

MAY 2018
DRAFT FOR CONSULTATION

Isle of Dogs & South Poplar OAPF Transport Strategy



MAYOR OF LONDON

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Contents

1	Introduction
2	Current transport provision and future patterns of use*
3	Summary of transport challenges and opportunities
4	An integrated transport strategy
5	Infrastructure investment and implementation
6	Transport implementation and delivery plan
A	DLR, London Underground and Rail
B	Overcoming severance over Aspen Way
C	Improving local connections, including multi-modal links and public realm
D	Freight strategy
E	River crossings package
F	Behavioural change and travel demand management
SR	Sub-regional interventions
6	Glossary
7	Data and modelling assumptions
*	For all assumptions and technical references please refer to Chapters 6 and 7.

I Introduction

London's population is growing faster than previously anticipated and there is significant pressure to deliver more homes and jobs, together with the need to provide a high quality of life for all Londoners.

The majority of growth across east and south east London will be accommodated within the Opportunity Areas (OA) highlighted in Figure 1. The Isle of Dogs and South Poplar (IoDSP) OA sits at the epicentre of this growth, with an indicative figure of 31,000 new homes and 110,000 new jobs in this important inner London location by 2041.

Over the past 20 years there has been a surge in development across the area, particularly around Canary Wharf and South Quay, with more growth coming forward. Despite this, parts of the OA represent some of the most deprived

areas within London and the UK. Ensuring that residents have sufficient access to a range of suitable opportunities is a key element to tackling inequality, supporting regeneration and achieving convergence. This is the improvement in quality of life for communities in the borough so that within 20 years they will enjoy the same social and economic opportunities as the rest of London.

The Greater London Authority (GLA) is committed to working with Transport for London (TfL) and London Borough of Tower Hamlets (LBTH) to develop an Opportunity Area Planning Framework (OAPF) for IoDSP which will support the existing communities of the area, the employment centre around Canary Wharf and further residential growth over the coming decades.

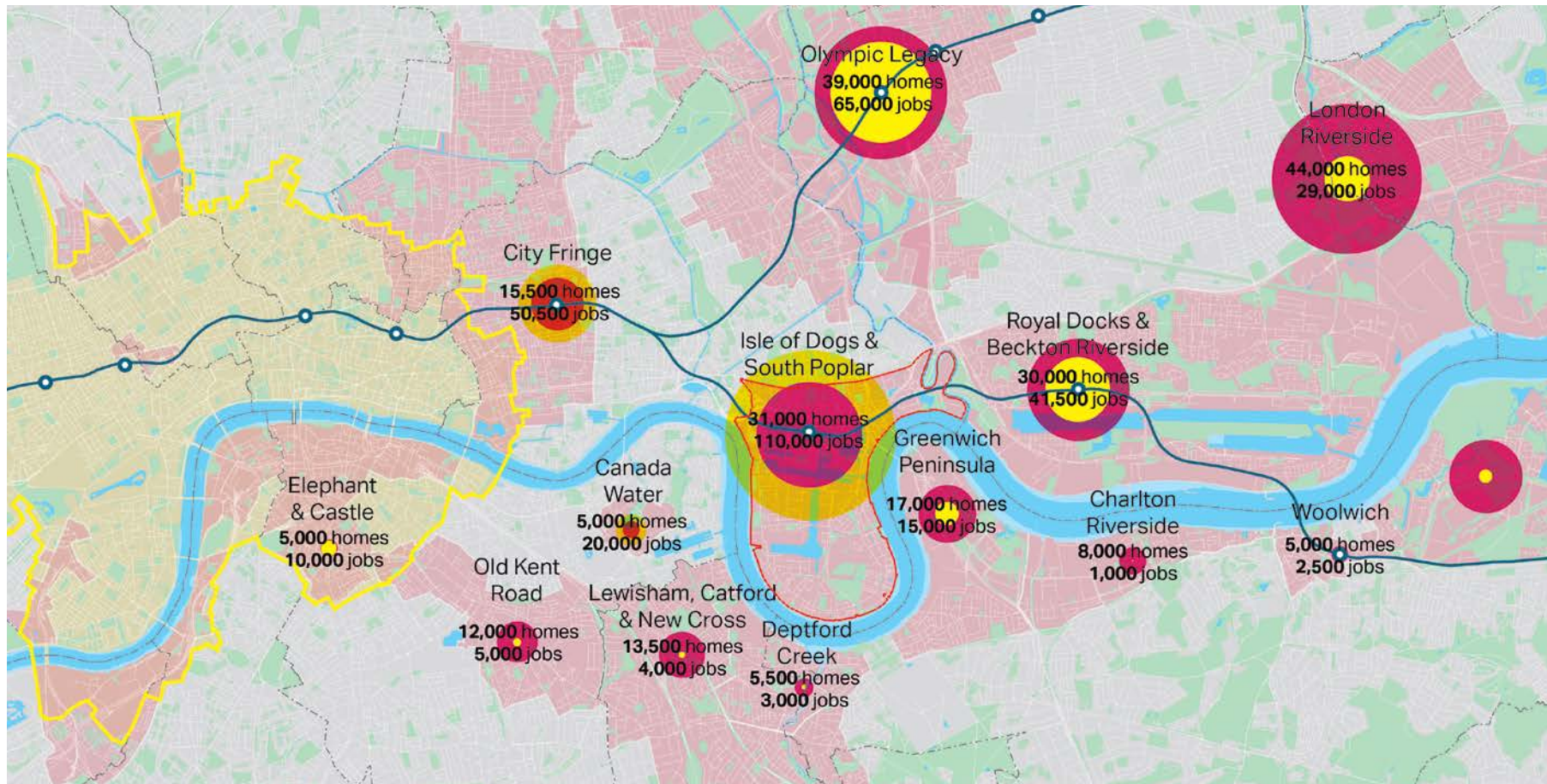


Figure 1. Growth areas - east and south-east London (source: GLA)

The OAPF highlights that a range of between 31,000 and 49,000 new homes could come forward by 2041*. Of this over 19,000 are already permitted or considered to be 'active' in the planning process (based on 2015 data). The area plays an important role in terms of the economy of both London and the UK, where an additional 110,000 jobs are expected to come forward in and around Canary Wharf and the surrounding area over the course of the OAPF.

The 2011 Census records over 53,000 people living in the area, an increase of around 60 per cent over the preceding decade, whilst over 115,000 employees now work in and around the Canary Wharf estate.

As set out within the Mayor's Transport Strategy and the London Plan, many of the challenges the area faces are shared by locations throughout inner and central London. Despite ongoing investment in the transport network these areas can expect to see worsening crowding on public transport at peak times which will inevitably impact on the daily lives of Londoners. Streets in these areas should be places of active travel and social interaction, but like the rest of London too often they are places for cars not people, and congestion can impact negatively on people's health and wellbeing. The area itself also presents

its own unique challenges, with its physical geography exacerbating the above problems through creating severance and barriers to travel which the OAPF seeks to address.

Transport is fundamental to achieving good growth by leading the way in improving conditions for sustainable travel, including walking, cycling and public transport, and so enabling people to choose cleaner, healthier ways to travel. A robust strategy for transport and movement is required to serve both existing and new communities, and so we must consider options for further enhancements to the transport network as well as new connections to and from the area.

This document sets out the transport vision for the area, highlighting its challenges along with what infrastructure needs to be delivered within the short, medium and long term to enable growth to come forward sustainably, as well as support the existing communities in the area. It forms part of a suite of reports that inform the overall OAPF strategy for the area, which in turn will inform local and strategic policy as shown in Figure 2.

*** Development capacity assumptions**

To test the residential and employment capacity for the OA, a transport scenario was agreed between TfL, GLA and LB Tower Hamlets to help to identify the impact of uncoordinated development across potential sites. This assumed an additional 59,000 homes across the OA and 110,000 jobs across the Canary Wharf Estate, accelerated to be delivered by 2031. This was done for strategic modelling and analysis purposes only. The OAPF reports a range of lower residential figures as highlighted above.

It is supported by a Local Connections Strategy which sets out greater detail on how we can plan for and deliver Healthy Streets over the OAPF plan period, focusing on two key areas:

- An area or network-wide strategy for new and improved local connections in the Isle of Dogs and outwards to surrounding areas
- Street-level guidance which gives an overview of the elements that need to come together to create 21st Century Healthy Streets, and sets out examples of how to achieve this on some of the key connections in the Opportunity Area.

A Development Infrastructure Funding Study (DIFS) sets out a strategy for funding in order to inform future planning and funding decisions; assist delivery of infrastructure required to support growth; and underpin the sustainable delivery of the growth agenda as set out in the OAPF.

