of rapid population growth and substantial growth in demand for travel overall.

Although the reallocation of space from private motorised vehicles to more sustainable modes, safety measures and public realm schemes (such as Trafalgar Square) has resulted in reduced motorised traffic, it has also contributed to an increase in congestion across London⁶⁴.

In fact, over this period, while motorised vehicular traffic has decreased by 10 per cent, congestion has increased by a similar amount.

Continuing to provide more space for better places and for more sustainable and healthy modes of travel will improve the 'liveability' and attractiveness of London and is an essential part of the vision.

⁶⁴ Buckingham et al, Central London congestion charging; understanding its impacts, Proceedings of the Institute of Civil Engineers, Transport 163, Issue TR2, May 2010

⁶⁵ TfL Travel in London Report 5, 2012



But this must not be at the continued expense of increasing congestion or reducing reliability and their associated negative effects.

It is important to note that the context, trends, opportunities and implications will vary significantly in different parts of London – so the approach the RTF is suggesting recognises this (as set out in Chapter 3). For example, the picture of falling private motorised traffic is complex. In central and Inner London

there are established long-term declines in this traffic. However, some of the population growth will take place in areas in Outer London that are less well-served by public transport and where the trends are not as established and may be more associated with short-term economic factors, in particular the recent recession⁶⁵.

In such areas, car use will continue to be important – and the implications of increasing congestion will be particularly important to tackle there. Freight and servicing needs are also increasing as the city grows, with a significant rise forecast in van trips.

If trips can reasonably be made by some other means, or at different times, or their purpose fulfilled in some other way (for example, working flexibly rather than a daily commute and collaboration in freight deliveries), the economic impacts of congestion could be mitigated to some extent.

But the growth seen in recurring congestion on the roads suggests we are approaching the limit of further reallocation of road space in some areas without this causing more significant reductions in the resilience of the network overall and in particular locations, if nothing else is done.

This all implies the need to try to reduce motorised traffic in some places, while providing for it elsewhere and/or managing demand more strategically to avoid further increasing congestion. In this way, London can deliver the ambitions for better places and sustainable travel while maintaining the performance of the road network for necessary motor vehicle journeys.

Continuing with business as usual may deliver some benefits in the short-term in those areas which ‘get their schemes in first’, but more widely traffic could be pushed onto other roads and congestion will increase, causing rising costs for business and impacting many Londoners.

Signing up to a new direction for London’s roads would enable a larger, coordinated programme of place improvements to be delivered, complemented by well-designed strategic measures to not only make London a great city to be in but to keep it moving.

