

Business Plan

Transport for London's plans for the next decade

Published December 2012

MAYOR OF LONDON

Transport for London



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Message from the Mayor

Jobs and growth are my top priority for this Mayoral term.

Investing in London's transport system is absolutely essential to support this great city's economy and quality of life, and thereby to deliver that growth. This is why I will continue to champion at all levels of Government the need for a stable long-term settlement to enable transport to play its vital role in driving the nation's prosperity.

Over the last few years, we have seen first-hand the benefits of investment in the Capital's transport network. On the Tube, the Victoria and Jubilee line upgrades are now complete, bringing more frequent and reliable services to millions of customers. We are about to open London's first orbital railway, connecting hundreds of thousands of people to jobs and opportunities. And titanic tunnel boring machines are burrowing their way through the bowels of London to create Crossrail.

Nowhere were the benefits of investment more evident than in transport's stellar contribution to the London 2012 Games. Billions of pounds of new transport infrastructure were delivered well beforehand, ran smoothly during the Games, and have now left a legacy of economic regeneration and indeed transformation in east London.

The Games are over, but London's programme of transport investment continues apace. This Plan sets out our key programmes for the

next 10 years. I am proud that despite tough economic times, we are able to continue delivering new projects that are essential for London's continued success and growth. This is possible in part because of a multi-billion pound efficiencies programme, a programme that we are continuing to expand. It is due to the contribution to our programmes provided by fares.

In this Plan, I am announcing £300m for new transport projects that unlock growth and job creation in key areas such as Elephant & Castle and Tottenham. We are reaffirming our commitment to upgrading the 'deep Tube' lines that will be starting to need replacement, delivering much-needed capacity increases at the same time. In addition, we will deliver extra capacity on the Overground by increasing the number of carriages. New investment in Tramlink and Docklands Light Railway (DLR) capacity will help catalyse growth in the areas those networks reach.

I am also determined that we continue to improve Londoners' day-to-day experience with the transport network. TfL is introducing new customer-facing measures such as a revamped website, a single telephone number, and easier ways to resolve any problems that users of the network encounter. We are committing £280m to a new programme that will deliver the 30 per cent improvement in Tube performance that I promised in the Mayoral election. A total of £40m is being allocated for accessibility improvements across the network, and we will be expanding on this effort with a detailed action plan later this year. New funds are being made available to clean up our air – in



part through the delivery of the 600 new hybrid buses – and deliver a range of other environmental improvements.

I am proud to be launching an unprecedented 10-year, multi-billion pound plan to transform our long-neglected road network. Eighty per cent of journeys in London every day take place on the road network, whether by bicycle, car, freight vehicle, motorbike, bus, taxi or on foot. With today's technology and expertise, we can ease road congestion while also catering for pedestrians and cyclists.

I reject the old-fashioned notion that roads will always be a place of conflict between different road users. A civilised road is not one that is completely free of traffic. An economically efficient road is not one full of speeding vehicles. It is right that we now review the design of major road junctions, many of which were designed decades ago.

My Roads Task Force will be reporting in the spring on how we might think about and invest in London's road network over the coming decades. Through engagement and targeted investment, we will deliver a safer, cleaner and more efficient road network for London – one that is fit for the best big city in the world.

I will be issuing my 2020 vision in the New Year and this Business Plan puts us well on the path to achieving that vision.

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

Boris Johnson
Mayor of London

Commissioner's foreword

Our job is to keep London working and growing and to make life in London better.

Delivering this Business Plan will maintain the city's reputation as a world-leading location in which to live, work and do business, and will secure economic growth and prosperity for the entire country.

As the Plan sets out, our transport system needs two essential things to make that a reality. First, continuous renewal of the assets that must deliver reliable services for customers and users day in, day out. This includes modern trains and buses and advanced signalling to operate more rail services and keep traffic flowing. Second, sustained investment in infrastructure to improve reliability and reduce overcrowding on public transport and congestion on the roads.

Crucially, both elements demand a continuous and steady stream of funding to make them a reality. And, following decades of damaging under investment and short-term funding, the tangible benefits of two multi-year funding plans (2005-2010 and 2010-2014/15), are now evident.

A year before the Tube celebrates its 150th birthday we have completed the upgrades of the Jubilee and Victoria lines to deliver vastly more reliable services for passengers. Work to do the same on the Northern line is well under way. The Tube has never been more reliable.

Air-conditioned trains are running on the Metropolitan and Hammersmith & City lines, meaning better journeys for passengers, and we are just completing London's first orbital railway, enabling new journeys to be made and new economic activity to be stimulated. And, of course, impressive progress continues to be made on the building of Crossrail, a project of enormous significance in terms of increased capacity and improved journey times.

The stunning success of the London 2012 Games also demonstrated what can be achieved through investment, innovation, operational delivery and focus on an integrated experience for customers. Record passenger numbers were carried at the same time as customer satisfaction leapt to new highs.

Information provision and our capability to offer services online are just two of the areas in which we are taking the lessons of the Games to improve customer service as part of a programme to make us easier to do business with. In addition, we will build on the success of the Travel Demand Management programme, which alleviated pressure on the travel network by encouraging more flexible working and change in traditional travel patterns. The Travel Ambassadors, who were so popular during the Games, will once again be out on the transport network helping customers in the busy run up to Christmas.

We will also continue to use the Transport Coordination Centre, which set new standards for communication and incident response between transport operators, police, event organisers and other parties. And, we are also



reviewing the use of manual boarding ramps at Tube stations.

During the Games, twice as many freight operators as usual undertook out of hours deliveries, and a quarter of those who introduced or increased them intend to maintain them in the future. We will continue working with the freight industry and businesses to share best practice.

And, through a large scale and continuing savings programme, our organisation is providing greater value for money than ever before. It is more customer-focused and better placed to help London and the UK succeed.

The tangible benefits of funding plans over several years, which we have had since 2004,

are now evident. In particular, even greater value for money will be delivered by striking better deals with our suppliers because they will be able to plan their production and workforces much more efficiently with a steady flow of orders.

London is rightly regarded as being a truly global city, and the success of the Games confirms this. But we must replace life-expired assets and keep pace with demand growth if we are to keep it that way.

And for that, continuous and steady funding is paramount.

A handwritten signature in black ink, appearing to read 'Peter Hendy'. The signature is written in a cursive, slightly slanted style.

Peter Hendy CBE
Commissioner, Transport for London

Background

The Mayor's Transport Strategy sets out the Mayor's requirements for the Capital's transport network to support the realisation of forecast population and employment growth. This Business Plan describes how TfL will implement this strategy and provide the best value for customers, businesses and London as a whole. This document is structured around three broad requirements for the city:

- 1 Driving London's employment and population growth:**
The investment required to ensure the city can reliably support an expected one million additional residents and more than 600,000 new jobs over the next 20 years.
- 2 Putting customers at the heart of the business:**
Ensuring that TfL's investment is built around the requirements of our customers by providing a safe, secure, reliable service where personalised and consistent customer service is paramount.
- 3 Making life in London better for all:**
Creating an environment in the Capital that maintains its position as the world city where people want to live, work and visit.



TfL's station upgrades connect the city and enhance the local environment

Driving London's employment and population growth

The Capital's transport network is an important enabler of economic growth. It connects commuters from across southeast England to jobs in London and provides access to work, leisure and retail activities that happen at urban centres throughout the Capital.

The transport network is very busy, particularly during peak times, with growth in population and employment making conditions worse. Over the next 20 years the city's population is expected to increase by almost one million people and employment by more than 600,000 jobs. Demand for services will be on a par with those experienced during the 2012 Games every day. Therefore investment is vital to:

- 1 Maintain underlying infrastructure so that it is fit for purpose.
- 2 Maximise benefit from the existing network, ensuring reliability and increasing capacity.
- 3 Unlock growth, through investment in schemes that open up areas of London currently less well-served.

Each of these levels builds on the previous. A reliable service is not possible with dilapidated assets and new extensions rely on connections to an existing, robust network.

These projects are essential if the city is to meet the challenges posed by its forecast growth.



The Games demonstrated TfL's ability to deliver

A bedrock of well-maintained infrastructure

TfL's core assets are the foundation of its network, without which London could not function. The condition of these assets is fundamental to the success of all projects and they have a huge impact on day-to-day customer experience if they perform poorly. All infrastructure has a life after which it is no longer economic to maintain, and where reliability rapidly diminishes. Past under investment has led to stop-start expenditure which has allowed conditions to deteriorate and created a backlog of work that demands high levels of expenditure over short periods.

TfL operates around 700 trains which have a design life of 35 years, implying 20 trains need replacing a year. A stable programme where these assets are routinely replaced is more efficient, allowing relationships to be built with suppliers and experience to be maintained.



This Business Plan further embeds this infrastructure renewal. The backlog of investment requires significant funding for renewals in the short term, but the plan ultimately devotes consistent resource to maintaining performance of a broad and varied asset base.

Roads

Recent severe winters and flooding across the country have demonstrated how much damage these events can do to highway assets, leaving potholed carriageways, flooded roads and closed and collapsed bridges.

The impact of this on London's roads will be addressed by the levels of investment in this Business Plan, which will restore the roads to a state of good repair and fund a significant programme to maintain TfL's tunnels, bridges and other structures

Tube

TfL is making substantial progress in its programme to replace life-expired assets on the Tube. Track, bridges, tunnels and station equipment are being overhauled and this plan sees further track investment which will protect and drive forward the reliability gains achieved.

Trains at the end of their design life and outdated signalling equipment present increasing risks to reliability. Steady renewals ensure assets are replaced at the right time as part of a coherent programme.



Bus stations

A major modernisation programme from 2015 will upgrade many bus stations to bring them to a good state of repair. The projects will improve the local environment and enhance overall customer experience. These stations include West Croydon, Harrow, Edgware and Kingston and will involve installing energy-efficient fixtures and fittings.

Transformational upgrade of the existing network

The past decade of investment has led to record reliability levels across the Tube, London Overground, DLR, buses and TfL's road network. TfL continues to improve reliability to meet demand which, every five years, increases by one million trips a day. This will be achieved through a combination of day-to-day operational excellence, capacity increasing upgrades to infrastructure and tackling congestion black-spots.

London Underground

In 2011, TfL's Tube reliability programme introduced initiatives to predict and prevent failures and respond more quickly to incidents.

To build on this progress, the programme is being extended with the aim of achieving a 30 per cent reduction in Tube delays by 2015. This challenging programme will focus not just on investment in assets, but also examine how staff and customers can help deliver a reliable service and how TfL can harness the potential of investments already made.

Beyond the current works on the Northern line, a further upgrade, to be completed in the early 2020s, will enable more frequent services, provide congestion relief and support further growth through a change in service patterns and additional trains. TfL will use this opportunity to buy additional trains to relieve future crowding on the Jubilee line. These trains will enable increased frequencies on the line, over and above those achieved by the 2011 Jubilee line upgrade. Preparatory works for these improvements are due to begin in 2016.

Line upgrades combine renewal of trains, signalling, track and depots with the capacity enhancements that modern technology allows. Across the network new trains and signalling systems will enable more frequent services and quicker, more comfortable journeys.

Northern line upgrade (planned completion 2014)

The Northern line is the most complex on the network, carrying in excess of 900,000 passengers a day. A new control centre, computerised signalling and Automatic Train Control system will be installed enabling trains to run closer together and at higher speeds, reducing journey times by 18 per cent and increasing capacity by 20 per cent.



Sub-surface lines upgrade (planned completion 2018)

The sub-surface upgrade for the Circle, District, Hammersmith & City and Metropolitan lines is currently the largest investment TfL is making on the Underground. It consists of 191 new trains, a new signalling and Automatic Train Control system, a new control centre, power upgrades and extensive train depot improvements. Serving all four lines, the new trains have walk-through carriages and, for the first time on the Tube, air conditioning throughout.

