

London's Road Modernisation Plan

The biggest road investment programme for a generation



Paul, Cindy, Toyin, Ikenna, Rakhi,
Transport for London

Foreword

London is the engine of the British economy, and it is set to grow by almost two million people by 2031. That's the equivalent of absorbing the populations of Birmingham and Leeds. It also means that an extra five million daily trips, on top of the 26 million trips that already happen every day, will take place by 2030.

This population growth is fuelling a boom in property investment and development resulting in more homes, shops, public spaces and workplaces. At the same time, Londoners and businesses have growing expectations of the quality of the streets where they live and work. All of this affects the way our roads operate.

A healthy road network is essential for this great city; for our economy, for pedestrians, bus passengers, motorists, and cyclists. London deserves a road network that isn't just a relic of 1950s and 1960s urban planning, but a road system that is fit for the 21st century.

Our roads and streets account for 80 per cent of the public space in London, 80 per cent of all journeys and 90 per cent of all goods moved.

This is a continual challenge in a city with a road network that was never designed to cater for so much traffic. We need to respond to these changes and ensure our road network, and the way we manage it, is fit for a world city in the 21st century.

That is why we have planned an unprecedented programme of road improvements. Our Road Modernisation Plan is an integrated response to the way London is changing and growing, looking to create better places, better cycling routes, safer streets and more reliable journeys. It will help London cope with a growing population and create hundreds of thousands of new jobs and homes so we can remain one of the most vibrant, accessible and competitive cities in the world.



Boris Johnson, Mayor of London

Foreword

As one of the truly great capital cities, London needs and deserves a world-class upgrade to its roads and streets.

Twenty six million journeys start on London's roads every day, and I know every one of these journeys matter for the country's economy and the city's quality of life. And so, to improve London's roads for all Londoners, we at TfL are launching the Road Modernisation Plan. With a budget of more than £4bn from now until 2020/21, it will represent the biggest investment in London's roads in a generation, including hundreds of transformational projects within the existing road network.

On the following pages we will explain how our Road Modernisation Plan, in conjunction with London's boroughs, will improve travelling conditions in the Capital. Using radical ideas and innovative designs, our plan will make London's roads greener, safer and more attractive.

This will mean better, safer conditions for cyclists and pedestrians and more sophisticated traffic management, as well as the modernisation of essential junctions, bridges, tunnels and major roads for the benefit of all road users.

It will also mean more efficient delivery of goods and services.

Our Road Modernisation Plan is fundamental to the future wellbeing and prosperity of our Capital and its growing population. Without it, our road network will become more congested and less reliable with worsening conditions on its roads, bridges and footways and a general decline in its safety performance. This in turn will have a longer term cost to London's economy.

The result will be safer and more reliable roads for everyone, as well as better, more attractive public spaces to help us all make the most of London.



Leon Daniels,
Managing Director of Surface Transport

Our plan to keep 21st century London moving

London is growing and by 2031 it is estimated that the Capital's population will increase by almost two million, to a total of 10 million people. This will mean an extra five million road trips a day by 2030, on top of the 26 million trips already taking place daily.

Our Capital's roads and bridges were not designed for the volume and diversity of today's users. So, in order to keep London moving and meet future demand, and to ensure we keep the economy growing, our road network and the way we manage it needs to be modernised, as befitting a world city in the 21st century.

The facts speak for themselves:

- More than 26 million journeys are made each day on the road
- Ninety per cent of all goods moved in London every day are on the road
- Every journey starts on the road
- There has been a 99 per cent increase in cycle journeys since 2000

Therefore, the Road Modernisation Plan is essential to the continued wellbeing and prosperity of the Capital.

What is the Road Modernisation Plan?

Working together with London's boroughs, it is an unprecedented programme of planned road improvements – a coordinated response to the way London is changing and growing.

The plan will deliver hundreds of transformational projects to support new jobs and homes, make transport more efficient, more reliable and safer and provide a world class urban realm.

This includes:

- Seventeen major road schemes to create better public spaces and support redevelopment and economic growth
- Thirty three junction improvements to make London's busiest junctions safer and more attractive for vulnerable road users
- Four new Cycle Superhighways as well as improvements to four existing routes to provide safer, faster and more direct journeys into the city
- Continuing programme of modernising traffic signals and adding Pedestrian Countdowns to help people get around the city with greater ease
- Maintenance and modernisation of essential roads, bridges and tunnels

Work is already well under way on many projects, including the strengthening of Hammersmith flyover and refurbishing the Grade II listed Chiswick Bridge. Meanwhile we've consulted on the radical transformation of Elephant and Castle's northern roundabout and the East-West and North-South Superhighways.