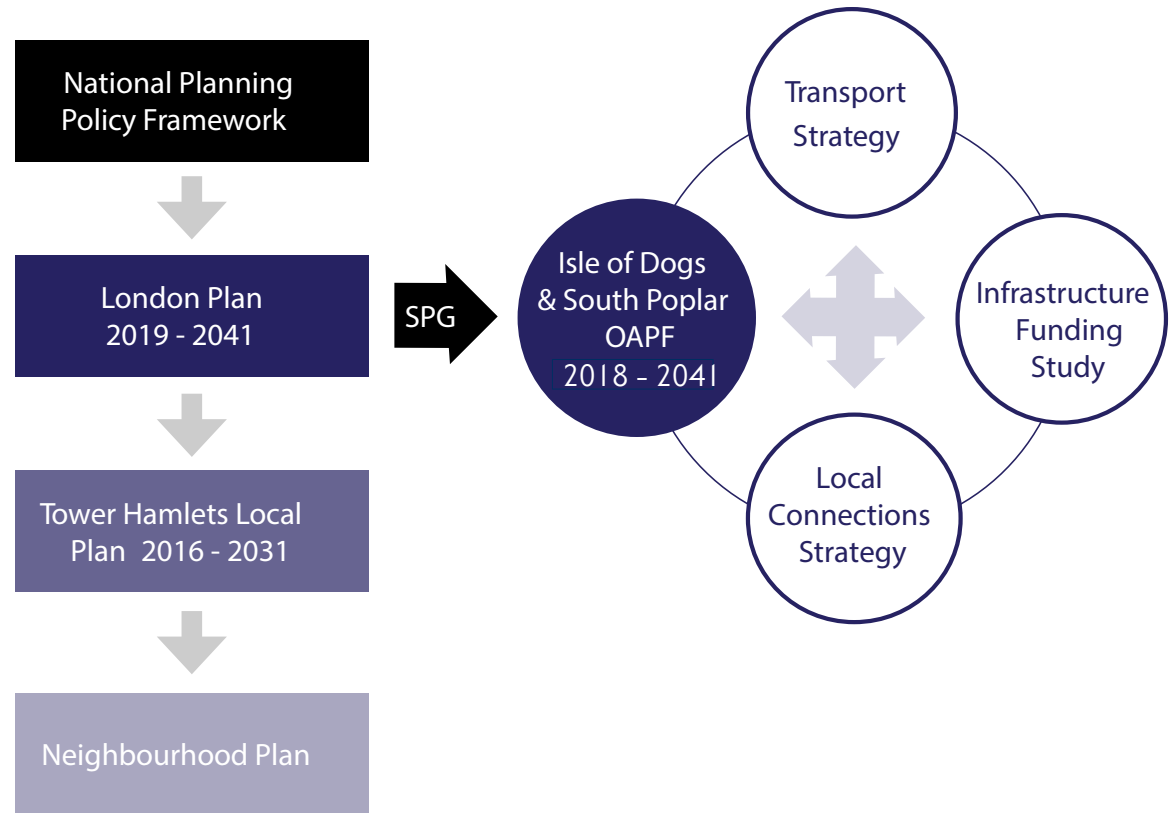


Figure 2. Planning policy framework diagram (source: GLA)

2 Current transport provision and future patterns of use

The OA as a place to live and work

Over the last 30 years, the substantial infrastructure investment set out in Figure 3 has supported the Isle of Dogs and South Poplar to develop not only as an attractive place to live, but also, crucially as a focus for high value jobs in London and the UK's financial and support sectors.

The OA has distinct trip patterns reflecting these roles. While a mix of journey patterns is typical, the physical geography of the OA, as well as its location within London magnifies them, and contributes to some of the resultant challenges.

The OA within a strategic corridor

The OA is positioned within the strategic transport corridor between central London and the east. This means that there are multiple demands for the limited capacity available within the OA. For the Jubilee line and DLR which support the wider region, there are significant through flows adding to capacity pressures in the OA. While the faster journey times and good connections have enabled the area's recent growth, links at the surface can create barriers to local movement. For Aspen Way it results in South Poplar being separated from the Isle of Dogs by a strategic highway link carrying a high proportion of through traffic. In some instances, the geography of the area means that there is some protection from the need to accommodate through trips. Highway traffic would not be within the Isle of Dogs if it didn't have an origin and/or destination in that area, nor would bus passengers.

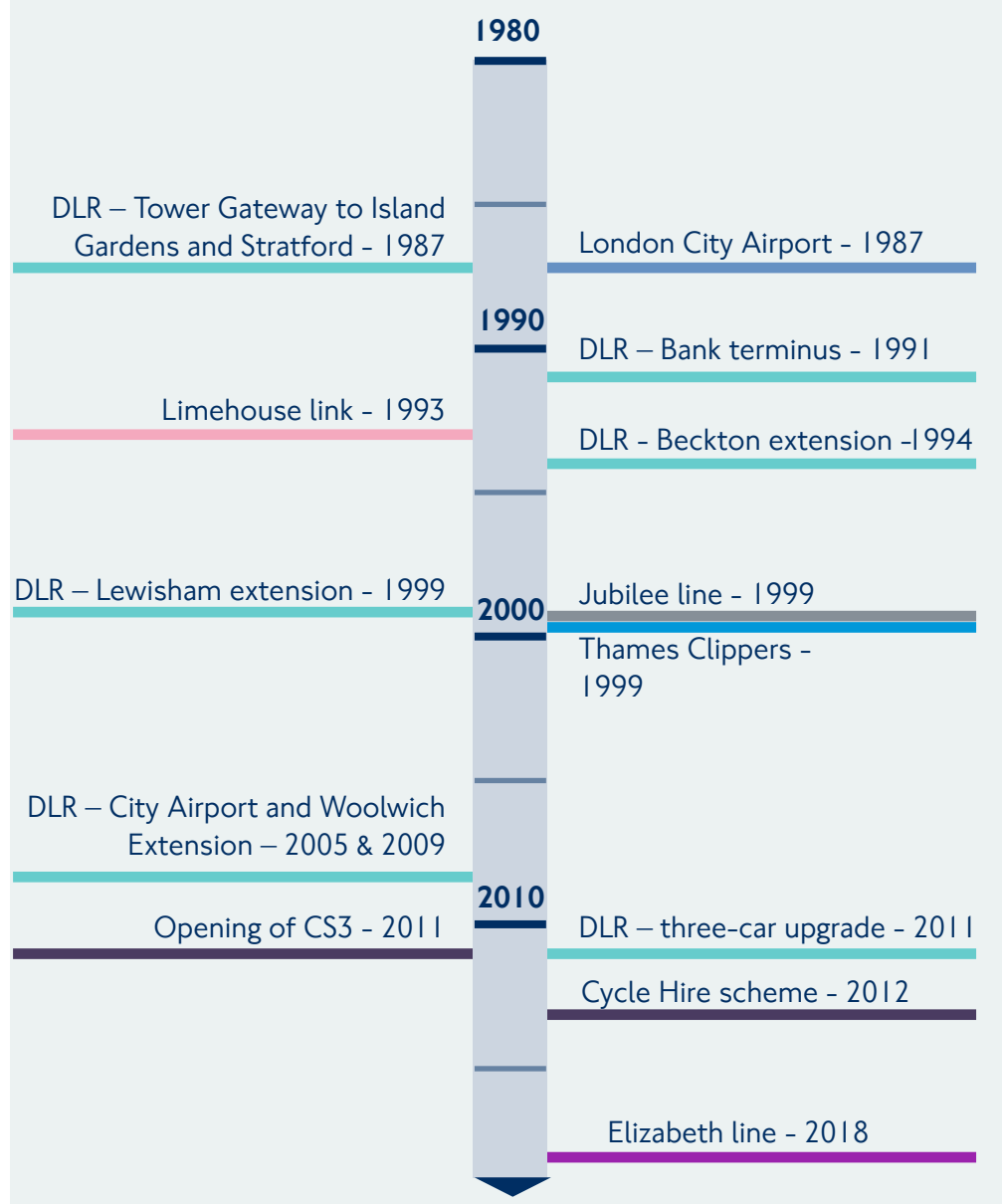
Another notable feature of the OA's position within London, 3 km to the east of the City, is that there are more trips from and to areas located to the west of the OA, increasing the pressure on the services within this corridor.

Severance around and within the OA

With the River Thames surrounding three sides of the OA, movements across the river are restricted to using the single pedestrian (Greenwich foot tunnel) and three public transport links (Jubilee line east and west and DLR from the south) in place, as well as river services. Extensive docks further fragment the area, and as mentioned, transport links themselves, when at the surface can obstruct local movement.

This limits the range of travel options for parts of the OA, and puts the services that are there under additional pressure, for example the Jubilee line across the river from central London and the DLR within the Isle.

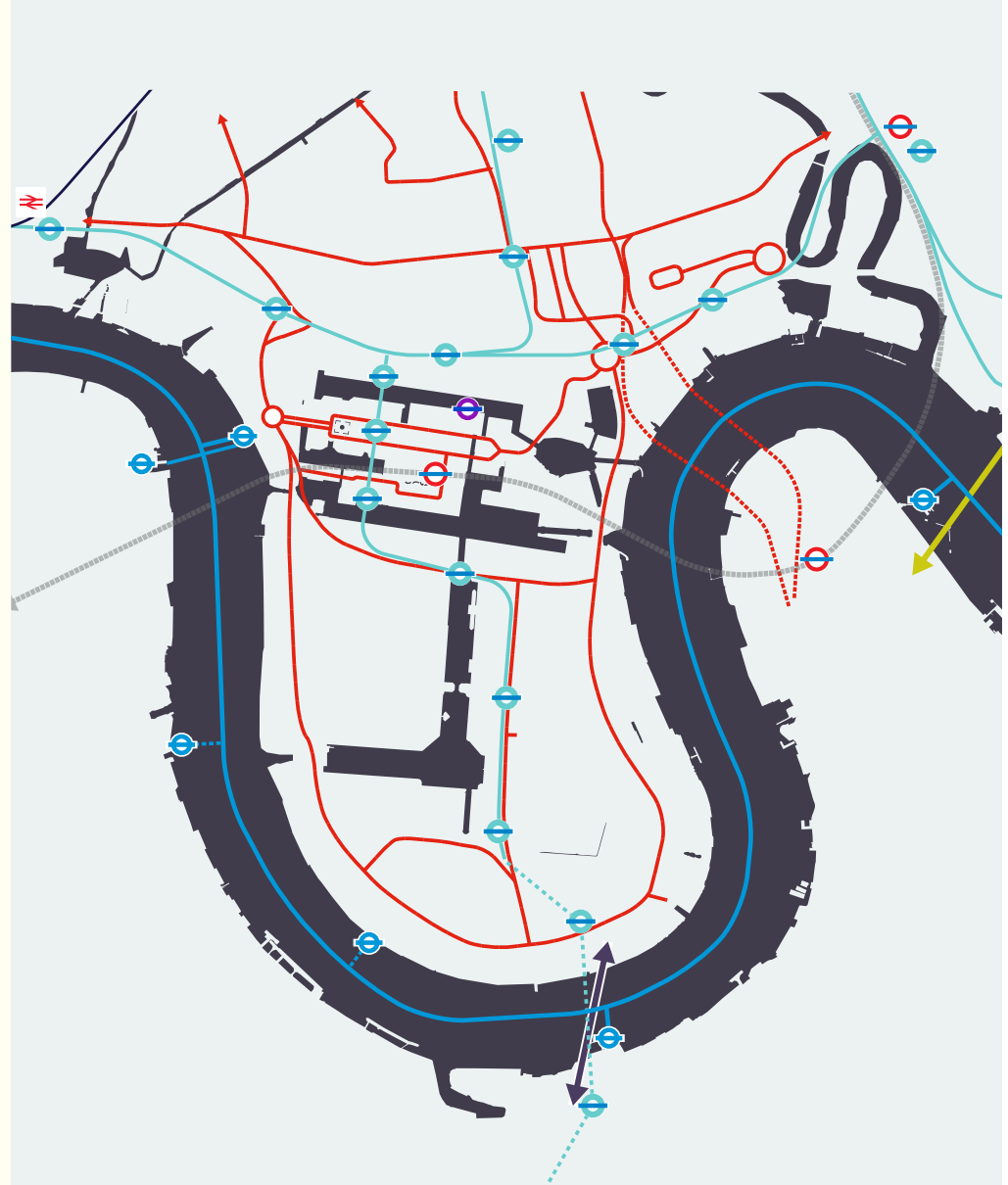
Figure 3. Timeline of infrastructure delivery



Key: modes



Figure 4. Current public transport provision in the Opportunity Area



Current trip patterns

The growth of the area as an employment centre has been recorded by the annual Isle of Dogs Cordon Survey, which counts all movements into and out of the area via three corridors, in the west, east and south. Key characteristics revealed by the survey, are shown in Figures 5 and 6.