Following the successful roll-out to the Metropolitan line, roll-out on the Circle, Hammersmith & City and District lines will be completed by 2016 and on the Circle and Hammersmith & City lines, trains will be longer than today's vehicles, increasing capacity by 17 per cent. In addition, they will be fitted with CCTV throughout and better customer information systems.

TfL is developing a programme for the next generation of line upgrades, which will focus on the Piccadilly, Central, Bakerloo and Waterloo & City lines. On these lines steady performance is enabled through rigorous maintenance, but the lines rely on out-dated infrastructure. Piccadilly line signalling dates back to the 1960s, and the Bakerloo and Piccadilly lines operate with 40-year-old trains. The development of a new train which will be common to all lines, combined with new signalling, provides the opportunity to achieve increased capacity on these lines to keep pace with growth. A common approach to these future upgrades will deliver major cost savings and help with smooth implementation.



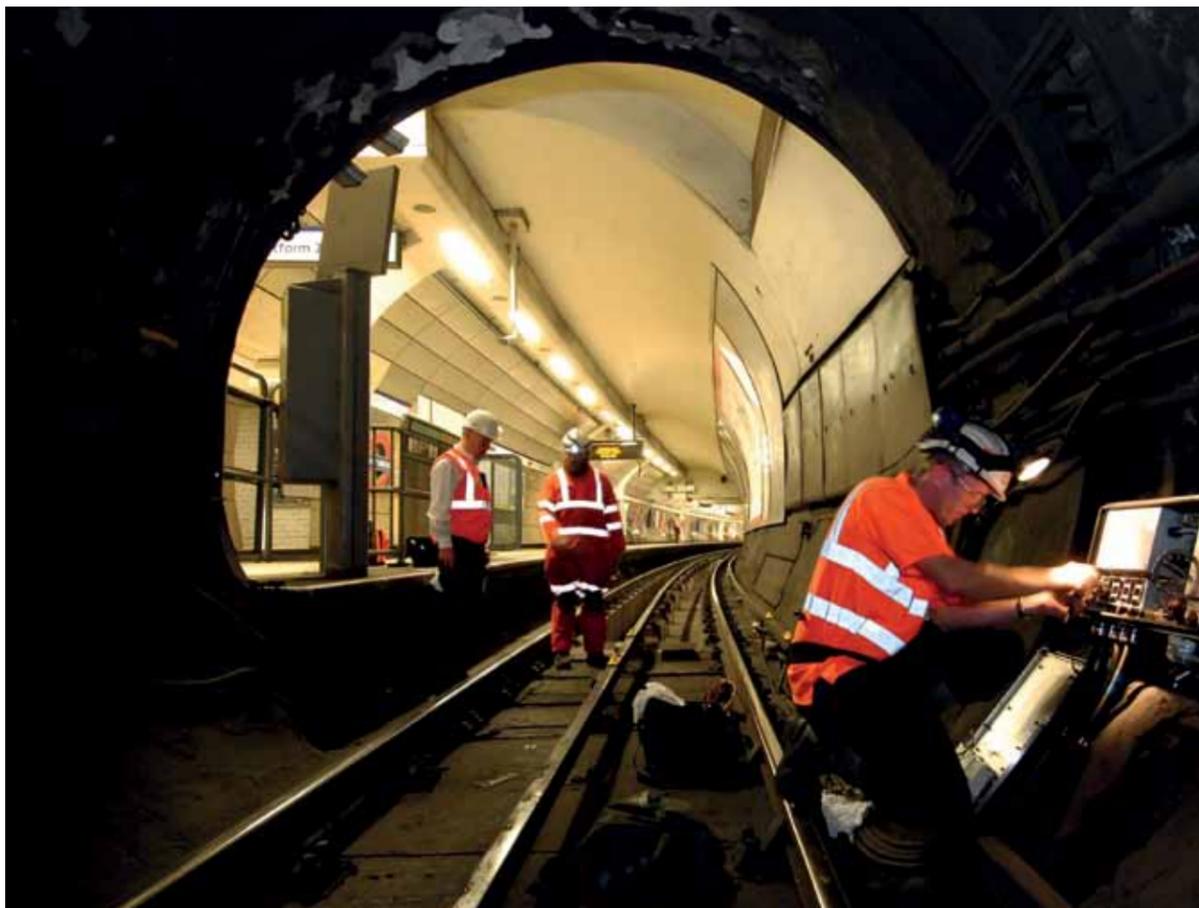
A track record of delivery: the Victoria line upgrade

Victoria line infrastructure works have been completed and a timetable change in early 2013 will enable a peak service of 33 trains per hour. This will provide a 21 per cent increase in peak capacity and significantly reduce journey times.

The works are the Victoria line's first major investment in 40 years with the original train and signalling equipment replaced by modern, reliable technology and a fleet of 47 new trains now in service, better ventilation and CCTV in every carriage.

The line has seen system reliability improvements, with reliability growing faster than any other fleet introduced by London Underground to date.

The upgrade demonstrates that TfL delivers on its investment promises with the works completed ahead of schedule and under budget. New technologies, an integrated planning function and a highly-skilled, motivated delivery team have all contributed to increased satisfaction scores, a significant reduction in customer journey time and a marked improvement in reliability.



Tube successes

After 50 years of service, the oldest Tube train took its last trip in September 2012 on the Metropolitan line. It marked a new beginning for the line's passengers who are now benefiting from state-of-the-art, walk-through, air-conditioned trains.

The Metropolitan line stock desperately needed replacing, but to enable the new, longer trains to run, upgrades were required to ensure signals, track and platforms – some of which were more than 100 years old – could accommodate them.

The new trains, part of a 191-strong fleet, are also being introduced on the Circle, District and

Hammersmith & City lines. Together, these 'sub-surface' lines represent some 40 per cent of the Tube network and cover around 300km of track.

The record investment in recent years has funded new trains and upgrades, enabling more frequent and reliable journeys for Tube passengers. Completed works include:

Jubilee line: The upgrade has seen a 33 per cent capacity increase with trains running every two minutes at peak times.

Victoria line: New trains, track and signalling have resulted in an extra two trains an hour and it is now twice as reliable as it was five years ago.

Furthermore, within the next two years, the signalling upgrade on the Northern line is set to provide 20 per cent more capacity.

However, there are still parts of the network that require updating to make sure passengers' journeys continue to improve. This is essential to ensure the Tube can meet the growing demands of an increasing population.

The continuing upgrades will provide massive capacity increases when complete:

Metropolitan line: 27 per cent
Circle and Hammersmith & City lines: 65 per cent
District line: 24 per cent

TfL plans to install Pedestrian Countdown at traffic signals at around 200 sites, to improve traffic flow and reduce emissions at junctions

TfL's roads

London's 13,600km of roads are vital to the Capital's economy. More than 28 million journeys are made in the city every day and roughly 80 per cent of all passenger trips and most freight trips are made by road.

TfL faces a number of challenges alongside dealing with increasing demand on London's roads. These include conflicts between users, rising expectations for high quality public space and the essential need to improve road safety.

To meet these challenges, London needs a long-term strategy for the development, design and management of its road network. This will be informed by the Mayor's Roads Task Force, which represents key road user interests and expertise, and will advise the Mayor and TfL on the future development of London's road network.

The Task Force will look at optimising road design to accommodate the desire of different road users to move through the network while maintaining a functional urban environment.

The recommendations of the Task Force are expected in 2013, on which the allocation of TfL's planned road investment will be based.

The Corridor Improvement Programme programme looks specifically at balancing the needs of all users along TfL's key routes and making improvements and rebalancing the available capacity to ensure that each corridor operates effectively. Measures include junction simplifications and white-lining.

TfL will equip 1,500 more traffic lights with Split Cycle Offset Optimisation Technique (SCOOT) technology, an intelligent traffic control system with proven ability to reduce delays by 12 per cent. It optimises traffic signals in response to real-time traffic conditions and further planned enhancements will allow the system to take account of pedestrians and cyclists.

TfL plans to install Pedestrian Countdown at around 200 traffic signals sites, focused at locations where they are linked to broader high street improvements to improve traffic flow and reduce emissions at junctions. The system uses a numerical counter, which enables pedestrians to judge whether they have enough time to cross the road. This helps them make more informed choices about how long they have to cross safely.



London's buses are the most used public transport mode and are responsible for around a fifth of all daily journeys in the Capital

There is a significant amount of the network where disruption and congestion occurs but cannot be managed by TfL as there are no cameras. Therefore, TfL is investing in more CCTV cameras which will be used to manage disruption through the expanded SCOOT system to achieve better journey time reliability.

Variable Message Signs (VMS) at junctions and other key decision points on the network help drivers avoid congestion, reducing the length and severity of any delays caused by an incident. This Plan will increase the number of VMS on the roads to help manage the network in real time and improve it for all users.

The London Streets Tunnel Operations Centre control and communications system will be modernised and expanded, and additional safety systems introduced in key tunnels and on their approach roads. This will allow early detection and response to incidents and help reduce network disruption.

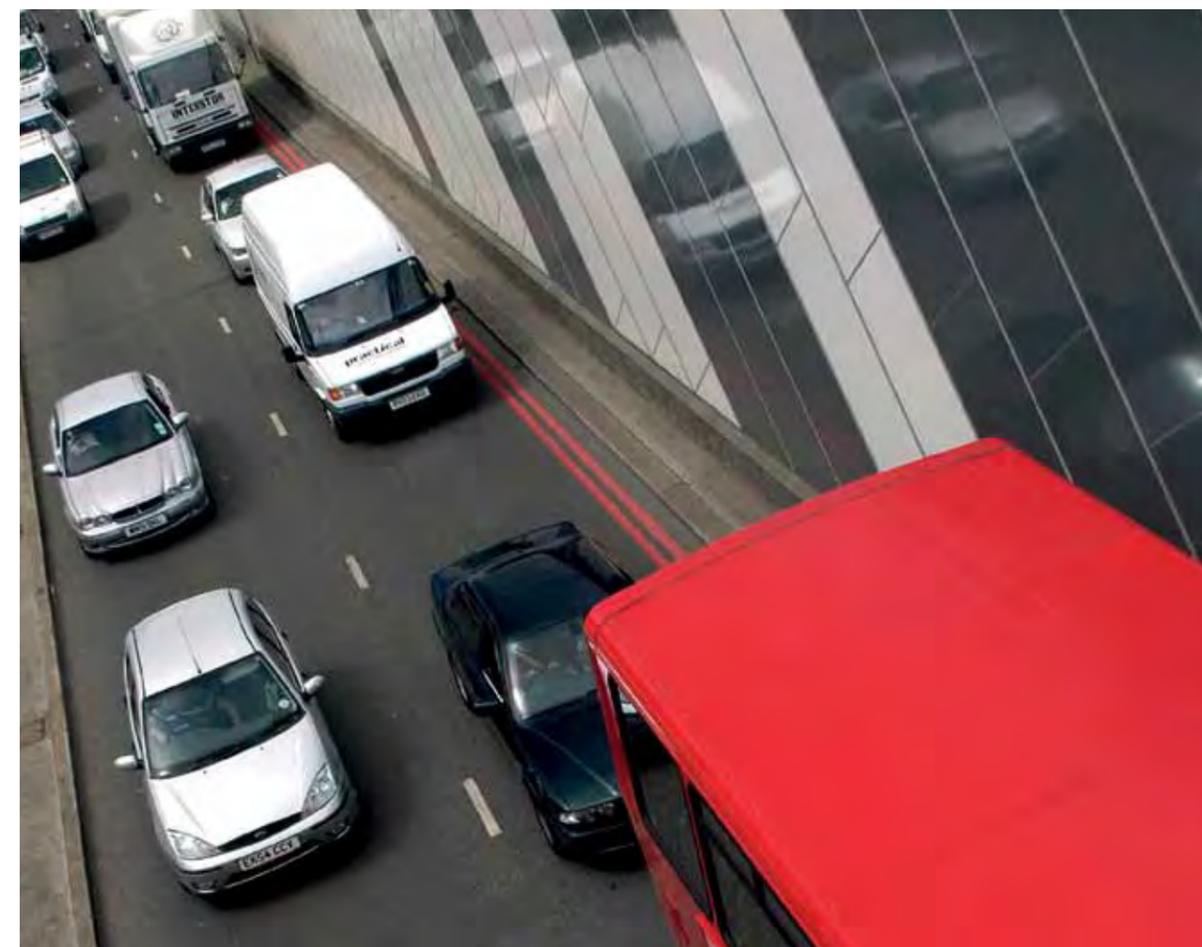
A partnership between TfL and the Metropolitan Police Service, coupled with

a new approach when responding to serious and fatal collisions, is improving journey reliability on the Capital's roads. Pan-London roads policing teams react quickly to incidents, rapidly restoring the road to normal and dedicated policing at Blackwall Tunnel has resulted in fewer hours of disruption when incidents occur.