We also plan to:

- Deliver the Mayor's Cycling Vision through the implementation of 'mini-Hollands', Quietways and the Central London Grid
- Ensure that all of our pedestrian crossings meet accessibility standards by 2016
- Keep bus services reliable and attractive by tackling congestion hotspots and improving six strategic corridors, carrying three million people daily
- Improve London's air quality by halving Mono-nitrogen oxides (NOx) levels
- Plant more than 1,000 new trees on Transport for London's Road Network (TLRN) by 2021/22
- Deliver new energy efficient street lighting and dramatically cut Carbon dioxide (CO₂) emissions
- Encourage use of rail, waterways and low or zero emission vehicles for deliveries in London
- More than double the number of Legible London wayfinding signs through third party funding to help pedestrians get around the city more easily

A portrait of a woman with long, wavy, light brown hair and blue eyes. She is wearing a light blue sleeveless top with a black V-neckline. The background is a solid light blue color.

Cindy,
Transport for London
Traffic Control Centre

The vision

We have a very clear vision to keep London moving, optimise the use of road space and support economic and population growth. Every journey matters and with every journey starting on the road, our plan seeks to improve the quality of life in the Capital for all Londoners. We have set out five key objectives to support this vision, which will be explained in depth in this document.

1	Ensuring our road assets are fit for the future
2	Delivering a programme of major highway improvements to: <ul style="list-style-type: none">• Unlock growth and regeneration• Optimise use of road space• Deliver a better managed road network• Improve pedestrian, cycling and bus facilities• Enhance urban realm to improve the quality of life in London• Deliver safety improvements
3	Delivering improvements for cycling
4	Delivering a further 40 per cent reduction in fatalities and serious injuries on London's roads
5	Keep London moving and tackle congestion

Investing in road assets

The first of our five key objectives is to ensure our road assets are fit for the future and we will be investing a total of £1.8bn to achieve this. In doing this we will ensure we get best value for money and lower the whole-life costs of their operation and maintenance.

As part of this investment £1.3bn will be set aside for continuing asset renewals including:

- Resurfacing more than 150 lane kms of carriageway each year
- Re-laying more than 30km of footway each year
- Replacing more than 1,000 street lights each year and using energy efficient LEDs
- Modernising more than 300 traffic signal sites each year
- Planting more than 500 new trees each year
- Renewing white lines and studs
- Clearing, repairing and upgrading drainage
- Renewing and repairing deteriorated bridge and tunnel elements
- Preventing deterioration by re-painting and re-waterproofing bridges

We are also investing £500m on refurbishing and upgrading structures and tunnels in two phases.

Work is under-way on nine bridges and tunnels across the Capital as part of the first phase of development. They are all being strengthened or refurbished to prolong their life and to reduce the need for future emergency repairs or maintenance, which impacts on residents, road users and businesses.

This includes the completion of the following work by 2017:

- Strengthening the Hammersmith flyover
- Replacing four road-over-rail bridges at Ardleigh Green, Power Road, Upper Holloway and Highbury Corner
- Refurbishing the Grade II listed Chiswick Bridge
- Upgrading safety systems and components within the Fore Street Tunnel on the A12

Further major works to improve and repair the structures will also take place. The following will be delivered within the next 10 years:

- A40 Westway
- A406 Brent Cross structures
- A316 Country Way Viaduct
- A12 George Green
- A12 Green Man Tunnels

Major highway enhancements

As part of our plan we are investing £600m in London's major highways.

Within this investment we have set aside £170m to support schemes delivering redevelopment and economic growth, such as Vauxhall Gyratory and Croydon Fiveways improvements.

We are also investing £330m in other major road schemes, such as King's Cross and Euston Road, Waterloo IMAX and Stockwell.



Visualisation of planned improvements to Elephant and Castle

We will also invest £10m per year for small-scale improvement schemes across London.

The objectives are to:

- Transform the way people in London live, travel and experience the Capital
- Support London's development as a hub for business and tourism
- Unlock economic growth and regeneration for future generations
- Provide world class public spaces, cycling and pedestrian facilities
- Improve accessibility and safety

Elephant and Castle northern roundabout:

Radical changes at the northern roundabout will reduce the impact of traffic and make the area feel cleaner and greener. Our proposals include the removal of the roundabout and the creation of a major new public space in and around the new peninsula. This will transform the area for those who live, work and travel in Elephant and Castle. The changes will balance the needs of drivers more evenly with those of pedestrians and cyclists. Highway works are due to start in May 2015, to prepare the peninsula for a new London Underground station.