The OA as an employment centre

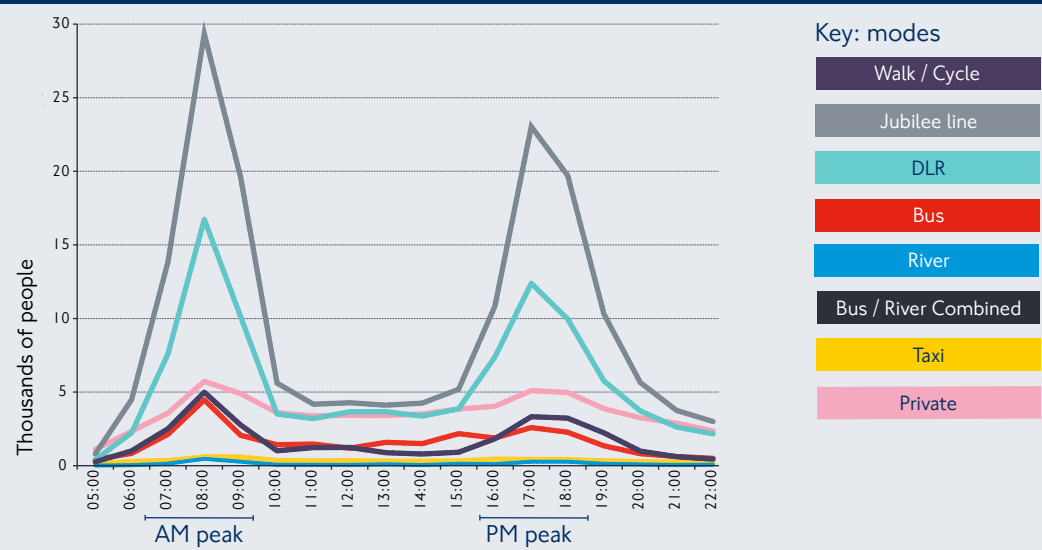
- **Twelve-fold increase in number of trips made into IoD in morning peak since 1988.** Virtually all this growth is carried by public transport, made possible by investment over this period. Private transport trips have changed little since 1994. **Sustainable modes now make up 90 per cent of inbound trips, up from 86 per cent in 2010.**

- **High volumes in the peak periods with a dominant peak direction.** Over two thirds of all trips crossing the cordon take place within the peaks. This suggests a large number of commuters, who typically travel often (4-5 days per week), and usually make the same journeys and at similar times.

Figure 5. Trips by mode (AM peak inbound) - 1988 - 2015



Figure 6. Total trips throughout the day (2015)



- **Highest hourly flow on every mode is during AM peak.** AM peak period flows are growing at a faster rate than total flows. While the inbound AM peak flows have increased by the most in the last year (10.3 per cent), outbound flows increased by 7.6 per cent, suggesting that the residential population of the area is increasing.
- **Non-sustainable mode shares are much higher outside the peaks.** These trips are more likely to be for non-work purposes, like other residential areas in London.
- **Balance of total daily trips across the three corridors serving the area is 61 per cent western, 32 per cent eastern and 7 per cent southern.** The dominance of trips to/from the west over the east is most pronounced in the peaks, suggesting that it is journey to work trips that are most biased to the west, while other trips are more evenly distributed across the corridors.

- **Key issue: managing high peak period public transport volumes (capacity and demand management).**

The OA as a place to live

In contrast, like most residential areas, the patterns of the journeys to work are far less visible in trips made by residents of the OA, though a common feature is a recent rapid growth in trips.

- **The scale of daily trips by residents is smaller, at under half the total number of trips recorded travelling into and out of the IoD on a weekday (186,000 trips compared to over 407,000).**
- **Total trips by residents have increased by 18 per cent over the last 5 years, compared with a 7 per cent increase for Greater London residents.**

- **Trips by residents of the OA show a more even spread across the day, with fewer than 39 per cent of trips made within the peaks.**
- There is a **wide range of journey purposes by residents** across the day (only 28 per cent of trips are work-related). Unlike a regular commute for work, these journeys are more likely to be made at varying times and to a wider range of destinations.
- **Over 30 per cent of trips made to or from the OA are less than 1 km in length.**
- **Key issue: ensure growing residential population adopts sustainable modes and improve connectivity within and beyond the OA.**

Isle of Dogs - trips

- **407,000 trips across cordon per day**
- **186,000 trips by residents per day**

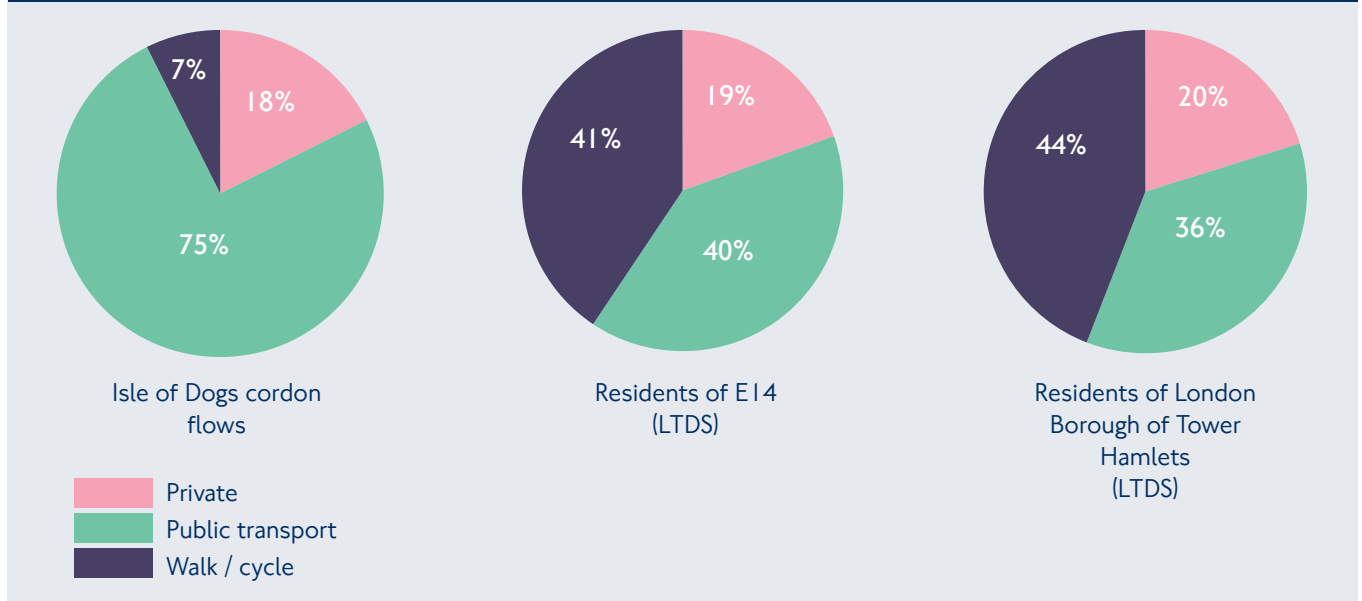
Mode share - employment

Across the day, 75 per cent of trips across the cordon are on public transport and over 7 per cent are walked or cycled, while 18 per cent are private (Figure 7). The equivalent data for the inner cordon around the Canary Wharf area shows a higher share for active modes which is likely to be capturing shorter trips, that are more likely to be walked or cycled, and that don't cross the wider cordon.

Mode share - residents

Across the day, 19 per cent of residents' trips are made by car/taxi, similar to the wider findings of the cordon survey. However, 41 per cent of residents' trips are walked or cycled and 40 per cent are made on public transport. (Five years ago this was 35 per cent for walk/cycle.) The shares for residents of LB Tower Hamlets overall are very similar for car/taxi but lower for public transport and higher for walking/cycling. This may partly reflect the physical severance of the OA making walking and cycling less desirable.