Buses

London's buses are the most used public transport mode and are responsible for around a fifth of all daily journeys in the Capital. They carry more than 2.3 billion passengers a year – more than at any time since 1960. Around four-fifths of mileage is run outside central London and more than 94 per cent of London residents live within 400 metres of a bus service, providing vital links to those without easy access to the Tube and rail networks.

Excellent service is a priority and reliability is at the best levels on record. Customer satisfaction remains high and has increased steadily over the past decade.



The bus network is kept under continuous review. Extensive passenger research and stakeholder engagement means that the network is able to continue meeting changing travel needs. This includes adapting to developments such as new homes, schools, medical facilities, shopping centres and leisure attractions, as well as supporting other transport projects such as Crossrail. The consultation process has been further improved with all significant proposals for changing bus

services now placed online by TfL for comment before final decisions are made.

TfL will continue to maintain reliability and support the London economy through this affordable and convenient transport option. An example of this is using a range of traffic and bus operations data sources to identify 30 'pinch point' locations where bus priority measures will be introduced to improve bus and road network reliability.

New Bus for London

The new bus had a big impact during its first week in service in February 2012 with passengers queuing to glimpse, photograph and ride on the vehicle on Route 38. It continues to attract celebrity vehicle status on the network.

Its design is unique in London with two staircases and the return of hop-on hop-off boarding when the rear door is open and a conductor is on duty. Customer research carried out in summer 2012 confirms the bus is well liked by customers, scoring



very high satisfaction among passengers who particularly rate its smooth ride, comfort and quietness.

By spring 2016, there will be 600 plying their way across the Capital, representing more than one in 10 double-deck buses. They will be

the most environmentally-friendly vehicles in the fleet and the most distinctive with their rear platform and curved back and front.

The order for 600 production buses represents the largest single hybrid bus order in Europe. The vehicles are

manufactured in Ballymena, Northern Ireland, with the majority of materials and components supplied from within the UK. This will act as a generator of jobs, help spur economic growth, and enhance the engineering and manufacturing reputation of the UK.



Tramlink

Since Tramlink opened in 2000 the number of passenger journeys has increased by 50 per cent. With the population and job market in south London expected to continue to grow, demand for travel on the network is expected to rise. To provide for and help enable this growth, TfL will procure four extra trams and increase frequency and capacity between Croydon and Wimbledon by double-tracking key sections. In addition, TfL is working actively with stakeholders to further develop proposals for tram extensions, focusing particularly on how these might be funded.

London Overground

Demand for London Overground services has grown by 160 per cent in the last five years on the original network. With the East London line included the overall demand has trebled. This growth is outstripping capacity and causing severe peak-time congestion. Therefore TfL plans to lengthen trains and increase frequency (an additional two trains per hour) on the East London line to boost capacity and ease overcrowding.

In addition, trains will be lengthened on the West London, North London, Euston to Watford and the Gospel Oak to Barking lines. These projects will provide 25 per cent more peak capacity, supporting the growth of the 10 Mayoral Opportunity Areas served by London Overground.

River services

Passenger services on the Thames serve a growing commuter and leisure market as well as having an established role in the Capital's tourist economy. Use of river services rose from just over two million passengers a year in 2003 to more than four million a year in 2011. A further two million journeys take place on the cross-river Woolwich Ferry. The Mayor and TfL wish to see use of river services double, compared to today's levels.

TfL will work with commercial operators and partners to take forward the Mayor's vision.

Extensive improvements are necessary at major stations to relieve congestion

Tackling congestion

Demand is increasing across TfL's public transport and road network. Large capacity increases help alleviate congestion, but further work is needed to relieve congestion black spots. These projects support future growth allowing all public transport and road users to benefit from reduced congestion.

On the Underground, extensive improvements are necessary at major stations to relieve congestion, minimise the need for station control measures to deal with overcrowding, facilitate interchange and increase capacity. Examples include:

Paddington (Hammersmith & City)

A new ticket hall, extra staircase and lifts for step-free access from street to both platforms will treble capacity. The improvements will also support the wider National Rail station redevelopment, Crossrail and Paddington Basin development completing in 2014.

Victoria

A new ticket hall will help increase capacity, as will improvements to the existing ticket area and additional escalators to the Victoria line. Interchange improvements will allow step-free access from the street to all Tube platforms. The new northern ticket hall will open in 2016 with the full scheme completing in 2018.

Tottenham Court Road

Works will relieve current congestion and prepare for future Northern line and Crossrail demand. Once completed, capacity will increase from 150,000 to 200,000 passengers a day.

Plans include a new ticket hall six times larger than at present, with separate escalators to the Northern line, step-free access from street to all platforms and a new public piazza at St. Giles Circus. The new ticket hall will be operational from 2016, with the full scheme completed by 2017.

Bond Street

This project will relieve congestion and prepare the station for an expected increase in passenger numbers (from 155,000 to 225,000 passengers a day) once Crossrail is running. The scheme includes new escalators, a new interchange passageway, a new entrance and ticket hall, and step-free access to every platform, all to be completed by 2017.

Bank

Bank is the fourth busiest Underground station, and more than 90,000 passengers use it during the morning peak. Day-to-day demand can overwhelm capacity requiring customers to be held before entering the platform or the station to operate as exit only.

A new entrance will be constructed for the Waterloo & City line at Walbrook Square by 2015 as part of the planned office development above the station. This will reduce journey times for passengers, provide step-free access to the line and provide more capacity in existing ticket halls.

The main part of the scheme will deliver a new tunnel and widen the platforms and concourse to provide extra capacity for the Northern line and relieve congested areas. Additional step-free access and improvements to signs and customer information will be completed by 2021.

London of the future – unlocking growth areas

While renewal and enhancement of the existing transport system is the starting point, additional investment will be essential as growth continues to help stimulate economic development and regeneration.

Changes at the fringes of London's Central Activities Zone (CAZ) mean there are opportunities to extend the economic and business heartland further, integrating and capitalising on new clusters of activity and growth. Additional transport investment will help unlock these major 'new' business and residential locations.

Supporting regeneration

A major example of such investment is the Northern line extension. TfL is working with boroughs, central government and other partners to develop funding for the scheme. If planning approval is obtained and a funding package is in place, then construction of the Northern line extension could begin in 2015 and open in 2020, unlocking the full potential of the Vauxhall / Nine Elms / Battersea Opportunity Area. This new spur, linking Kennington to Battersea Power Station will allow 17,000 additional jobs and 7,500 more homes to be created.

TfL is playing a critical part in unlocking London's Opportunity Areas by expanding and developing its stations. Funding has been set aside for specific growth-related transport projects identified in this Plan. These include Tottenham Hale (below), the development of Kennington station and the Elephant & Castle northern roundabout and station.



Tottenham Hale

TfL is supporting the regeneration of Tottenham Hale by redeveloping the Underground station as well as working with Haringey Council to convert the one-way gyratory on the A10 to two-way traffic. The project also includes the construction of a new bus station and public square.

Construction on the gyratory started in October 2012, with completion scheduled for late 2014. Carriageway work will take place overnight, at weekends and during off-peak hours to reduce traffic disruption.

This is the first major project to be created under the TfL Lane Rental scheme which is a targeted and avoidable charge for those (including TfL) carrying out works in congested areas at busy times.

Transport investment unlocks growth areas, such as the proposed scheme for Battersea and Nine Elms





Crossrail

Crucial to London's future, Crossrail will expand the city's rail network capacity by 10 per cent – the biggest single increase in the Capital's transport capacity since 1945. This will reduce congestion by up to 60 per cent on many Underground lines, as well as on the DLR and Southeastern train services, and generate £42bn for the UK economy.

More than 1.5 million additional people will have access to quick, direct links to the heart of the Capital. The new railway will link the outer suburbs in east and west London with fast, frequent, high capacity services to the City, West End, Heathrow Airport and Docklands. New central London stations will integrate with the Underground at Paddington, Bond Street, Tottenham Court Road, Farringdon, Liverpool Street and Whitechapel.

Services will begin in phases, with the first new trains planned to begin operating early in 2017 on existing Network Rail suburban services into Liverpool Street station. Crossrail services will start running in the central tunnel section towards the end of 2018.

During 2012 tunnelling began at Royal Oak Portal as two tunnel boring machines started their journey to Farringdon. Other machines will be launched in late 2012 and 2013. At the peak of construction up to 14,000 people will be employed on the project.

Aviation

At the request of the Mayor, TfL is also analysing and assessing options for future airport capacity to support London's and consequently the UK's growth.

Bus transit schemes

Bus routes have the benefit of flexibility; the ability to extend or add routes that serve new development schemes. In some areas bus transit schemes, such as those that have significantly improved transport links in Ilford, Dagenham and Barking, provide the ideal solution, raising the profile of the areas they serve and encouraging investment for regeneration. TfL will continue to develop and put in place new schemes to improve public connections in areas which need substantial development.

Freight

London's growth is accompanied by an increase in freight traffic required to service the Capital's economy. Building on the success of the Olympic Games, TfL will continue to work with businesses, local authorities, Traffic Commissioners, commercial fleet operators and freight and logistics operators to create a legacy that eases the flow of traffic on the road network and improves road safety while cutting harmful emissions.

The Olympic Park will be one of London's most important regeneration areas, and 20,000 jobs are forecast to be created around Stratford by 2015

TfL will leverage its buying power to employ operators that meet both safety and environmental requirements using Fleet Operator Recognition Scheme standards. It will also urge boroughs and other public bodies to adopt this approach.

DLR

The DLR has experienced steady 12 per cent year-on-year growth since 2009, and by 2014, the number of passengers using the service is expected to grow to 105 million a year. The route between Stratford and Canary Wharf, in particular, has seen very rapid growth.

The Olympic Park will be one of London's most important regeneration areas, and 20,000 jobs are forecast to be created around Stratford by 2015. The DLR has a key role to play in unlocking this potential. The planned replacement of the single-tracked section of the network with double track (between Stratford and Bow Church) will allow two trains in each direction, improving operational reliability and capacity to serve this growth.

The availability of land allows for major commercial and residential development which needs to be supported by investment in roads as well as public transport, and needs to set a new benchmark for high quality, sustainable urban living.

River crossings

Public and private investment – accelerated by the Olympic Games – has changed perceptions of east London and a significant proportion of the city's population growth is forecast in the east sub-region. Stratford is the home of Europe's largest shopping mall, outstanding transport

connections and soon the Queen Elizabeth Olympic Park and is an area with even more economic potential. The availability of land allows for major commercial and residential development that needs to be supported by investment in roads as well as public transport.