Delivering improvements for cycling

A raft of schemes are in progress to make the urban environment more attractive and useable for cyclists and pedestrians right across the Capital. To achieve this we have set ourselves key objectives:

- A Tube network for the bike - providing a network of cycle routes across London
- Safer streets for cycling - a range of measures to improve cycle safety at junctions and targeting HGV safety

We will be investing £900m up to 2022. Inspired by famously cycle-friendly Dutch towns, our Road Modernisation Plan will support boroughs across London in creating cycle-focused 'mini-Hollands'. We will give Londoners access to more than 50km of fully segregated cycle ways, a further 16km of new cycle tracks and 85km of Quietways, radial and orbital cycle routes throughout Greater London.



Delivering improvements for cycling

This programme includes the East-West and North-South Superhighways; new cycle tracks through the heart of London, providing safe and convenient cycle facilities. Together these will form a grid of cycle routes across London.

The plan includes changes at 33 of London's busiest junctions to improve facilities for cyclists and pedestrians by, for example, removing gyratories, improving public spaces or creating more direct cycle routes through those junctions.

Having arrived at their destination, cyclists can look forward to 80,000 additional cycle parking spaces in residential locations, stations, workplaces and venues – all currently scheduled to be in place by 2016 subject to consultation.

Oval Triangle:

In August 2014, we finished consulting on a substantial redesign of four junctions around Oval Tube station. The objective of this scheme is to radically improve cycling provision and safety. Improvements include segregated and mandatory cycle lanes through the junctions, separate traffic light phases, larger advanced stop-lines for cyclists and redesigned pedestrian crossings. This scheme design will integrate the junction with the proposed Cycle Superhighway 5, which runs from Oval to Pimlico.



A safer London

As part of the Road Modernisation Plan, we will be investing £260m to make London's roads safer and reduce deaths and serious injuries.

Through this investment we are targeting a 40 per cent reduction in killed or seriously injured casualties on London's roads by 2020.

In order to achieve this we are completing a number of improvements:

- Upgrading our network of safety cameras
- Improving the safety of our road infrastructure, in particular the design of junctions, roundabouts, signals, pedestrian crossings and cycle lanes
- Working with the police, to crack down on unsafe behaviour of all road users including speeding, jumping red lights, drink driving, mobile phone use, and uninsured and unlicensed drivers
- Improving crossings with Pedestrian Countdown systems and facilities to make them more accessible

We are trialling 'Pedestrian Scoot', a state-of-the-art video camera technology. This automatically detects how many people are waiting at a crossing and looks to give priority to pedestrians when needed.

We are also trialling detection equipment on London buses, which helps drivers detect pedestrians and cyclists near and around their vehicles. This means the driver has greater visibility of dangers and vulnerable individuals. If successful the technology could be rolled out across London's 8,700 buses.



A portrait of Paul, a man with dark hair and a slight beard, wearing a high-visibility yellow and blue safety jacket and orange earplugs. He is looking directly at the camera with a neutral expression. The background is a solid, light orange color.

Paul,
Transport for London
Project Manager

Delivering the investment while keeping London moving

Throughout the implementation of our Road Modernisation Plan, we will support London's road users in every way possible and will be investing £400m across a number of initiatives.

The ways in which London is changing means that we must evolve the way we operate the road network, both during construction and afterwards. Our objective for the Road Modernisation Plan is to keep journey times reliable. This is an extremely ambitious objective, but one that we believe is achievable and vital as London's economy and population continue to grow. This will require a more sophisticated approach to manage the network and some Londoners may notice their journeys take longer.

An important factor in our approach will be the planned enhancements to traffic light technology and new developments to systems that support us to manage traffic in real time. We will actively manage traffic flows away from and around locations where works are taking place or space has been reallocated. This will be vital in keeping London moving as we create room for public spaces, pedestrians and cyclists.

Our programme includes:


- Installing cutting-edge traffic light technology at a further 1,500 sites across the Capital. Split Cycle Offset Optimisation Technique (SCOOT) technology has been proven to reduce delays by up to 12 per cent at each junction where it is installed, by detecting real-time traffic conditions and optimising the traffic light timings to reduce delays
- Further enhancing our sophisticated traffic models, which we can use to support successful scheme design and to more effectively plan improvements that relieve congestion hotspots and make journeys more reliable
- Implementing the world-leading Surface Intelligent Transport Systems (SITS) programme to invest in cutting-edge technology and expand our access to real-time data, giving the London Streets Traffic Control Centre better tools to make quicker and more informed decisions to keep London moving
- The Capital's buses are crucial to keeping London moving, and we expect a nine per cent increase in bus passengers by 2023. Therefore, we will invest £200m in road improvements, specifically to make sure our buses continue

to be reliable and serve London's growing population. We will tackle hotspots where buses are unreliable and suffer delays and implement a series of bus priority points on key roads around the Inner Ring Road