Figure 7. Current all day mode shares



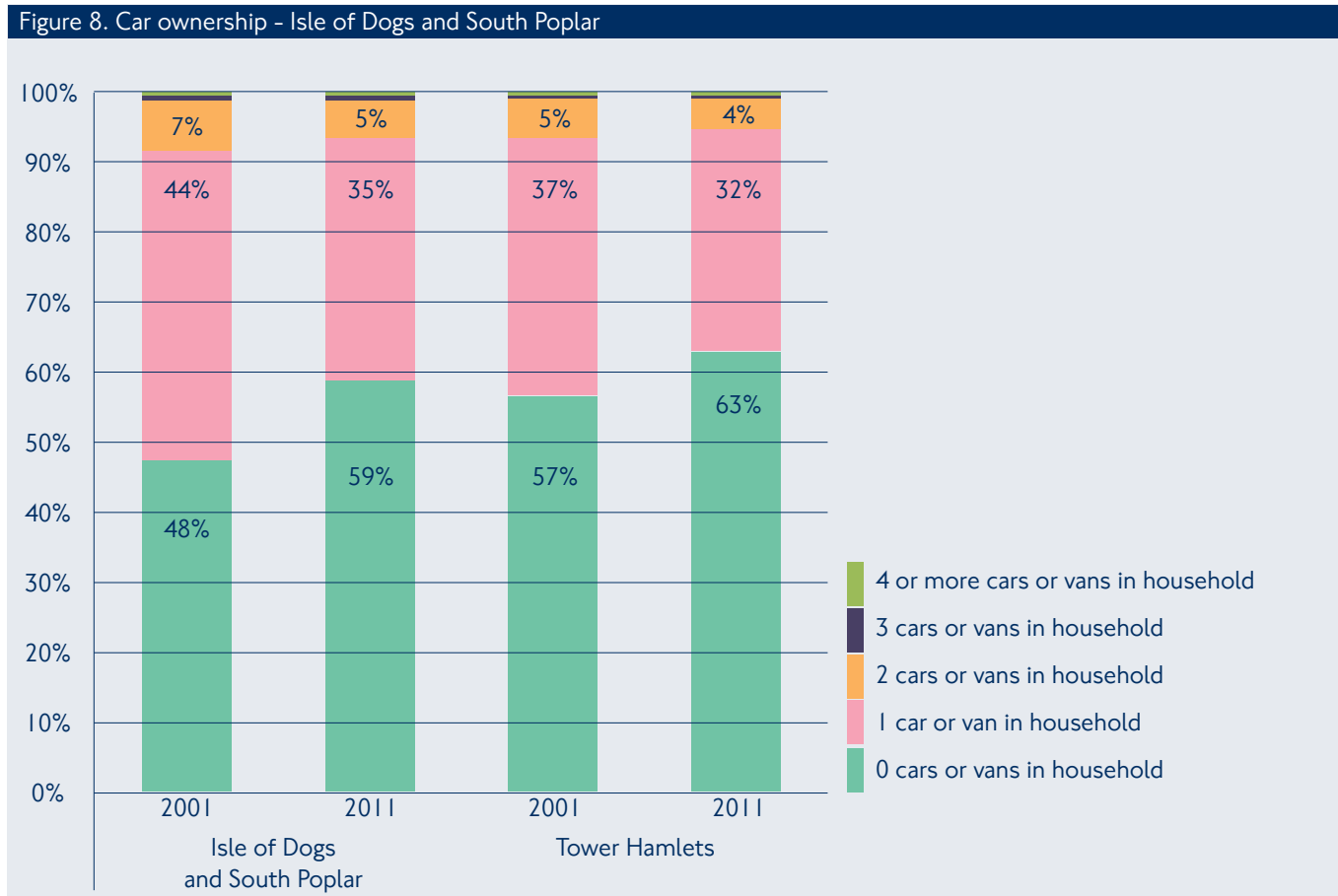
Car ownership

Figure 8 illustrates the changes in car/van ownership between the 2001 and 2011 census for the OA and LB Tower Hamlets. The proportion of households in the OA without a car or van in the household rose markedly between 2001 and 2011 from 48 per cent to 59 per cent, an increase of almost one quarter.

This figure for Tower Hamlets overall is lower at 63 per cent, but has changed at a slower rate, so it is likely to be largely driven by the more rapid reduction within the OA.

Declining need to travel

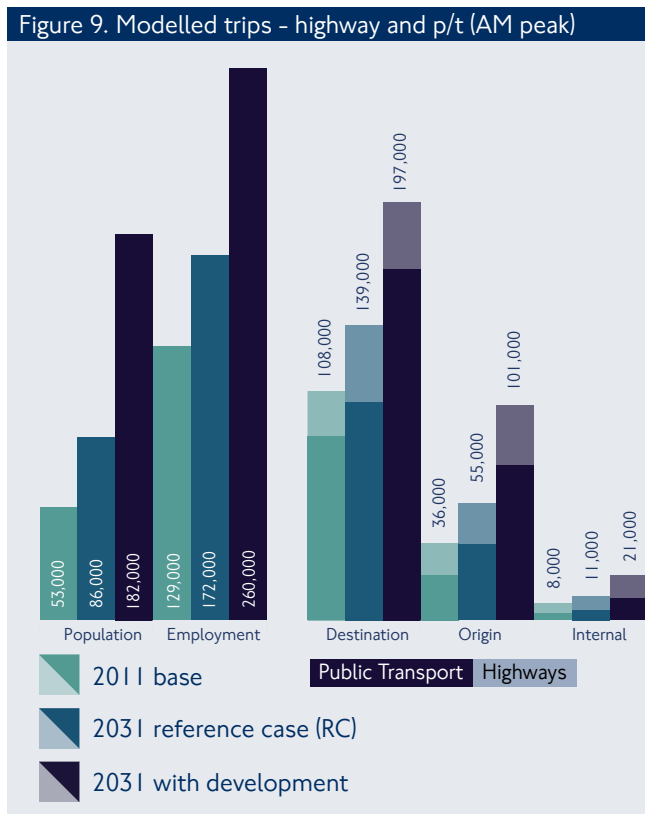
Over the past two decades, there have been significant changes in travel demand, largely driven by population growth causing more travel, but also by a range of factors that led to substantial mode shift away from private car use toward public transport, walking and cycling. Through all of these changes, one thing that remained broadly constant was trip rates – i.e. the average number of trips per person per day. Over the past few years, however, Londoners’ trip rates have been observed to decline. This emerging trend would influence the number of trips expected in the future.



Changing trips in the area

The strategic modelling uses the jobs and homes growth scenarios to produce forecasts of mechanised trips as shown in Figure 9. In general in the AM peak, the number of trips that originate from an area is linked to how many people are living there and the number of trips destined in the area is linked to the level of jobs there.

- Destination trips remain dominant, reflecting the doubling of the 2011 employment levels in the With Development scenario. As seen with the area's growth up to now, 90 per cent of the additional 89,000 trips (growth of 83 per cent) will be carried by public transport.
- The increasing number of homes means that the highest relative growth in trips (+177 per cent) is for origins in the OA.
- This growth offers the opportunity for more residents to work locally and more workers to live locally.
- The modelled successive increase in mechanised internal trips within the OA suggests this shift. The higher highway mode share for these and the originating



trips highlights trips that will be targeted to primarily use active modes and public transport with the introduction of appropriate interventions.

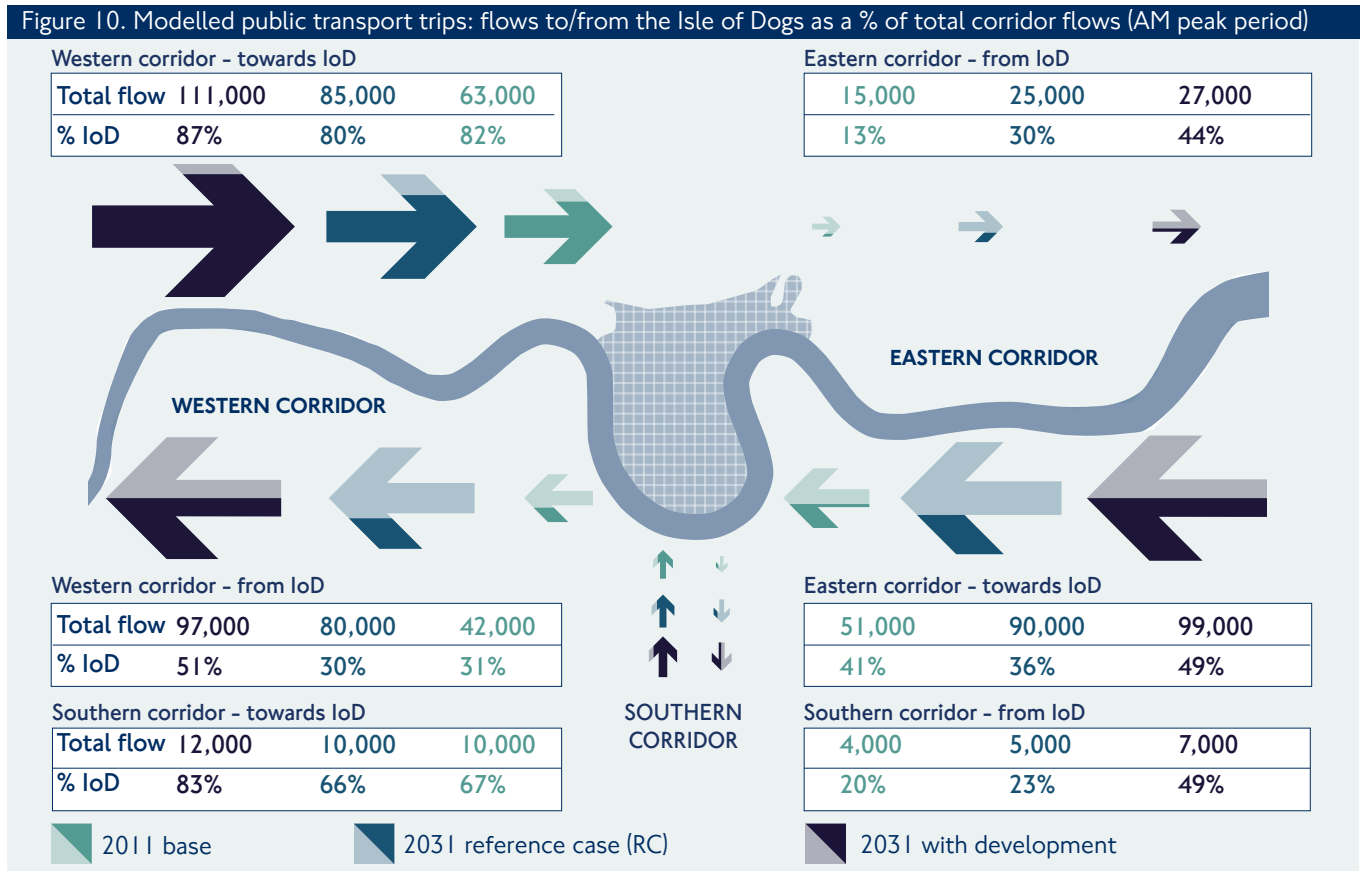
As most of the growth in trips is forecast to be on public transport, Figure 10 summarises the changes in flows for the three public transport corridors serving the area. Demand to and from the OA, shown by the degree of infill on each arrow reflects the changes in trips set out in Figure 9, while overall corridor flows, shown by the arrow size, also include the impact of growth in London as a whole, particularly in the east.