A new tunnel linking the southern approach of the Blackwall Tunnel with Silvertown is being planned with the objective of improving the reliability of essential cross-river road trips. TfL is currently consulting on the options and funding methods for this scheme. Subject to consultation, funding and legal processes, this could open in 2021. It will also support local regeneration including 13,000 new jobs and almost 25,000 new homes proposed in the Royal Docks and Greenwich peninsula areas.

Further options for improving cross-river connectivity include a new ferry at Gallions Reach, which will potentially replace the Woolwich Ferry.

Figure A

Delivery schedule: summary for key TfL infrastructure schemes

This diagram sets out the planned delivery timetable for key TfL infrastructure schemes supporting delivery of the Mayor's Transport Strategy, which are funded and for which significant activity is planned during the period of this Business Plan.

Project	2012 / 13	2013 / 14	2014 / 15	
Crossrail				► 2019
Tube				
Line upgrades				
Northern line				
Northern line part 2				► Early 2020s
Northern line extension				► 2020
Sub-surface railway				► 2018
Future Tube upgrades				► 2020-30s
Congestion relief and station upgrade schemes				
Paddington (Hammersmith & City)				
Victoria				► 2018
Tottenham Court Road				► 2017
Bond Street				► 2017
Bank				► 2021
Surface Transport				
Hammersmith Flyover: phase 2 strengthening				
Bridge renewals				► 2016
Delivery of a further 600 New Bus for London vehicles				► 2016
SCOOT – roll-out to a further 1,500 sites				► 2019
Pedestrian Countdown – roll-out to a further 200 sites				
Tottenham Hale Gyratory redevelopment				
Introduction of 1,300 electric vehicle charging points				
Better Junction review: safety improvement to 100 key junctions				► 2016
Completion of all 12 Barclays Cycle Superhighways				
Barclays Cycle Hire expansion and intensification				
Cycle hire system improvements				
Tramlink				
Platform works at Wimbledon				
Procurement of four additional trams				
London Overground				
Additional two trains per hour on the East London line				
Additional carriage on all lines:				
Gospel Oak Barking line				
East London line				
North and West London lines and Euston-Watford line				► 2016
DLR				
Double tracking of north route				► 2019
River				
Silvertown tunnel				► 2021
Other				
Contactless ticketing available on all modes				

Table 1

Key performance indicators: supporting economic development and population growth

Service volume	Unit	2012 / 13	2013 / 14	2014 / 15
London Underground: train kilometres	Million	75.7	77.8	81.2
London Buses: bus kilometres	Million	490.7	491.0	491.0
DLR: train kilometres	Million	5.7	6.4	6.4
London Overground: train kilometres	Million	7.1	7.3	7.5
Tramlink: train kilometres	Million	3.0	3.4	3.5
Passenger journeys				
London Underground	Million	1,222	1,234	1,265
London Buses	Million	2,382	2,427	2,451
DLR	Million	102.6	102.5	106.1
London Overground	Million	121.2	128.6	132.6
Tramlink	Million	30.5	31.5	32.8
Dial-a-Ride	Million	1.4	1.4	1.4
Emirates Air Line	Million	1.3	1.5	1.6
Reliability				
London Underground: excess journey time	Minutes	5.8	5.7	5.4
London Underground: lost customer hours*	Million	14.0	13.0	12.5
London Buses: excess wait time	Minutes	1.1	1.1	1.1
DLR: on-time performance	Per cent	97.0	97.0	97.0
London Overground: public performance measure	Per cent	94.2	94.2	94.2
Emirates Air Line: availability	Per cent	96.5	96.5	96.5
TfL road network: journey time reliability (morning peak)	Per cent	89.3	89.6	90.0
TfL road network: serious and severe disruption (planned and unplanned events)	Hours	2,110	2,030	1,995
TfL road network: percentage of carriageway in state of good repair	Per cent	90.0	91.0	91.0

* Refers to asset-related lost customer hours

TfL will continue to enhance the service offered to customers

Putting customers at the heart of the business

A quality service for customers

The scale of the work required to maintain and improve the transport and road networks is immense and inevitably causes some disruption. TfL is committed to keeping any disruption to a minimum and is continually looking at more efficient ways of working and communicating with customers and stakeholders.

To complement significant investment in assets, an equal priority will be placed on addressing customers' evolving needs. This means listening to their feedback, driving improvements based on their needs and using the latest technology to support provision of more real-time, personalised services. Every journey is important regardless of which part of the network customers are using.

The projects laid out in this plan demonstrate a commitment to support customers when things go wrong. They are designed to keep customers up to date during planned or unplanned disruption, and ensure that they can make informed journey decisions. They will also make it easier to communicate with TfL.

To ensure consistency in its approach to customer service, TfL is working on a single 'Customer Charter' that will be launched in early 2013. This will inform customers of expected standards when contacting TfL and using its services, and outline a consistent approach when services do not meet those standards.

Around 20,000 people a day buy a new Oyster card, 36,000 people a day run out of credit, and five out of six visitors never reclaim their Oyster card deposit. This will be addressed when

paying for travel on London's transport network becomes easier and even more convenient with the acceptance of contactless payment cards. From December 2012, customers will be able to pay for single bus fares using a debit or credit card on the card readers that will be installed on all London buses. The cost will be debited directly from customers' bank accounts removing the need for pay-as-you-go passengers to queue for ticket sales or Oyster card top-ups.

Visitors will have easier journeys without having to worry about buying the right ticket, and regular customers will experience the same flexibility and versatility that they do in other credit and debit card transactions. The ability to pay in this contactless style will be extended across the Tube, London Overground, DLR, tram and National Rail services in the Capital in late 2013.

Oyster will continue to operate for customers with season tickets and those without contactless-enabled debit or credit cards. At the same time, TfL will enable the acceptance of smartcards issued by other organisations that comply with the agreed technical standard specification (ITSO).



Improved customer information

During 2013, the multiple telephone numbers currently being used to contact TfL will be replaced with a single local rate number. This one point of contact for all information and customer services will make it easier and less confusing for customers.

Planned improvements to Oyster online information will give customers more self-service options, reducing the need to visit a station or call the contact centre. Customers already have access to their full journey history and related account charges. The enhancements will, in future, allow incomplete journeys to be addressed automatically through understanding customers' regular travel patterns.

TfL will launch a new website and mobile platform in 2013. The website will work seamlessly regardless of device and location, and remember frequent journeys, places and preferences, providing a more personalised experience. Further development will be carried out during 2013 to support the launch of a single customer account. This will provide a convenient single sign-on for access to all TfL online services, where customers can create their own personalised 'My TfL' experience.

TfL will continue to facilitate the creation of numerous free apps, by allowing free access to its data through the London data store. Developers make TfL data available in innovative ways, demonstrating a useful and low-cost partnership for customers' benefit. It will allow customers to receive TfL information in a way that suits them.



TfL staff are vital to the development of the improvements outlined in this plan, particularly customer service. Building on the positive experiences of customers during the Games, TfL will work with staff to eliminate any barriers to the continued provision of excellent service. It will ensure staff feel empowered to deal with day-to-day issues and the customer service approach outlined in this plan is embedded across all who represent TfL.

Tube customer service

Tube customer satisfaction levels are at a record high but TfL will not be complacent. Increasing customer expectations, rapidly changing technology, and the need to deliver the best possible value for money means TfL must continually adapt the customer experience.

This integrated programme will ensure that Underground stations can continue to provide safe and reliable access to trains into the 21st century, while also contributing more to their local communities, delivering increased levels of non-fare revenue to TfL and, most importantly, a better experience for customers.

Bus driver training

As part of a broader improvement of the customer experience across TfL's services, further investment will be made in the customer care training of bus drivers. This will focus on how they provide additional support for older and disabled people, and how they keep passengers informed of disruptions.

Rail devolution

As outlined in the Mayor's Rail Vision, there is a proposal to further devolve control over various suburban rail services in the London area to TfL. Investment in this would be focused on the West Anglia and Southeastern routes operating within the Capital and would provide the following benefits:

- Enhanced train service reliability, with the number of trains classified as running on time rising to between 90 per cent and 95 per cent
- Improved station ambience and facilities
- More visible staff on trains and at stations
- Extensions to the availability of Oyster ticketing and provision of more station ticket gates to reduce fraudulent travel
- Improvements to Southeastern train services to provide enhanced off-peak services at some stations



London Overground

Since assuming control of London Overground's operations in 2007, TfL has delivered a marked improvement in performance:

- The score for overall customer satisfaction has increased by 20 per cent
- The Overground has achieved the second best result for overall satisfaction among franchised Train Operating Companies in London and the South East
- The number of journeys made on the Overground network has more than doubled
- Fraudulent travel has been virtually eliminated, with around two per cent of journeys now being made without a ticket, compared to more than 10 per cent when TfL took control of the service

The Overground's orbital route, a new link connecting Surrey Quays to the new South London line, has just been completed. This much anticipated scheme enables Overground services to operate to Clapham Junction and provide customers with alternative links to reach key locations in the City and Docklands without entering the centre of the Capital.

A key focus of this year's Business Plan is to boost capacity by lengthening trains and increasing frequency of existing services. This will ease congestion and facilitate the development and growth of the multiple Opportunity Areas served by London Rail.

Safe and secure transport

The bus and Tube network in London is safer than ever before, with historically low crime rates which have almost halved since 2005/06.

Contributing to these results is dedicated policing on the bus and Tube network, creating a safe and secure environment. Working with the Mayor, the Metropolitan Police Service, City of London and British Transport Police (BTP), TfL has provided dedicated police teams across public transport and on London roads to improve safety and reliability.

All the agencies with an influence on transport safety and security have been brought together to form the London Transport Community Safety Partnership (LTCSP). Its aim is to prioritise

cycle theft, sex offences and fear of crime, taking an evidence-led approach to develop responses and tactics to deal with these issues.

Common procedures are being created for penalty fares and prosecution cases across TfL services. This will lead to better ways of working, more efficient use of TfL resources and will continue to keep levels of fare evasion down.

Discussions are being held with the BTP to investigate options to create a 'London Command' which would lead to better management of transport policing priorities and the integration of additional BTP resources on the Overground.

Table 2
Key performance indicators: safety and security

Service volume	Unit	2012/13	2013/14	2014/15
London Underground and DLR: recorded crime per million passenger journeys	Number	8.9	8.6	8.2
London Buses: recorded crime per million passenger journeys	Number	9.0	8.7	8.4
Londoners whose use of public transport is significantly affected by crime and disorder concerns	Per cent	29	28	28
Cumulative reduction in killed or seriously injured Londonwide (from 2005-09 base)	Per cent	(22.2)	(24.7)	(27.1)

On the bus network more than 70 per cent of London's 19,000 bus stops are now fully accessible

A network open to all

The accessibility of London's transport network will dramatically improve over the next decade, adding significantly more step-free journey options for customers.

All DLR and Tramlink stations already have step-free access and 45 per cent of London Overground stations, including the new extension between Surrey Quays and Clapham Junction, are step-free. This will rise to 60 per cent in 2014/15.

All new Crossrail stations will have step-free access from street level to the Crossrail platforms and it is estimated that 93 per cent of all passenger trips on the new railway will run between stations with step-free access. Crossrail will therefore significantly boost the overall accessibility of London's transport network.

Installing lifts at some of the busiest Tube stations such as Victoria, Tottenham Court Road, Bond Street and Bank over the next decade will double the number of step-free journeys possible on the Tube, from 67 million today to 189 million in 2021/22. In addition, TfL will look at providing greater access at other stations where significant numbers of step-free journeys could be opened up within current budgets.

Next year, TfL will review the signs and wayfinding systems across the Tube to make it easier for people to navigate the network. It will also review complex step-free interchanges, such as Green Park and London Bridge, to make them easier to use. The highly effective accessibility signs used during the Games to

highlight step-free routes and accessible boarding points will also be re-introduced permanently.