- Communication is essential, so to keep everyone informed of what's happening out there we will employ every means we can to advise road users of any delays or closures. We will provide information that allows customers to make informed travel decisions and know their options. Our customers are able to keep up to date with disruption, arising from both unplanned and planned events, works and closures, through a number of our services including:
 - Live status updates on our website tfl.gov.uk/trafficnews
 - Traffic news twitter feed @tfltrafficnews
 - Weekly disruption emails alerting our customers to planned events and works on London's roads as well as targeted emails around specific events and disruption either on a pan-London or location specific basis
 - Providing real-time traffic information to third parties including the BBC and TomTom
- The Transport for London Lane Rental scheme was introduced in 2012 to further minimise traffic disruption caused by roadworks. The

scheme ensures works are coordinated and delivered quickly at London's most traffic-sensitive locations. On Borough High Street we were able to reduce the work schedule by six months by coordinating the roadworks taking place there

- Through the creation of the new Roads and Transport Policing Command, we will have targeted enforcement at the busiest locations and known hotspots to reduce hold ups and delays and keep traffic moving
- We will look at innovative ways to reduce lorry and van traffic during the busiest times to free up much needed road capacity. Re-timing freight traffic would reduce local pollution from freight vehicles and make the roads safer. We will help operators and businesses to make deliveries outside of regular hours, as we did during the London 2012 Games. Within our freight programme, we have already helped trial out-of-hours deliveries
- We are also working with partners in local authorities, freight companies and the business community to encourage use of rail, water and low or zero emission vehicles for deliveries in London, as well as consolidation centres to improve the efficiency of goods delivery

A portrait of a man with short dark hair and a mustache, wearing a green polo shirt. He is looking directly at the camera. In the bottom left corner, the top of a white hard hat is visible, featuring a blue circular logo with the word 'CLIFFE' written vertically. The background is a solid, muted purple color.

**Ikenna,
Transport for London
Planned Interventions Engineer**

A better quality of London life

Our Road Modernisation Plan will make London better for all who work and reside in the Capital.

The scope and quality of change will be impressive and far-reaching. For example, the radical improvements planned for Elephant and Castle will have an extraordinary impact creating 5,000 new homes and 4,000 new jobs.

We are already seeing results in two busy London areas. Thanks to our successful collaboration with the London Borough of Camden, British Land and other local stakeholders, traffic-heavy Euston Circus is now a revitalised public space with more trees and landscaping and better pedestrian access via simplified crossings. It is also far more cycle friendly.



Euston Circus

Similarly, in partnership with the City of London and London Borough of Camden, the layout of Holborn Circus has been much improved. Once an accident hotspot, it now benefits from new signal controlled pedestrian crossings and dedicated road space for greater volumes of cyclists. A new public space at the front of St Andrew's Church plus resurfacing, realignment and redesign has transformed the area.

As well as improving the quality of life in London, these improvements increase the value of the land for property owners, businesses and residents, helping to support a thriving city.

Timeline of projects

Project	Start date	End date
Aldgate Gyratory	Started	September 2016
Malden Rushett	Started	June 2015
Oval	December 2014	March 2016
2015		
Highbury Corner	January 2015	June 2018
CSNS – Blackfriars	February 2015	March 2016
CSNS – Elephant and Castle to Greville Street	February 2015	March 2016
CS2 – Stratford to Aldgate (full route upgrade)	February 2015	March 2016
CSEW – Tower Hill to Westbourne Terrace	April 2015	March 2016
CSEW – Tower Gateway	April 2015	March 2016
CSEW – Lancaster Gate	April 2015	March 2016
CSEW – Parliament Square	April 2015	March 2016
CSEW – Spur Road	April 2015	March 2016
CS3 – East West Cycle Superhighway Barking to Tower Gateway (two discrete projects)	April 2015	March 2016
CS7 – Merton to City of London (six discrete projects)	April 2015	March 2016

• CS – Cycle Superhighway • CSNS – Cycle Superhighway North-South • CSEW – Cycle Superhighway East-West

Project	Start date	End date
CS8 – Wandsworth to Westminster (Chelsea Bridge)	April 2015	March 2016
CS5 – Inner (Oval to Pimlico)	April 2015	October 2015
Elephant and Castle (North)	May 2015	May 2016
Stockwell Gyratory	May 2015	April 2016
CSI – Tottenham to City of London	June 2015	April 2016
CSI – Apex (Shoreditch)	June 2015	April 2016
CS11 – Including Swiss Cottage Gyratory	December 2015	December 2016
Old Street Roundabout	December 2015	December 2016