- The biggest relative increases are seen in the westbound direction, in both the eastern (+93 per cent) and western (+131 per cent) corridors. These trips are coming from the growth areas to the east of the OA, and the biggest increase is prompted by the London-wide growth of the Reference Case rather than the OA With Development scenario. Both the OA and central London are destinations for these trips. West of the OA, flows are amplified by an increase in flows originating from the OA as the number of homes increase. In the westbound direction overall, the proportion of trips that either come from or go to the OA reaches around 50 per cent.
- Relative growth in eastbound trips is lower at around 75 per cent in both the western and eastern corridors. The western corridor towards the Isle of Dogs has the highest

demand of all corridors and directions and is predominantly made up of those travelling to the OA. The dominance of this western corridor for trips to the Isle of Dogs remains across all scenarios. In the same eastbound direction there is a significant drop of demand to the east of the OA. Trip numbers do increase with the successive growth scenarios, with the majority of the extra trips coming from the OA.

- A much lower level of demand is carried on the southern corridor, with some growth across the scenarios, but not on the same scale as the other corridors. As a strategic river crossing, a higher proportion of through demand is seen in this corridor, particularly travelling south. This proportion falls as more growth is delivered within the OA in successive scenarios.

For highway, through flows across the north of the OA increase in the Reference Case scenario, particularly eastbound. On the Isle itself, there are some increases in the north, around the limited access points. This pattern is more significant in the development scenario, with increased flows in both directions throughout Canary Wharf, South Quay and the western perimeter and joining the strategic network heading east.

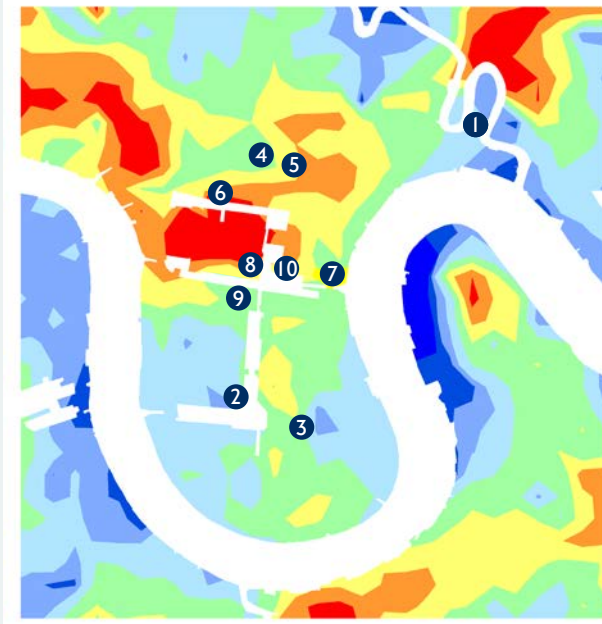


PTAL

In terms of PTAL (Public Transport Accessibility Levels) there is high variation across the OA (Figure 11). PTAL scores are very high around the Canary Wharf area due to the proximity to the Jubilee line station, together with numerous DLR stations. The central spine of the peninsula retains moderate PTAL scores, corresponding to the path of the DLR, whereas the outer boundaries at the south west and south east of the peninsula have lower PTAL scores indicating poorer access.

With the introduction of the Elizabeth line, together with the delivery of improved frequencies, routing and physical connections in the area, there is a significant improvement in terms of accessibility across the whole OA, as shown in Figure 12.

Figure 11. PTAL map - 2011



Baseline PTAL for the Isle of Dogs and South Poplar (2011) calculated from Canada Square

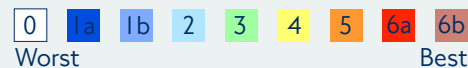


Figure 12. PTAL values - 2011 to 2031 (mitigation)

ID	Name	PTAL 2011	PTAL 2031
1	City Island	Light Blue	Red
2	Greenwich View	Light Blue	Light Green
3	Mudchute Park	Light Green	Yellow
4	Poplar 1	Light Green	Red
5	Poplar 2	Yellow	Red
6	Poplar DLR	Red	Light Brown
7	Preston's Road	Yellow	Orange
8	South Dock	Orange	Red
9	South Quay	Light Green	Orange
10	Wood Wharf	Yellow	Red

This summary table gives the PTAL values for 10 sites in the Isle of Dogs area. Baseline year is based on 2011 walk links plus service frequencies from WebCAT. Future includes all modelled transport mitigations, as detailed in Chapter 7.

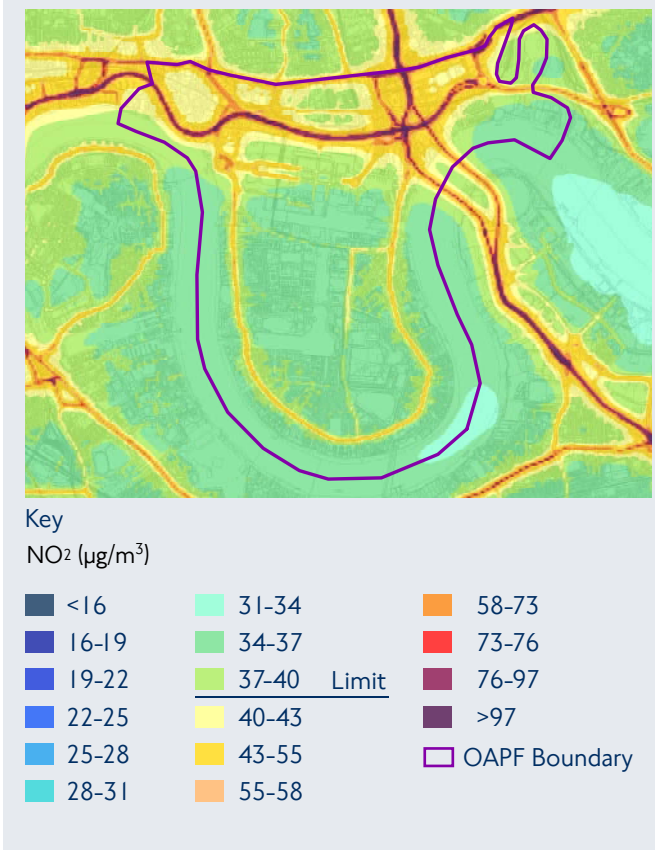
Air quality

The draft Mayor’s Transport Strategy (MTS) highlights the scale of the problem in needing to improve air quality and the environment across London. Air pollution caused by carcinogenic diesel emissions, high levels of nitrogen dioxide (NO₂) and particulate matter exacerbate health conditions and shorten the lives of Londoners.

The OA will need to contribute in meeting London’s legal air quality levels in the future, thereby protecting the health of Londoners and demonstrating a commitment to tackling climate change.

In addition to initiatives set out within the MTS, such as the Ultra Low Emission Zone (ULEZ), the OAPF proposes a significant package of walking, cycling and public transport measures to support a shift away from private car use and reduce total vehicle kilometres. The remaining vehicles need to be as clean and energy efficient as possible to support further improvements in air quality, with the Mayor’s aim for all road vehicles driven in London to be zero emission by 2040, and the entire transport system to be zero emission by 2050. Diesel is the most significant source of nitrogen oxides (NO_x) emissions, which contribute to illegal levels of NO₂, as highlighted in Figure 13.

Figure 13. Isle of Dogs - NO₂ Annual Mean 2013



Cycling potential

There is a high potential for an uplift in walking and cycling around the OA which reinforces the need to provide a high quality network and address severance of the area.

A high density of potentially cyclable trips are made within central and parts of inner London, including Tower Hamlets. There are a number of barriers to realising this potential, but analysis highlights that this combination of high density of potentially cyclable trips (cycling for the whole journey), together with the number of potentially cyclable stages (cycling for part of a journey), shows why targeted interventions are important to increase cycling in general. Furthermore, there is particular potential for cycling trips to and from town centres within London. The Major Town Centre at Canary Wharf, with its aspirations to become a Metropolitan Town Centre, is a good example of this with just under 40,000 potentially cyclable trips. This scale is similar to a number of the other Metropolitan Town Centres across London.

Figure 14 - Daily two way flow, potentially cyclable trips, Cynemon reference case 2014



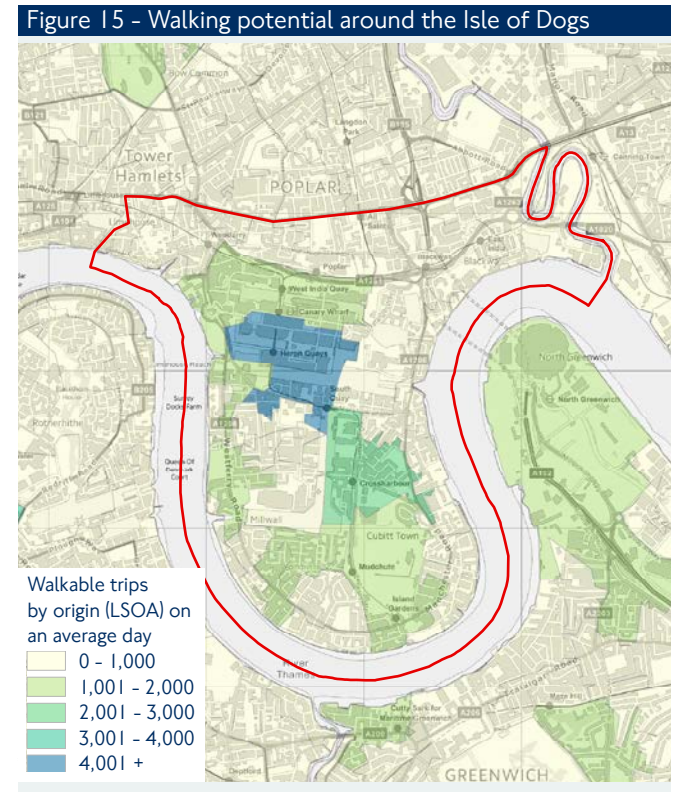
Walking potential

There is significant potential for more walking trips (walking for the whole journey) and stages (walking for part of a journey) to be made to and from London's town centres. Figure 15 shows a high density for potential trips to Canary Wharf, and Crossharbour town centres. Generally, and in line with the rest of central and inner London, there are fewer potentially walkable trips, but there is much more potential for potentially walkable stages.