In addition, TfL is working with disabled people to look at all the information it produces about accessibility, including improving the way step-free information is displayed on the standard Tube map. This will make it clearer which stations have level access throughout and which are step-free in the station but with a gap between the platform and the train.

Also next year, work will continue with Network Rail and the Association of Train Operating Companies to produce a step-free rail map for London, including non-TfL rail services. This will give an overview of step-free access across all rail services in the Capital for the first time.

The manual boarding ramps, which allowed wheelchair users to board the train more easily at 16 stations during the 2012 Olympic and Paralympic Games were very successful. TfL is looking at introducing them permanently.

On the bus network more than 70 per cent of London's 19,000 bus stops are now fully accessible and, working with London boroughs, TfL will increase this total to 95 per cent by 2016. This enables easy boarding via the built-in bus ramp for wheelchair users and makes access easier for other mobility impaired users, such as those with buggies or luggage.

TfL will continue to fund services that cater to those who are unable to use mainstream public transport services, namely Dial-a-Ride and Taxicard.

The right investment improves transport links and makes town centres better places to live and work



Making life in London better for all

Safe, attractive and accessible streets

A city where people want to live, work and visit is key to prosperity. TfL recognises transport's contribution to this and is working to make London's streets pleasant places to walk, cycle or meet. Reducing emissions and protecting the environment is a key part of this. This will have health benefits and make London a more attractive place to invest in.

Walking

Walking is a free, easy and reliable method of travel. It offers positive health benefits and is enjoyed by many Londoners. Good pedestrian access is important to the economic vitality of the Capital, with research suggesting that people who walk spend significantly more in town centres than those travelling on any other mode.

The Mayor's Transport Strategy outlines plans to create safe and attractive roads and places that encourage people to walk more. TfL aims to support the mayoral target of achieving one million additional walking trips a day by 2031 by creating safe, attractive and accessible streets.

As one of the world's leading business and tourist destinations, London is famed for both preserving its historic built environment and creating a new, vibrant and well-built urban realm. By investing in high-quality streets and roads, and using innovative solutions, TfL will continue to create better environments to attract people and private sector investment. These schemes reflect the Mayor's ambition to transform the urban realm and unlock and support wider growth and regeneration objectives. For example, over the next 18 months TfL will rebuild Euston Circus' busy

junction to improve the area for pedestrians and cyclists and reduce congestion.

TfL is also working closely with boroughs to create more attractive streets by removing unnecessary road markings, signs, guard rails and bollards where possible.

High quality, consistent and easily accessible maps and signs improve walking opportunities in the Capital. Legible London is a map-based information system that helps people navigate the Capital on foot. TfL is working with developers and borough councils to extend this programme. By working with partners in the private sector, new Legible London products can be introduced, such as the interactive digital map outside Canary Wharf station and the Legible London signs at the Shard, to provide seamless and consistent information in the area.

TfL aims to make the Capital's streets easier to access. It is continuing to make sure that any works carried out on its roads and pavements are accessible and the needs of disabled people are taken into account when developing schemes. At junctions, TfL will continue to ensure appropriate tactile paving and rotating cones are present for visually impaired people.

De-cluttering of TfL's roads under the Better Streets programme will create more accessible pavements. A programme of footway maintenance keeps pavements safe and fit for all users. In addition, the bus stop accessibility programme (see page 33) ensures that wheelchair users and others are able to access the bus network.

Cycling

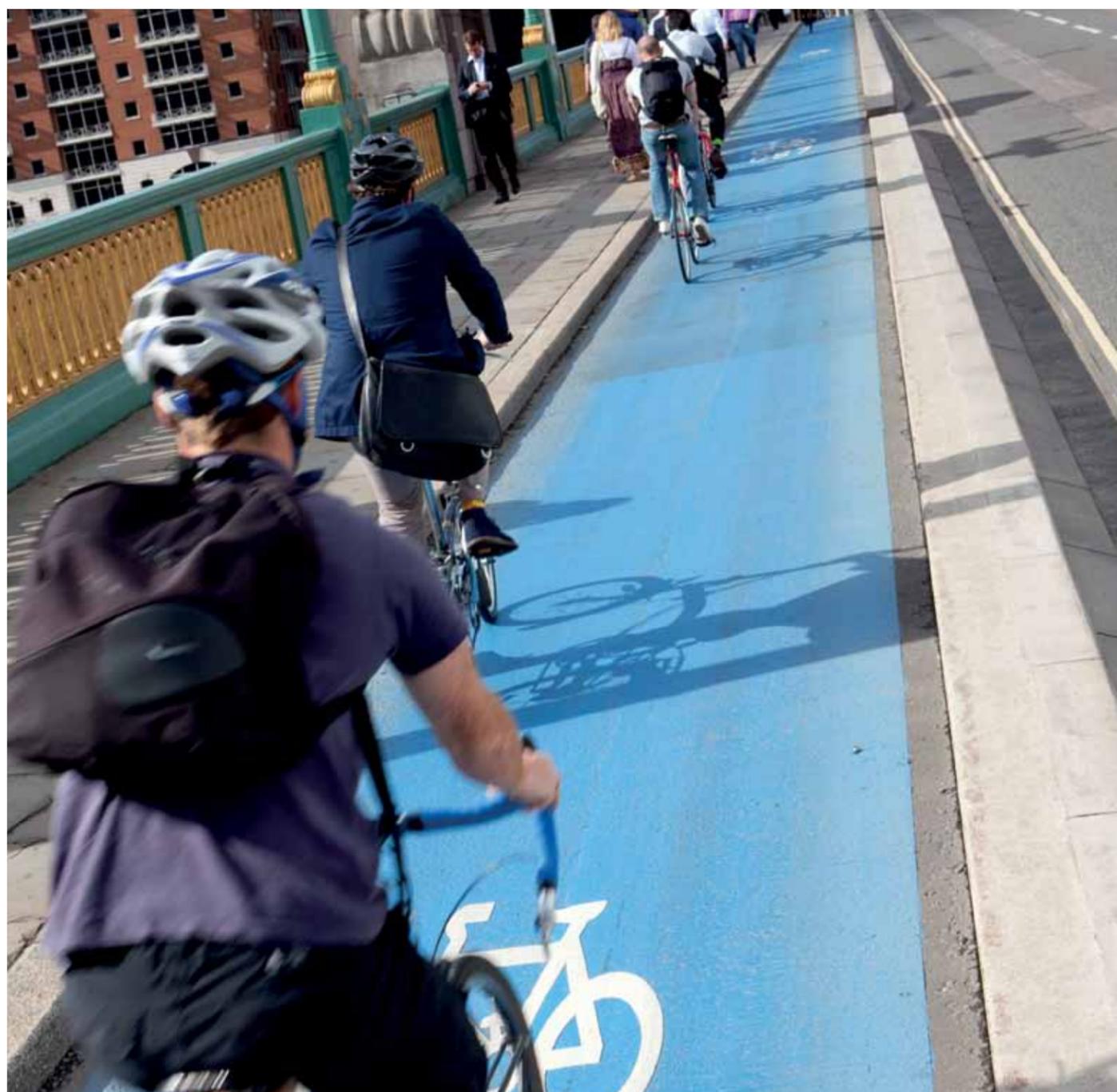
More than 540,000 cycle journeys are made every day in the city and this continues to increase. Higher levels of cycling make more efficient use of road space, reduce congestion and traffic emissions while improving Londoners' health through active travel and a cleaner environment.

All of these contribute to making London a more pleasant city in which to live and work. TfL will invest over the plan period to continue this upward trend towards the Mayor's target to increase cycle journeys by 400 per cent by 2026.

The Mayor will shortly publish his Vision for Cycling in London, establishing how TfL hopes to deliver:

- Safety improvements at 100 key junctions as part of the Better Junction review
- The completion of all 12 Barclays Cycle Superhighways
- The introduction of a central London cycling grid of well-marked routes, including a new east-west cycle superhighway
- Introducing cycle safety improvements through Biking Boroughs
- Upgrades of a range of cycle routes to cater for cyclists' preferences and ability, from off-road green routes, quiet backstreet routes to principal cycling routes

Around six per cent of all weekday cycling journeys currently made in Greater London are made by Barclays Cycle Hire bikes. Building on

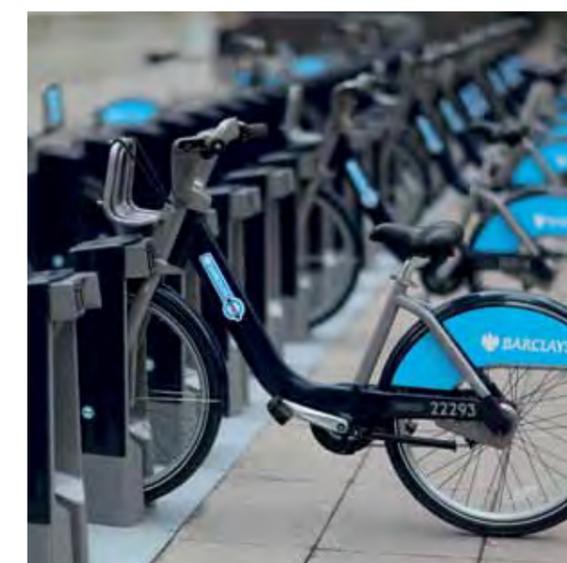


the success of the existing programme, TfL will expand the Barclays Cycle Hire scheme to the south-west, increasing the number of cycle hire bikes by 2,400 by 2014. It will also explore the feasibility of a cycle hire scheme in Outer London.

The enthusiasm with which Londoners have embraced Barclays Cycle Hire has seen more than 17 million cycle journeys made since July 2010.

The scheme's popularity continues to grow with 5.6 million journeys made on the iconic blue bikes in the six months to September 2012, a 38 per cent increase on 2011. Nearly half (47 per cent) of Barclays Cycle Hire members have reported that they started cycling in London as a result of the scheme's introduction.

The Biking Borough programme, currently in 13 boroughs, will be expanded to enable more to join. Increased investment in the boroughs is already funding local cycle improvements.



More cycle parking spaces will be built at rail stations and interchanges, and with TfL's borough partners, new spaces will be created at schools, workplaces, residential areas, new developments and other major trip generators. Overall, TfL aims to introduce 80,000 more cycle parking spaces by 2016.

This plan will support this activity with a substantial and sustained increase in investment in order to double the levels of cycling in London by 2020.

Keeping London's roads safe

There have been substantial reductions in casualties and collisions over the past decade in the Capital. Every single accident on London's roads is one too many, and the safety of all road users is TfL's utmost priority.

The Mayor's Cycle Safety Action Plan detailed 52 actions aimed at reducing the number of collisions involving cyclists. TfL will continue this project through a range of safety measures alongside the Better Junction review launched in 2011.

TfL will also work to improve the relationship between cyclists and other road users through increased investment in the education and road awareness of cyclists, freight vehicle drivers and other motorists. Collaboration with the freight industry will ensure that vehicles are as cycle-safe as possible, and more enforcement activity against antisocial road user behaviour will build road safety awareness and improve the relationship between cyclists and other road users.

Research into the construction logistic sector will be published in late December 2012 outlining actions to improve cyclists' safety around large commercial vehicles. By working with the freight and construction logistics industry, the safety of vulnerable road users will be promoted through education campaigns and enforcement activity. This includes training for drivers of large commercial vehicles to build more awareness of cyclists and working with vehicle manufacturers to improve vehicle safety.

The Mayor is consulted on his Road Safety Action Plan for London, which will be published in spring 2013, and highlights the



work needed to address the disproportionate casualty rate of pedestrians, motorcyclists and cyclists. Alongside this, TfL is engaging with key stakeholders to develop the Pedestrian Safety Action Plan for London and the Motorcycle Safety Action Plan also planned for publication in spring 2013. Setting out a strategy to improve the safety of pedestrians and motorcyclists, it will include initiatives to better design streets and areas, improve driving and riding standards, as well as pedestrian education.