2016

A205 East Sheen	2016	2017
Westminster Bridge South	January 2016	October 2016
Archway Gyratory	February 2016	April 2017
Lambeth Bridge (North)	April 2016	April 2017
Lambeth Bridge (South)	April 2016	April 2017
Chiswick Roundabout/Kew Bridge Junction	May 2016	May 2017
Hammersmith Broadway	June 2016	July 2017
Great Portland Street Gyratory	June 2016	February 2018
Brent Cross/Cricklewood	June 2016	April 2021
CS4 – Tower Bridge to Deptford	July 2016	March 2017
CS4 – Surrey Quays	July 2016	March 2017
CS4 – Rotherhithe Roundabout	July 2016	March 2017

Project	Start date	End date
2017		
Stratford Gyratory	2017	March 2019
A316 London Road Roundabout	2017	September 2019
Balham High Road	2017	August 2017
Trinity Road/Burntwood Lane	2017	September 2019
A24 Tooting Broadway	2017	February 2018
CS4 (Deptford to Woolwich)	January 2017	November 2017
CS4 – Woolwich Road/A102	January 2017	November 2017
Wandsworth Gyratory	January 2017	July 2019
Waterloo IMAX Roundabout	June 2017	November 2020
2018		
CS4 (London Bridge to Tower Bridge)	January 2018	September 2018
CS4 – Borough High Street/Tooley Street	January 2018	September 2018
A23/A232 Fiveways Croydon	January 2018	December 2019
Nags Head Gyratory (includes Seven Sisters Rd)	January 2018	March 2020
Vauxhall Cross	February 2018	December 2019
Kings Cross/Euston Road	April 2018	April 2021
Marble Arch	April 2018	April 2022
Bow Roundabout	June 2018	June 2020
2019		
St Paul's Gyratory	December 2019	April 2021

Project details and timings are subject to consultation. Correct at time of going to print October 2014.

Looking further ahead

Like all good plans, ours is flexible and constantly evolving. For instance, we have implemented a study to determine the role of the Inner Ring Road. Circling central London, it currently forms the diversionary route around the Congestion Charging zone and is a crucial link to moving around inner London.

In a parallel study, we have appointed world-leading tunnelling, transport and technology consultants to investigate whether a new central London tunnel could be effective and feasible to sustain the network. A tunnel would provide 'replacement' capacity and the study will look at a range of issues that could influence its route, design and cost – including geological, environmental and existing infrastructure.

A report into the findings will be published later this year. It will provide recommendations on whether the scheme would work and, if so, how it could be delivered.

We are also investigating opportunities to transform key corridors, including the North and South Circulars. The report will include measures to tackle congestion, unlock growth and improve the local areas. These include fly-unders, new tolled tunnels and 'decking-over' sections of road to free up land for housing and further development.

We are also working with the freight industry and other stakeholders to develop measures to help make more efficient use of the road network to tackle congestion, reduce emissions and encourage active and healthy travel.

In summary

The Road Modernisation Plan is an essential response to London's changing character and needs that will result in better spaces, more attractive living streets and communities, vibrant new economic centres, better air quality and a healthier and more active population.

It is the biggest investment programme in a generation and there are a number of challenges in delivering this level of transformational investment, such as reduced road capacity and changes to traffic patterns.

In doing so, this unprecedented programme of road improvements will ensure that our roads and streets continue to keep London moving, including service companies and deliveries. In this way, our plan will contribute significantly to London's economic success and maintain our Capital in its rightful place as one of the world's greatest cities.

As you can see, we have already started to make improvements, but this is just the beginning for London's roads and we hope you will continue to support our ambitious and far-reaching plan.

Below is a summary of how we are spending the £4bn to implement our Road Modernisation Plan:

Area of road improvements	Amount
Investing in road assets	£1.8 bn
Major highway enhancements	£0.6 bn
Delivering improvements for cycling	£0.9 bn
A safer London	£0.26 bn
Keeping London moving	£0.4 bn
Total	£3.96 bn

For more information including details on each project visit tfl.gov.uk/roadplan

A man with short, graying hair and a light beard is sitting in a wheelchair. He is wearing a teal cable-knit sweater over a blue and white plaid shirt, and light-colored trousers. He is looking towards the camera with a slight smile. The background is a solid, warm orange color.

Iddo, regularly travels through
Elephant and Castle