The most potentially walkable stages (86 per cent) are currently either made by bus or by DLR/ London Underground. Approximately three in five of these are currently made by bus, interchanging to/from another bus service or the Underground/ DLR network. This is in contrast to the potentially walkable trips, where car travel accounts for the majority of trips.

Through further investment in infrastructure to support walking, cycling and connectivity across the OA there is a great opportunity to increase the mode shares for walking and cycling to support the healthy of Londoners and reduce congestion/crowding on the highway and public transport network.

It is important to note that most walkable trips and stages are also potentially cyclable, but also that there are many current walk trips that could be cycled in the future.



Challenges facing the area

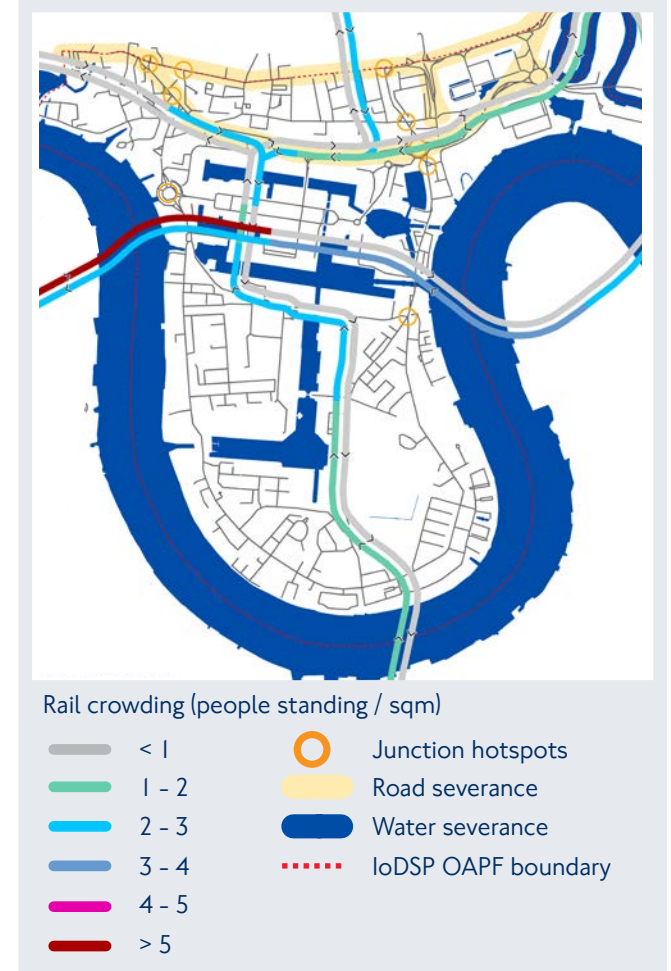
Building on what has been presented, the 2011 Baseline situation highlights the existing challenges for the movement of people to, from, through and within the OA and this part of inner east London.

- Almost two thirds of all public transport commuters to the OA are from the west, with 75 per cent of them using the Jubilee line.
- On the most crowded section of Jubilee line between Canada Water and Canary Wharf, 88 per cent of passengers are travelling to the OA.
- The most crowded sections of the DLR are travelling towards the Canary Wharf area from both the north and south.
- Within the OA, buses support shorter journeys with the heaviest flows on the western perimeter of the Isle and around Canary Wharf.
- Connectivity within the OA is fragmented due to physical barriers to travel including the docks, rivers and road and rail infrastructure. This is reflected within PTALs, which vary

widely across the area. Some parts of the area are considered to be very accessible around transport interchanges and along the DLR spine of the island, whilst other areas to the north around South Poplar and to the south west around Westferry Road are less accessible.

- As highlighted, the area's walking and cycling potential is under realised at present, which can in part be attributed to conflicting demands for road space, severance and barriers to continuous movement and quality of the environment for walking and cycling.
- Aspen Way across the north of the OA is dominated by strategic through traffic with some congestion through the day.
- The small number of access points broadly regulate flows within the island. Despite this, due to both the layout of infrastructure and the mix of traffic, such as construction vehicles, this has historically led to bottlenecks on the approach to junctions when incidents take place. This can make it difficult for other users such as emergency services to access the area at times.

Figure 16. 2011 Baseline



Future situation with development

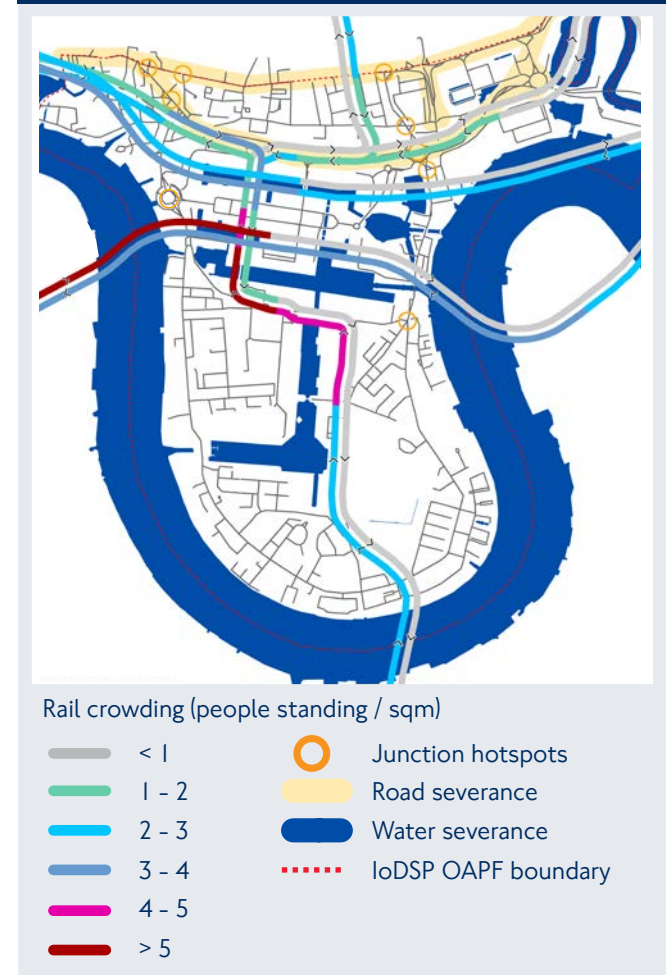
This 2031 modelled scenario includes the proposed growth in the OA itself and also across London, particularly to the east, in line with the London Plan. Most new trips in the OA are taken up by sustainable modes. Homes growth leads to an increase in flows departing the OA mostly to the west, adding to higher overall flows to Central London from the east. High commuter flows to the OA from the west continue and although there is a greater relative increase in flows arriving from the east the balance between the corridors shifts only slightly.

Introduction of the Elizabeth line helps to accommodate the growth, but crowding patterns of today worsen (Figure 17). The highest relative increases in crowding levels are found on the northbound DLR links through the isle. Crowding north of Crossharbour towards Canary Wharf worsens.

Severe crowding persists on the eastbound Jubilee line towards the OA, and the equivalent link in the westbound direction worsens after experiencing 65 per cent increase in passengers. In practical terms this will mean very crowded trains with passengers unable to board the first train which could result in increased localised congestion in and around stations. This could, for example, necessitate station management measures at peak times, as with other parts of inner and central London.

On the highway, the biggest impact is on the strategic road network and around access points to the area, including Preston’s Road roundabout, Hertsmere Road, to the north of Westferry Road and the eastern end of Marsh Wall.

Figure 17. 2031 Development Case



Future situation with proposed investment

This scenario tests how well the development growth can be supported with the introduction of the package of transport improvements detailed in this strategy.

Figure 18 shows that crowding is significantly reduced across the network when compared to the other scenarios. The main link that remains under pressure is on the Jubilee line accessing the area from the west, however, broadly speaking the overall situation is better than 2011. Delivery of public transport infrastructure also provides significant improvements to journey times across London. Delays are improved at access points to the island, including Hertsmere Road and Preston's Road.

The delivery of the package of measures greatly improves accessibility across the area, the wider borough and into other boroughs and OAs, through the delivery of bridges and other infrastructure. Areas such as Blackwall and Leamouth will be unlocked through these new connections.

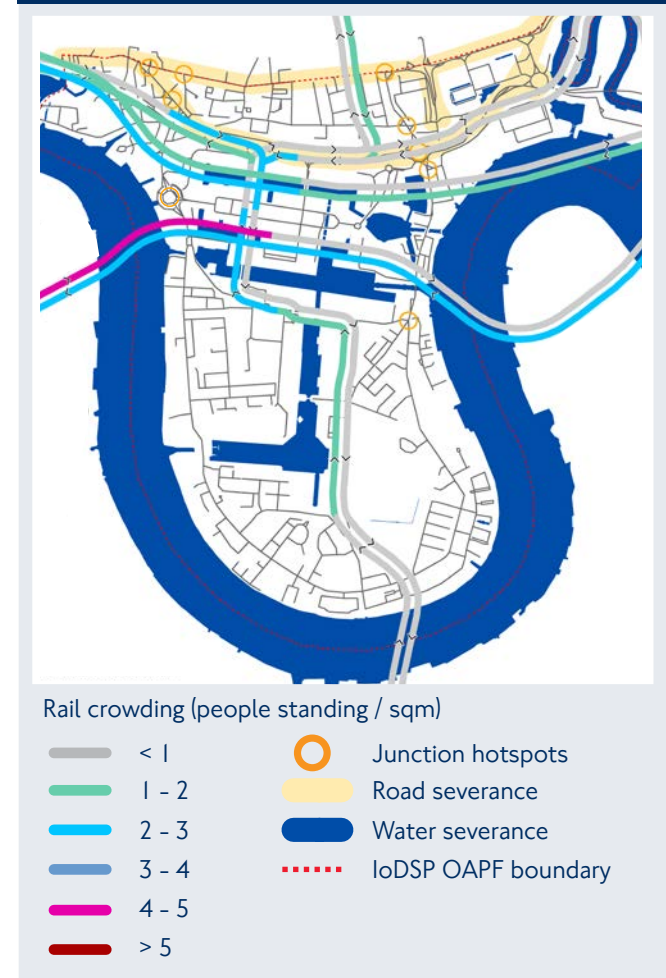
Figure 19 outlines the increases in inbound capacity for the OA's three public transport corridors along with changes in demand between the 2011 base and the 2031 mitigation scenario.