TfL will continue to work with the police, to tackle speeding, and criminal and antisocial driving. Increased enforcement will be supported by the upgrade of red-light and safety cameras and modern digital technology across the Capital.

By working with the freight and construction logistics industry, the safety of vulnerable road users will be promoted through education campaigns and enforcement activity

Improving the environment and air quality

TfL will build on the success of the Low Emission Zone to reduce air pollution. Investment in clean air improves health, cuts healthcare costs and reduces days lost at work and school. Ground-based transport accounts for around 22 per cent of London's carbon dioxide (CO₂) emissions and is the greatest contributor of air pollutants harmful to human health. TfL will continue to work towards achieving London's target of a 60 per cent reduction in CO₂ emissions by 2025 from a 1990 base.

Clean air is a major factor in making a city a safe and pleasant place to live, work and visit. Improving air quality offers a better quality of life and health for Londoners, as well as enhancing the city's offering to tourists and international investment. TfL will introduce air-quality improvements through specifically targeted initiatives and through the wider plan with projects such as the New Bus for London.

TfL's fast, safe and reliable public transport service coupled with record ongoing investment in walking and cycling helps reduce the number of vehicles on the roads and therefore cut

emissions. This is the major way in which TfL improves London's air quality, but there are direct ways that can further enhance the effect, such as the Low Emission Zone and ensuring its vehicle fleet meets the highest standards.

Buses

TfL is undertaking a range of measures which will make London a world leader in clean bus technology. A target to increase the number of hybrid buses in the fleet to 300 by 2012 was met and TfL is on target to deliver a total of 1,600 hybrid buses by 2016. Vehicles will mostly be allocated to routes passing through high emission areas in central London.

All hybrid buses are assembled in the UK, supporting jobs and manufacturing. The 1,600 total will include the introduction of 600 New Bus for London vehicles by May 2016, ensuring the Capital continues to have the largest hybrid bus fleet in Europe. These new buses emit less than half the CO₂ and mono-nitrogen oxides (NO_x) of current diesel buses. Fuel economy is also better than twice that of a standard diesel bus.



Engine emission standards, already ahead of legal requirements, will be further improved with technology to reduce NO_x by more than 70 per cent per vehicle. A total of 60 Euro III buses have been fitted with this technology and another 900 double-deck buses are set to follow. The remaining 900 Euro III buses will be replaced ahead of schedule with new Euro VI vehicles, which is expected to reduce NO_x emissions by 600 tonnes a year.

There have been significant cuts in diesel particulate matter (PM) for more than a decade (from 200 tonnes a year in 1997 to 15 tonnes in 2011). The introduction of particulate filters on 120 buses on selected routes, as part of the Clean Air Fund, will further reduce this, decreasing PM by up to 75 per cent per bus.

Biofuel is being trialled on minibuses in the Dial-a-Ride fleet to assess its suitability for wider use. Broadening the use of innovative technology and alternative fuels is lending growing support to light industry and providing the basis of an emerging market.

Taxis

TfL is working with manufacturers to support development of alternative fuel and zero emission taxis. A prototype hydrogen fuel cell taxi was successfully tested during this year's Olympics and work with the industry continues to encourage smarter driver training and cutting engine idling. TfL will work with the market to seek development of a competitive zero-emission taxi.

Low emission vehicles

TfL is working with the Mayor to reduce emissions from all vehicles in London and support the development of new industries for the Capital, such as new manufacture of biodiesel from waste cooking oil. To do this TfL will adopt a new Low-emission Vehicle Strategy considering a range of fuels and technologies. As part of this TfL's Electric Vehicle Delivery (EVD) project will continue, with more than 50 Source London partners, to support the growth of public and workplace charge points to achieve the Mayor's target of 1,300 new charging points by April 2013.

In October, Source London became interoperable with Source East, so members of both schemes are able to use both Source London and Source East charge points for free. This will allow electric vehicle owners to travel greater distances and charge up across London and the East of England.

As part of the Mayor's commitment to deliver 1,000 low-emission vehicles across the GLA group, TfL will introduce 120 zero-emission electric vehicles helping to ensure London is a global centre for low-emission vehicle technology.

The Mayor's Air Quality Fund

To support boroughs in tackling local air quality hotspots, raising awareness and reducing human exposure, a new Mayor's Air Quality Fund is being created. A total of £6m has been allocated for this fund. Additional funding will be available to boroughs which prioritise air quality and achieve 'Cleaner Air Borough' status. Businesses, schools and other groups will be encouraged to take part in these projects to increase the funding available and maximise impact. Projects which could be funded include: developing low emission 'green zones'; freight consolidation and improved last mile logistics; air quality improvements to high streets; and trials of new low-emission technologies. Subject to further proposals, TfL will increase resources available to around £20m once the initial fund spending has been assessed for its impact.

TfL is currently working with two energy suppliers in London which will potentially deliver around 15 per cent of its power from low-carbon sources

Changes to the Low Emission Zone were successfully introduced in January 2012, tightening the standards for buses, coaches and lorries and introducing new standards for vans and minibuses.

Freight is an increasing user of our roads and can have big impacts on congestion, CO₂ and air pollutant emissions. The 2012 Games showed us that new approaches can be successfully delivered and TfL will work to maximise this Olympic legacy.

How, where and when goods and service vehicles move around will be influenced by: the promotion of supply chain consolidation; improvements to journey planning; and the adoption of an out-of-hours delivery approach to reduce congestion during peak periods. This will be achieved through close liaison with the freight industry, businesses and boroughs. TfL will also work to increase the uptake of alternative and cleaner fuelled vehicles to reduce freight vehicle emissions on last mile deliveries.

Increasing energy efficiency

There are more than 40,000 lighting units on TfL's road network. The organisation is investing in new and emerging street-lighting technologies, such as LEDs and central management systems, for profiling lighting levels. It is also incorporating energy-efficiency measures at bus stops, shelters and stations.

'Smart' electricity meters are being rolled out to all Underground stations to enable greater targeting and monitoring of energy savings.

Leicester Square and Sloane Square have become low-carbon stations to enable the evaluation

of low-energy technologies and intelligent heating and cooling systems. These technologies are being assessed for roll-out as part of station asset works.

Low-energy lighting is being installed across a number of stations especially above escalators where the long life of the new bulbs dramatically reduces maintenance costs. New lighting technologies are being evaluated as a replacement for traditional fluorescent lighting.

Low-carbon energy sourcing is a key element of TfL's climate change strategy and involves developing strategic partnerships with power generators in London to connect low-carbon generation directly to TfL's power network. TfL is also working as part of the Mayor's RE:FIT scheme to identify opportunities to retrofit energy-efficient technologies in stations, depots and office buildings.

TfL is currently working with two energy suppliers in London which will potentially deliver around 15 per cent of its power from low carbon sources and is investigating opportunities to redevelop its power station at Greenwich as a low-carbon energy source for the Capital.

These projects would contribute significantly to achieving the Mayor's targets on CO₂ and decentralised energy and help mitigate against any supply and energy price risk for TfL. They will also help catalyse low-carbon power generation in London and reduce TfL's carbon footprint. TfL will look to fund the investment required to deliver further energy

TfL will build environmental improvements into projects, such as the living walls springing up across London



efficiency and low-carbon energy solutions for London through using the savings or future income streams these projects will provide to offset the initial costs. This will allow TfL to reduce its environmental impact at no net cost.

Improving the natural environment

TfL will continue to work with its partners to invest in environmentally friendly infrastructure, such as green walls and roofs, and aims to meet its target to plant more than 100 trees on its roads every year. This will help improve air quality, soak up rain run-off and regulate summer temperatures by absorbing reflected heat from buildings.

TfL is also exploring innovative ways in which environment-improving measures can be built into major schemes.

As the highways authority for 580km of London's roads, TfL is assessing the feasibility of acoustic barriers at priority sections of elevated roads as part of the Government's noise action plans while looking at the availability of Government funds. TfL already resurfaces roads with quieter materials and is deploying a rising number of hybrid buses, which are noticeably quieter than their diesel counterparts to central London routes.

Ninety-five per cent of London's streets are controlled and managed by the London boroughs

Working with others

TfL continues to provide funding to London's boroughs, mostly in support of their Local Implementation Plans (LIPs), to enable projects outlined in the Mayor's Transport Strategy to be completed. Funding is allocated for smarter travel programmes, replacement of life-expired traffic signals, road and bridge renewals and major scheme developments.

Ninety-five per cent of London's streets are controlled and managed by the London boroughs. These streets fulfil a range of vital functions, from high streets to through routes. Too often they fall short of the needs of users and TfL's investment supports improvements where problems are most acute.

Typically LIP projects involve:

- Improving access, unlocking regeneration and supporting London's local and regional economy
- Enhancing the public realm
- Striking an appropriate balance between different road users needs
- Supporting trips by walking, cycling and public transport
- Improving safety and reducing the fear of crime

TfL's work with the boroughs to deliver these improvements helps to ensure streets and public spaces support economic growth and sustain London's role in attracting investment into the UK.



Crossrail

Crossrail construction will generate waste and excavated material, mainly from the tunnels, with some from demolition and construction activities. Crossrail aims to reduce, reuse and recycle waste and signed up to the Waste & Resources Action Programme commitment to halve the amount of construction, demolition and excavation waste going to landfill by 2012.

Crossrail has adopted an objective to remove, where reasonably practicable, excavated material by rail and water transport and to import construction materials by rail.

Current projections show that 85 per cent of excavated material will be transported by rail and river.

Table 3
Key performance indicators: quality of life

Cycling	Unit	2012/13	2013/14	2014/15
TfL road network cycling index*	Index	270	287	305
Customer satisfaction surveys				
London Underground	Score	80	81	82
London Buses	Score	81	81	81
DLR	Score	81	81	81
London Overground	Score	78	80	80
Tramlink	Score	86	86	86
Dial-a-Ride	Score	92	93	93
Congestion Charging scheme	Score	82	82	82
Emirates Air Line	Score	85	85	85
Air quality				
NOx emissions from TfL bus services	Tonnes	5,765	5,095	4,739
Low Emission Zone: phase 3 compliant vehicles	Per cent	95	95	95
Low Emission Zone: phase 4 compliant vehicles	Per cent	92	92	92

Table 4
Key performance indicators: climate change

	Unit	2012/13	2013/14	2014/15
CO ₂ per passenger-kilometre from TfL services	Grammes	69	67	65

* Cycling levels on the TfL road network - indexed (March 2000 = 100) measures growth in cycle flows recorded at 60 locations. (Note: the sample count figures are not equal to the total amount of cycling taking place on the TfL road network).

TfL's plans are predicated on stable funding



Financing the plan

TfL's activities are funded from six main sources:

- Central government funding, which has been agreed to 2014/15 following the 2010 Spending Review
- A proportion of the growth in London's business rates
- Income from fares and the Congestion Charging scheme
- Prudential borrowing (the amount and profile of which also forms part of TfL's settlement with central government)
- Commercial development in TfL's estate, including advertising and property rental and development
- Third-party funding for specific projects

TfL's overall financial plans are set out on pages 54 to 57 in tables 8-12. This covers operating expenditure and sources of revenue funding, such as fares income and the general grant, plus capital expenditure and sources of capital funding, such as borrowing and capital grants.

The Business Plan is balanced: planned funding sources are sufficient to meet planned expenditure. In-year differences between expenditure and funding are managed through transfers to or from TfL's cash reserves.

Central government grants

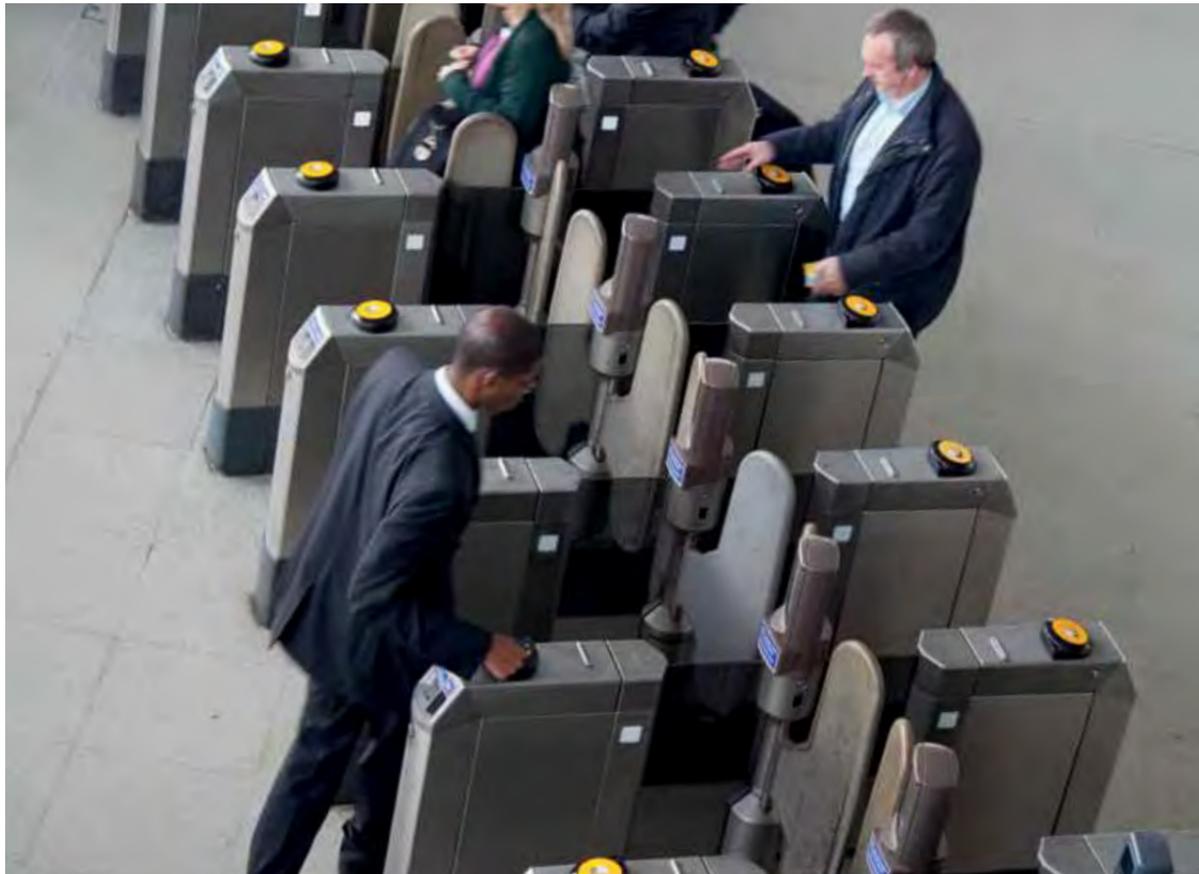
Under TfL's funding settlement, the Transport Grant, which is provided under the Greater London Authority (GLA) Act 1999, comprises two elements:

- An investment grant which supports delivery of the Investment Programme
- A general grant, to support TfL's operating activities

In addition, the following are also received from the Department for Transport (DfT):

- A capital grant paid to TfL in lieu of debt that would have been raised by the second period of the Public Private Partnership (PPP)
- The Overground grant, paid to support London Overground services on the National Rail network
- Grants for other specific projects

TfL's current funding settlement runs to 2014/15. TfL continues to engage with central Government and other stakeholders to ensure that the projects outlined in this document can be delivered.



The Mayor will continue to keep the level of the Congestion Charge and its effectiveness under review, with any future increases being subject to consultation

Business rates

Through the Local Government Finance Act TfL will receive a proportion of its funding through a locally-retained share of London's business rates. This will replace part of the funding that was previously to be paid as central government grant.

Income from fares and the Congestion Charging scheme

TfL bases its revenue projections on the September 2012 forecasts for London's economy provided by GLA Economics. These forecast growth in real gross value added of 1.8 per cent in 2013 and 2.5 per cent in 2014.

The actual fares decision for each year is taken by the Mayor based on a number of considerations, including the need to ensure that fares make an appropriate contribution towards the cost of operating and investing in London's transport services.

Following the announcement in October 2012 by the DfT, this Business Plan assumes that fares will increase at RPI plus one per cent each

January for the period to 2014/15 over which TfL has a funding settlement with Government.

This provides a stable and consistent assumption on which to plan; the final decision for each year will remain with the Mayor.

The Freedom Pass, which is provided and paid for by London's borough councils and ensures that older and disabled people can travel for free, will remain valid at all times on TfL services.

TfL also provides concessions for other groups, including children, young people, other defined groups and Londoners who are 60 and over, but not yet eligible for a Freedom Pass. The Mayor will continue to keep the level of the Congestion Charge and its effectiveness under review, with any future changes being subject to consultation.

Prudential borrowing

TfL's settlement places a limit on the amount of incremental borrowing that can be undertaken by TfL or its subsidiaries, which must be contained within the following profile:

- Finance leasing arrangements, used for specific assets such as rolling stock and extensions to the DLR
- A £200m bank overdraft facility

Table 5

£m (cash)	2012/13	2013/14	2014/15
Borrowing	445	345	650

To ensure sufficient liquidity is available at all times TfL believes its proposed levels of borrowing remain affordable and consistent with prudent financial management, which is reflected in TfL's strong credit ratings.

TfL borrows from a variety of sources, based on considerations such as the cost of borrowing, market conditions and the level of flexibility offered. Sources of borrowing include:

- A £5bn Medium Term Note programme, created in 2004 and updated in 2012, which saw TfL become the first UK local authority to raise medium to long-term finance through the issuance of bonds independently of Government
- A £2bn Commercial Paper programme created in 2010, which saw TfL become the first UK local authority to raise short-term finance through the issuance of up to 12 months paper independently of Government
- The European Investment Bank, with loans linked to specific infrastructure projects
- The Public Works Loan Board



Efficient and effective business operations

TfL is committed to an ambitious cost reduction programme covering all areas of the business. The pan-TfL savings target is continuously reviewed as further efficiencies are identified.

The previous Business Plan committed TfL to a £7.6bn savings programme (2009/10-2017/18);

further identification of savings means that £9.8bn has already been secured.

TfL has refreshed its savings programme to provide clear and challenging targets. These include continuing savings from the previous plan and a new savings programme that will further reduce TfL's costs. Table 7 below reflects this new basis, showing only unsecured savings (not those already achieved).

Table 6
Efficient and effective business operations

Savings £m	2012 / 13	2013 / 14	2014 / 15	Total
Savings identified in previous Business Plan to be delivered	66	134	209	409
New savings programme	–	–	85	85
Total to be delivered	66	134	294	494

TfL will continue to seek to maximise income from other sources including advertising and property rental

Commercial development

TfL has an extensive asset base, and with more than 3.5 billion passenger journeys every year, access to a huge customer base that is likely to rise. The growing density of London's population will make transport hubs more important – and valuable – locations. With this combination of locations, audience and a world recognised brand, TfL is exceptionally well placed to reduce its call on fare payers and tax payers by generating non-fare income.

Through its commercial development programme TfL, is working to take advantage of these substantial opportunities, prioritising the biggest opportunities while looking for further means to generate more. These include disposals of property that is no longer required for operations and innovative new retail developments. TfL will also seek further commercial sponsorship opportunities when securing funding for future projects, building on the success of existing arrangements such as Barclays Cycle Hire and the Emirates Air Line. In addition, TfL will continue to seek to maximise income from other sources, including advertising and property rental.

Third-party funding for specific projects

Where appropriate, TfL makes use of third party contributions for a variety of specific projects. TfL looks to work with third parties to fund transport improvements, including those through the statutory Section 106 and Section 278 processes.

Under the terms of the GLA Act 1999, TfL recharges the London boroughs its reasonable costs of operation for traffic signals works on borough roads.

More than £1bn in project savings was identified through station and engineering improvements and the adoption of a more efficient construction timetable

Crossrail funding

Crossrail is the responsibility of Crossrail Ltd (CRL), a wholly owned subsidiary of TfL, and is jointly sponsored by TfL and the DfT. Crossrail is fully funded within TfL's Business Plan. This, including the DfT's funding commitment, is set out in Table 8. The remainder of the construction cost will be met by third-party finance, including from Network Rail.

As part of the Spending Review, more than £1bn in project savings was identified through station and engineering improvements and the adoption of a more efficient construction timetable.

The Mayor introduced a Business Rate Supplement in 2010/11 of two pence in the

pound. This will support the cost of servicing £3.5bn of debt raised by the GLA, as well as providing a direct contribution to the project during the construction period.

The Mayor is also expecting to raise almost £600m in contributions from property development, through a new Section 106 policy implemented during 2010, as well as from the Community Infrastructure Levy (CIL) to be applied to developments across the Capital, primarily in central London and Docklands.

A total of £445m is expected to be raised through sale of surplus land and property developments on top of the new stations.

Table 7
Crossrail financial summary

£m	Prior years	2012 / 13	2013 / 14	2014 / 15	2015/16 to 2021/22	2008/09 to 2021/22
Sponsors' funding commitment	(3,451)	(1,904)	(2,247)	(2,002)	(2,652)	(12,256)
DfT committed funding	909	1,205	1,123	1,082	800	5,119
GLA funding (incl. Crossrail Business Rate Supplement)	1,868	828	886	518	0	4,100
Developer contributions	1	29	57	93	420	600
Sale of surplus land	0	0	0	0	445	445
Cash funding from TfL Group*	673	(158)	182	309	987	1,992
Total funding	3,451	1,904	2,247	2,002	2,652	12,256

* Excluding Crossrail income and operating costs



Risk management

In implementing the Business Plan, TfL has to understand possible risks and ensure that appropriate actions and resources are in place to manage them and mitigate any possible impact.

Strategic risks are managed through the annual business planning and associated in-year reporting and monitoring processes. TfL maintains a general fund, to protect it from the short-term effects which may arise from the crystallisation of specific risks, and to ensure liquidity. Should there be a significant call on the fund, provision would be made in future years' budgets to rebuild the reserve to this target level.

TfL has a strategic risk management policy that is approved by the Audit and Assurance Committee and risk management is the responsibility of all managers within TfL.

Information on risk management activity is reported to the TfL Audit Committee and mitigations are monitored by the Internal Audit department.