Further work is required to understand the implications of wider growth in east and south-east London on the transport network, particularly to look to address the persistent crowding on the Jubilee line. This will be done and reported through TfL's wider strategic planning role.

Summary

This analysis confirms the continuing need to accommodate the inbound commuting flow to the OA in the AM peak as a key transport issue. However, alongside this, the increase in the number of homes in the OA will allow more people to both live and work there, so the area will absorb more of its own travel demand. There will also be a more pronounced outbound commuting flow. While some of these trips will travel further east, on links with no capacity pressure, most will travel towards central London, adding to the increasing flows coming from growth areas east of the OA. More significantly, residents will generate a wider range of more

Figure 18. 2031 Mitigation



complex trips across the whole day, reinforcing the importance of ensuring a comprehensive, accessible and sustainable network within the OA itself is in place as well as adequate strategic links. With these in place, the resultant mode share targets are set out in Figure 20.

The OAPF highlights a series of challenges and opportunities for the area, summarised in the following section. These are underpinned through the analysis and patterns which have been presented within this Chapter.

Figure 20. Future mode share targets

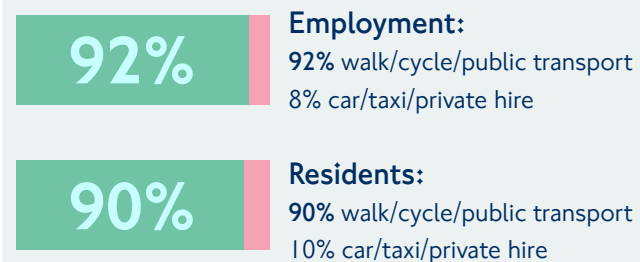
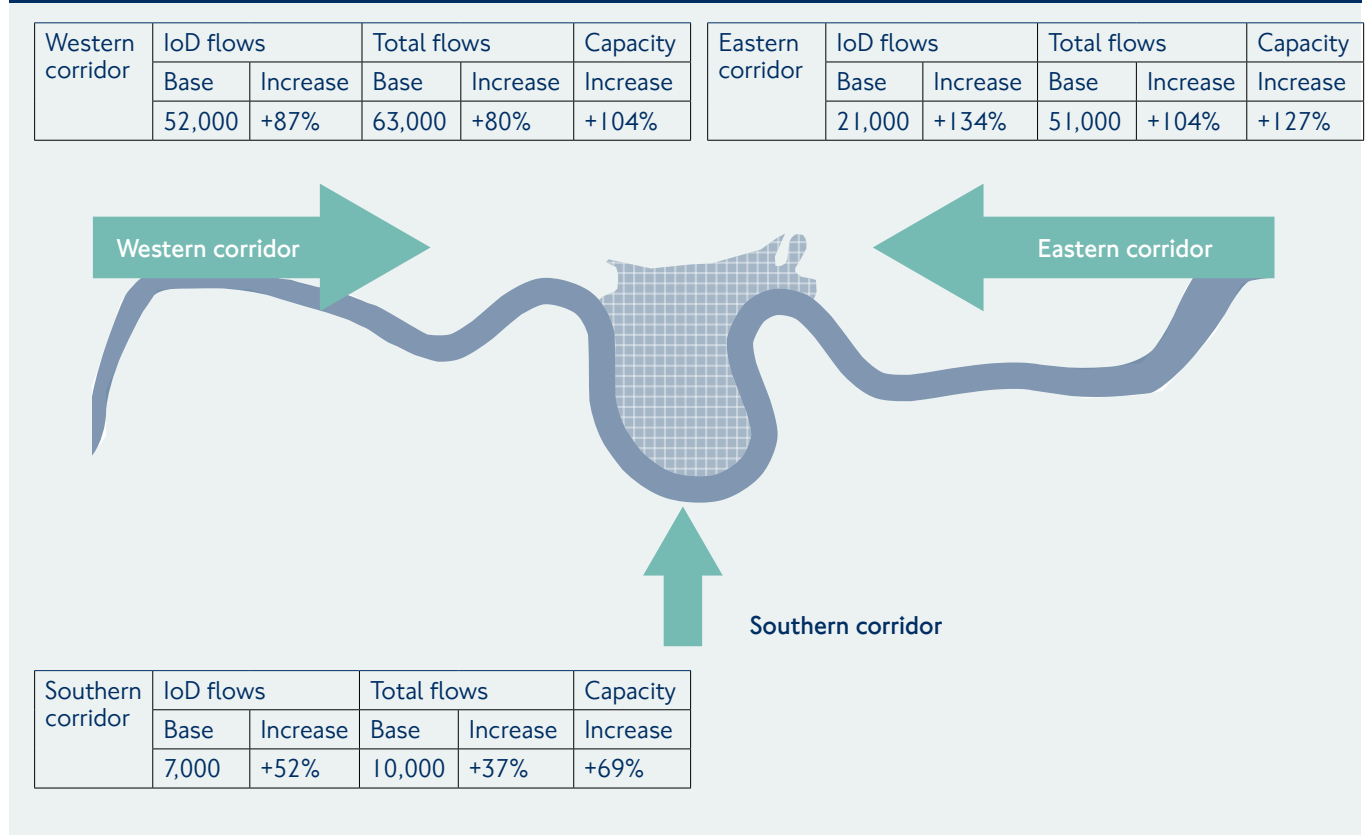


Figure 19. Public transport demand and capacity change by corridor between 2011 Base and 2031 Mitigation (AM peak hour)



3 Summary of transport challenges and opportunities

The analysis presented in Chapter 2 can be summarised under five challenges and opportunities which the OAPF transport package seeks to address.



Improve local connectivity and reduce severance

Both Public Transport Accessibility Levels (PTAL) and other analysis highlight the wide variation in connectivity levels across the OA. A key challenge for the OAPF is to identify ways to address barriers to travel through reducing severance both within the OA and into the surrounding areas. This includes addressing physical barriers such as the Rivers Lea and Thames, the docks and waterways, as well as other infrastructure such as highways and railways.



Improve the health of residents and enable travel by sustainable modes

Travel patterns occur as a result of the decisions that individuals make about how they travel. Both the current dominance of travelling during peak times, and the heavy usage of modes which have a finite capacity already, have negative impacts on trips made to, from and within the area.

Current travel patterns are also unsustainable against a backdrop of high levels of population and employment growth across London. A clear challenge for the OA is therefore enabling behavioural change and encouraging more people to walk and cycle as their first travel choice, or for part of a wider journey. The Healthy Streets Approach, which puts human health and experience at the heart of planning the city, will be at the heart of encouraging this behaviour change.



Maximise transport investment and use

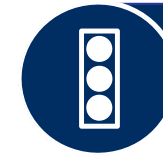
As highlighted in Chapter 2, significant public transport investment has taken place across the area, particularly in terms of rail modes, and there is an opportunity to make better use of this infrastructure to support the area.

In addition to this, the bus network plays a vital role in maintaining the movement function of the OA. It is heavily used for short, local journeys and provides enhanced accessibility for those who live further away from rail links. It must continue to operate efficiently in the future, whilst investment is required to ensure improved journey times and quality of passenger experience.



Manage public transport crowding and increase capacity

Crowding on both London Underground and DLR services is a challenge across London during peak times. Further growth in population and employment will exacerbate the problems caused by capacity constraints and as such, managing capacity on these services is a key challenge for the OA. Future growth may have localised impacts on particular stations and links and therefore investments and improvements need to be appropriately targeted in order to maximise the benefits.



Manage the performance of the highway network

Another challenge for the whole of London is addressing the issues of congestion, safety and pollution, whilst enabling the highway network to maintain an acceptable level of performance for essential journeys, including for emergency services. Nowhere is this more apparent than within the OA where highway access is constrained to a small number of corridors and access points, and measures are required to enable it to continue to support its surroundings.

Consideration needs to be given to how we will travel in the future, encouraging journeys via sustainable modes and public transport, whilst planning and coordinating freight to ensure that it is safe, clean and efficient to support the population and jobs for the area.

4 An integrated transport strategy

Work has been undertaken to develop a robust package of transport measures to support the OA up to 2041.

This chapter summarises these various measures in more detail, whilst Chapter 6 presents how they will contribute towards addressing the various OAPF transport challenges throughout the plan period. They have been compiled through application of specialist knowledge and evidence, together with stakeholder liaison. The package aims to collectively address the challenges through:

- Making best use of the existing public transport investment to date in the area
- Address crowding and congestion on the public transport network
- Invest in the quality of the street network in the area to deliver Healthy Streets

- Address severance through new and improved links across the area in order to enable sustainable travel through walking and cycling
- Ensure the highway network maintains acceptable levels of performance, whilst supporting essential freight activity, whilst looking to reduce car dependency.
- Embrace innovation and new technologies to improve the way we travel and facilitate the sustainable movement of people and goods in the area.

Collectively the package of measures will support the delivery of the overarching themes of the Mayor's Transport Strategy. That is to deliver healthy streets for healthy people; deliver a good public transport experience; and support the delivery of new homes and jobs across the area and the rest of London.