Table 8
London Underground, Tube Lines and London Rail income, operating and capital plan

Fares income £m	2012 / 13	2013 / 14	2014 / 15	Total
London Underground	2,147	2,307	2,460	6,913
London Rail	272	294	316	882
Total fares income	2,418	2,601	2,776	7,795
Other operating income £m				
London Underground	168	171	184	523
Tube Lines	12	15	16	43
London Rail	11	23	11	44
Total other operating income	191	208	210	610
Operating expenditure (net third-party contributions) £m				
London Underground	(1,755)	(1,722)	(1,753)	(5,230)
Tube Lines	(395)	(441)	(458)	(1,294)
London Rail	(345)	(358)	(358)	(1,061)
Total operating expenditure	(2,495)	(2,521)	(2,569)	(7,585)
Renewal and reliability projects £m				
London Underground net renewal and reliability projects	(136)	(161)	(180)	(477)
Net capital expenditure £m				
London Underground	(1,004)	(1,069)	(1,190)	(3,263)
Tube Lines	(231)	(289)	(292)	(812)
London Rail	(82)	(176)	(109)	(367)
Total net capital expenditure	(1,318)	(1,534)	(1,591)	(4,443)
Total net investment spend	(1,454)	(1,694)	(1,771)	(4,919)
Net service expenditure £m				
London Underground	(581)	(473)	(479)	(1,534)
Tube Lines	(614)	(715)	(734)	(2,063)
London Rail	(145)	(217)	(140)	(503)
Total net service expenditure	(1,340)	(1,406)	(1,354)	(4,099)

Table 9
Surface Transport income, operating and capital expenditure plan

London Buses £m	2012 / 13	2013 / 14	2014 / 15	Total
Bus fares income	1,417	1,488	1,553	4,457
Bus contract costs and ticket commission	(1,795)	(1,855)	(1,935)	(5,585)
Direct bus subsidy	(379)	(367)	(382)	(1,128)
Other bus income	25	25	26	77
Bus operating expenditure	(96)	(99)	(93)	(289)
Bus capital expenditure	(23)	(63)	(112)	(198)
Net bus service expenditure	(473)	(505)	(561)	(1,539)
Other Surface Transport £m				
Other operating income	341	360	362	1,064
Other operating expenditure	(805)	(802)	(836)	(2,443)
Other net capital expenditure	(116)	(272)	(455)	(842)
Net service expenditure	(1,053)	(1,218)	(1,489)	(3,760)

Table 10
Corporate income, operating and capital expenditure plan

Corporate £m	2012 / 13	2013 / 14	2014 / 15	Total
Other operating income	46	76	120	242
Operating expenditure (net of third-party contributions)	(487)	(516)	(564)	(1,568)
Net capital expenditure	(80)	48	3	(29)
Net service expenditure	(521)	(392)	(441)	(1,355)

Note: All financial tables subject to rounding

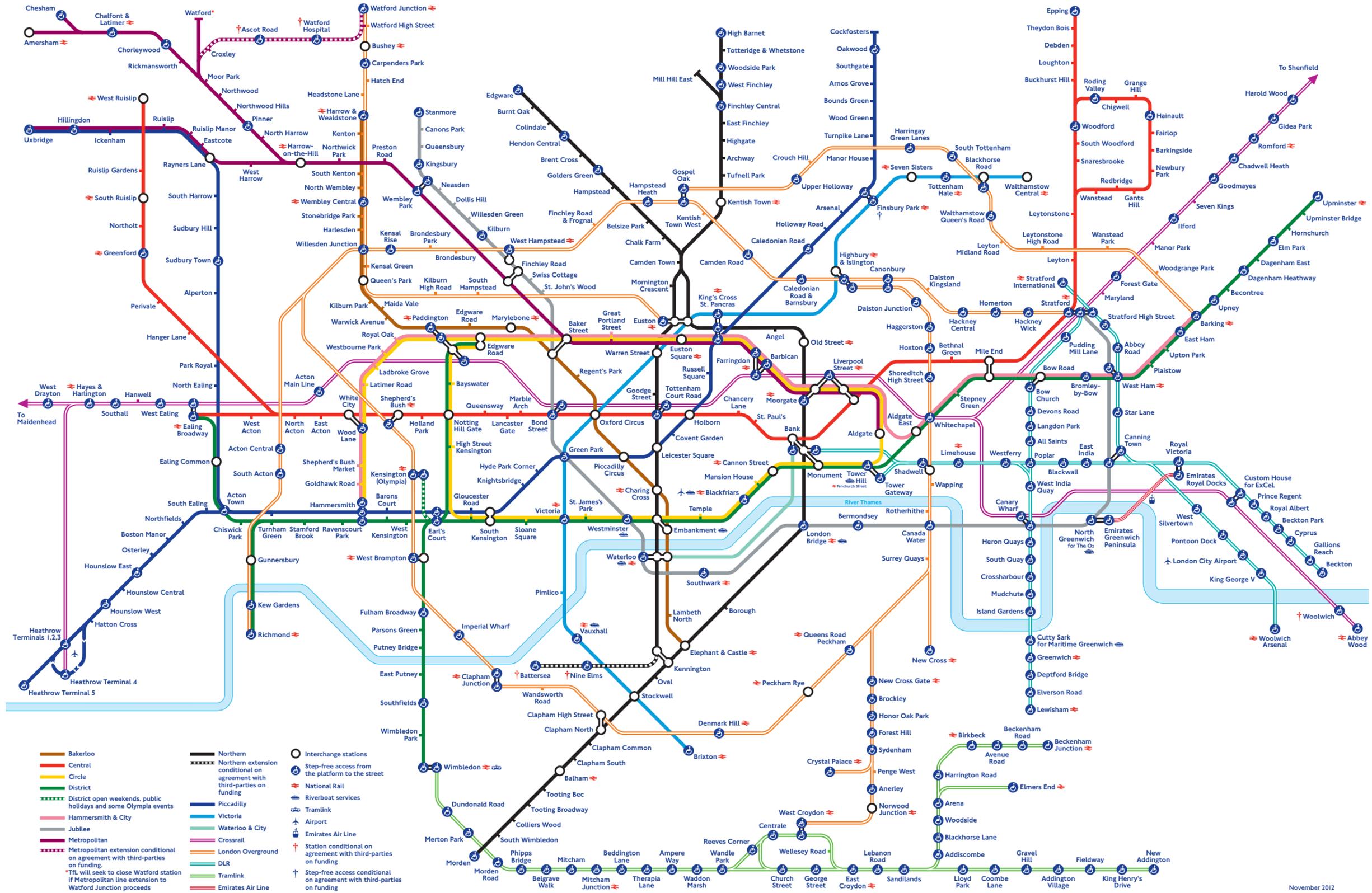
Table 11
TfL funding, income, operating and capital expenditure plan, part a: TfL operating plan

TfL Group £m	2012 / 13	2013 / 14	2014 / 15	Total
Fares income	3,835	4,089	4,328	12,252
Other operating income	613	676	725	2,015
Total operating income	4,448	4,765	5,054	14,267
Operating expenditure (net of third-party contributions)	(5,825)	(5,960)	(6,183)	(17,968)
Operating margin	(1,377)	(1,195)	(1,130)	(3,702)
Interest income	10	8	9	27
Debt interest	(293)	(344)	(382)	(1,020)
Group items	11	(48)	38	1
Margin	(1,649)	(1,579)	(1,465)	(4,693)
Finance sources £m				
General grant	1,954	1,102	827	3,883
Overground grant	27	28	28	83
GLA precept	6	6	6	18
Business rates retention	0	771	771	1,542
Other revenue grants	140	20	8	168
Total revenue grants	2,127	1,927	1,640	5,694
Surplus/(deficit) to fund capital plan	478	348	176	1,001

Table 12
TfL funding, income, operating and capital expenditure plan, part b: TfL capital plan

TfL Group £m	2012 / 13	2013 / 14	2014 / 15	Total
Capital expenditure	(1,647)	(2,067)	(2,351)	(6,065)
Third-party contributions - capital	53	69	116	238
Capital expenditure (net of third-party contributions)	(1,594)	(1,998)	(2,235)	(5,828)
Sales of property and other assets	57	177	81	315
Net capital expenditure (core TfL)	(1,537)	(1,821)	(2,154)	(5,512)
Crossrail sponsors' funding commitment	(1,904)	(2,247)	(2,002)	(6,153)
Crossrail funding sources	2,062	2,065	1,693	5,821
Net Crossrail contribution	158	(182)	(309)	(333)
Total capital expenditure	(1,379)	(2,003)	(2,463)	(5,845)
Finance sources £m				
Operating surplus/(deficit) from Table 11	478	348	176	1,001
Investment grant	881	904	928	2,713
Metronet grant	352	184	0	536
Other capital grants	54	0	0	54
Working capital	2	(210)	21	(187)
Net borrowing and reserve movements	(388)	777	1,339	1,727
Total	1,379	2,003	2,463	5,845

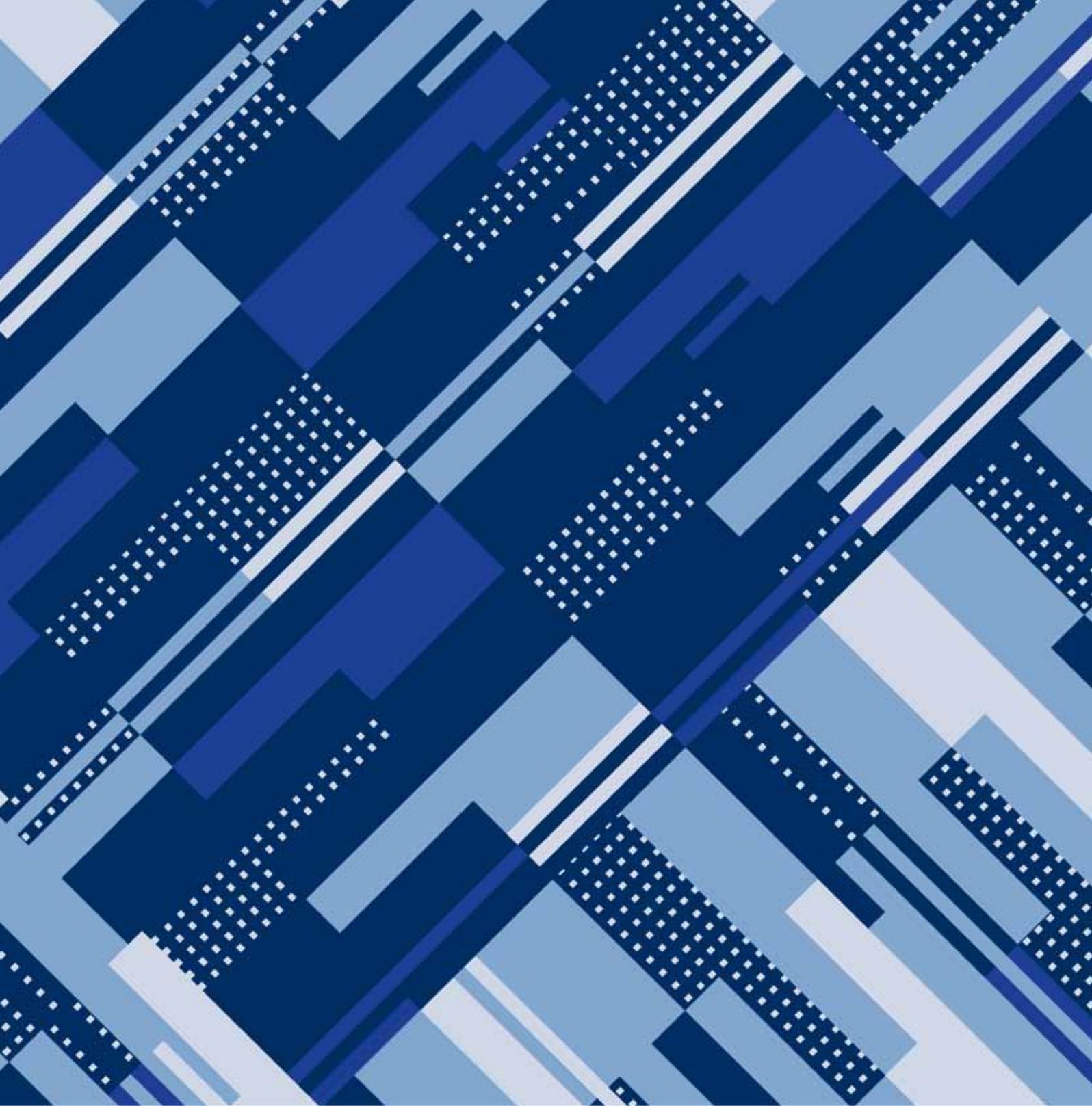
TfL's Rail Transport Network at 2020



November 2012







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December 2012

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