These measures will be delivered through a range of public and private investment, as illustrated across Chapters 5 and 6.

Right - Figure 2 I. Integrated transport strategy for the Isle of Dogs and South Poplar OA

An integrated transport strategy for the Isle of Dogs and South Poplar, to be delivered over the OAPF Plan period up to 2041.

Making better use of transport

New, higher capacity **DLR trains** every **2 mins** in the peak



7% capacity increase on the Jubilee line (in the short term)

Moving towards **24 hr** public transport



Station enhancements including ensuring **100%** stations in the area are **step free**



Protecting **bus service reliability** and improving journey times



Creating healthy streets

Major capital investment in delivering **better, healthier streets**

90% sustainable travel to, from and within the OA



Creating an environment that encourages people to **walk and cycle** for local trips and the last mile of longer journeys

Investing in the **cycle network** including connections to

CS3



Safer, cleaner, greener streets

Improving how we travel

Addressing dominance of **peak travel**



Secure high quality active travel facilities and reduce car dependency through the **planning process**

Planning and co-ordinating **safe, clean and efficient freight**



Delivering **walkable neighbourhoods**

served by enhanced town centres, which reduce the need to travel by other modes



Strategic capacity upgrades

2018 opening of **Elizabeth line**



New **bus hub** at Crossharbour



New pier to the east of the area enabling **direct links to North Greenwich**



Reducing severance



New bridges across South Dock and the River Lea

Overcoming severance

between South Poplar and Canary Wharf



Upgrading **Prestons Rd Roundabout** and other junctions



New strategic walking and cycle connection between **Rotherhithe** and **Canary Wharf**

Innovation



Enabling better informed choices through the provision of **real-time** and enhanced **information**



Supporting **transport innovation** and **technology** that could benefit the area in the future

Retiming deliveries

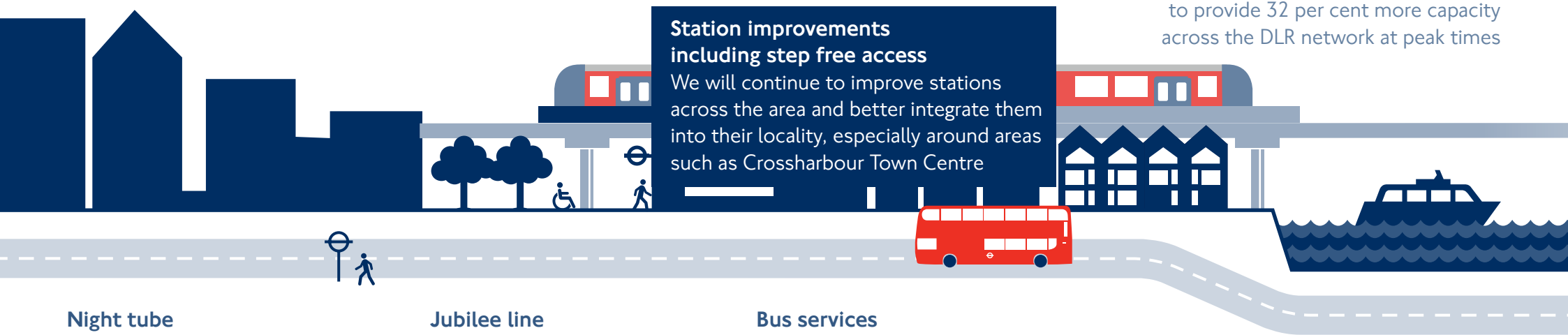
and urban freight tools



Making better use of public transport



Significant public transport investment has taken place over the past decades, however there is an opportunity to make better use of existing public transport, through further investment to provide additional capacity at more regular frequencies.



Night tube

24 hour public transport services

Night Tube was delivered on Jubilee line in 2016. We will look towards how we provide a 24-hour rail network across the area

Jubilee line

Capacity increase

We will deliver a 7 per cent capacity increase on the Jubilee line in the short term, as well as the potential for further enhancements in the future

Bus services

Investing in the bus network in the area

We recognise the important role the bus network plays in the area, and we will strive to ensure better journeys and reliability through continual review

River services

Making better use of the river for transport

The OA benefits from excellent access to the river. The role river services play, including operation of the piers, needs to be continuously reviewed to support the movement of people and goods

DLR capacity

New trains and improved services

We will deliver new, more spacious DLR trains, as well as more frequent services to provide 32 per cent more capacity across the DLR network at peak times

Station improvements including step free access

We will continue to improve stations across the area and better integrate them into their locality, especially around areas such as Crossharbour Town Centre



Strategic capacity enhancement



Further capacity is vital to support both existing communities and growth.

New pier

A new river services pier to the east of the Isle of Dogs will enable direct connections to North Greenwich

New bus hub

A new bus hub will be provided as part of the redevelopment of the Crossharbour town centre.

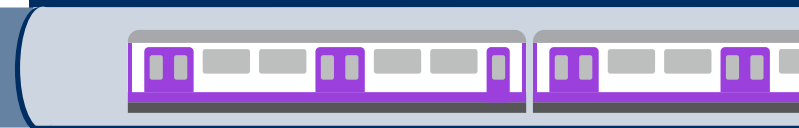


Elizabeth line

The Elizabeth line will open in 2018 providing a further step-change in capacity and connectivity to the area. With trains every 5 minutes in the peak, journey times to the City and West End will be reduced to 6 minutes and 13 minutes

Further strategic capacity

In addition to enhancing the existing public transport network, TfL will undertake feasibility to consider further the case and options for strategic public transport infrastructure to support growth and existing communities across inner east London



Reducing severance

There is a need to reduce physical severance across the area, relieving pressure of short journeys on the public transport network by providing viable pedestrian and cycle connections across key barriers such as the highways and waterways.

Improved access to South Poplar

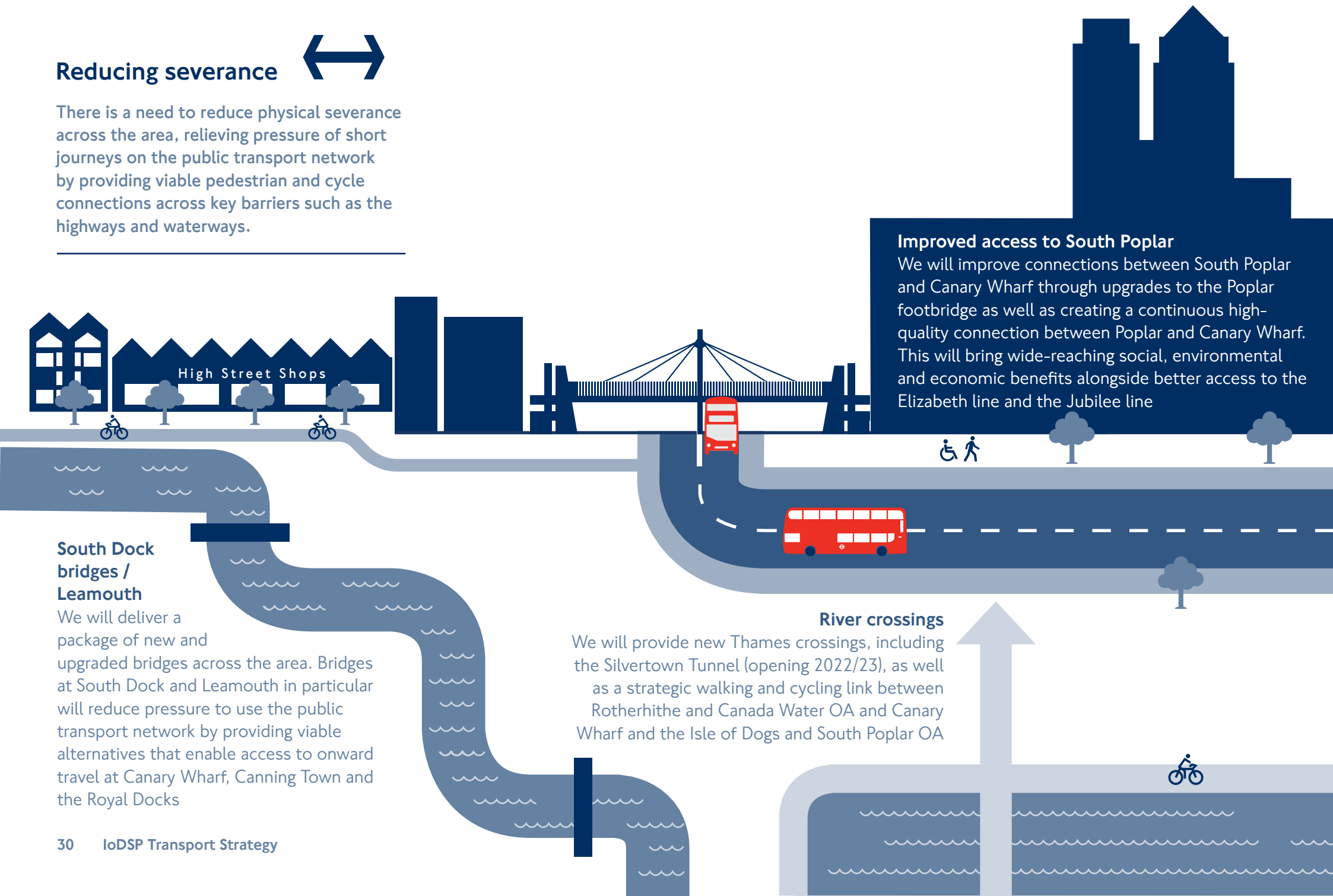
We will improve connections between South Poplar and Canary Wharf through upgrades to the Poplar footbridge as well as creating a continuous high-quality connection between Poplar and Canary Wharf. This will bring wide-reaching social, environmental and economic benefits alongside better access to the Elizabeth line and the Jubilee line

South Dock bridges / Leamouth

We will deliver a package of new and upgraded bridges across the area. Bridges at South Dock and Leamouth in particular will reduce pressure to use the public transport network by providing viable alternatives that enable access to onward travel at Canary Wharf, Canning Town and the Royal Docks

River crossings

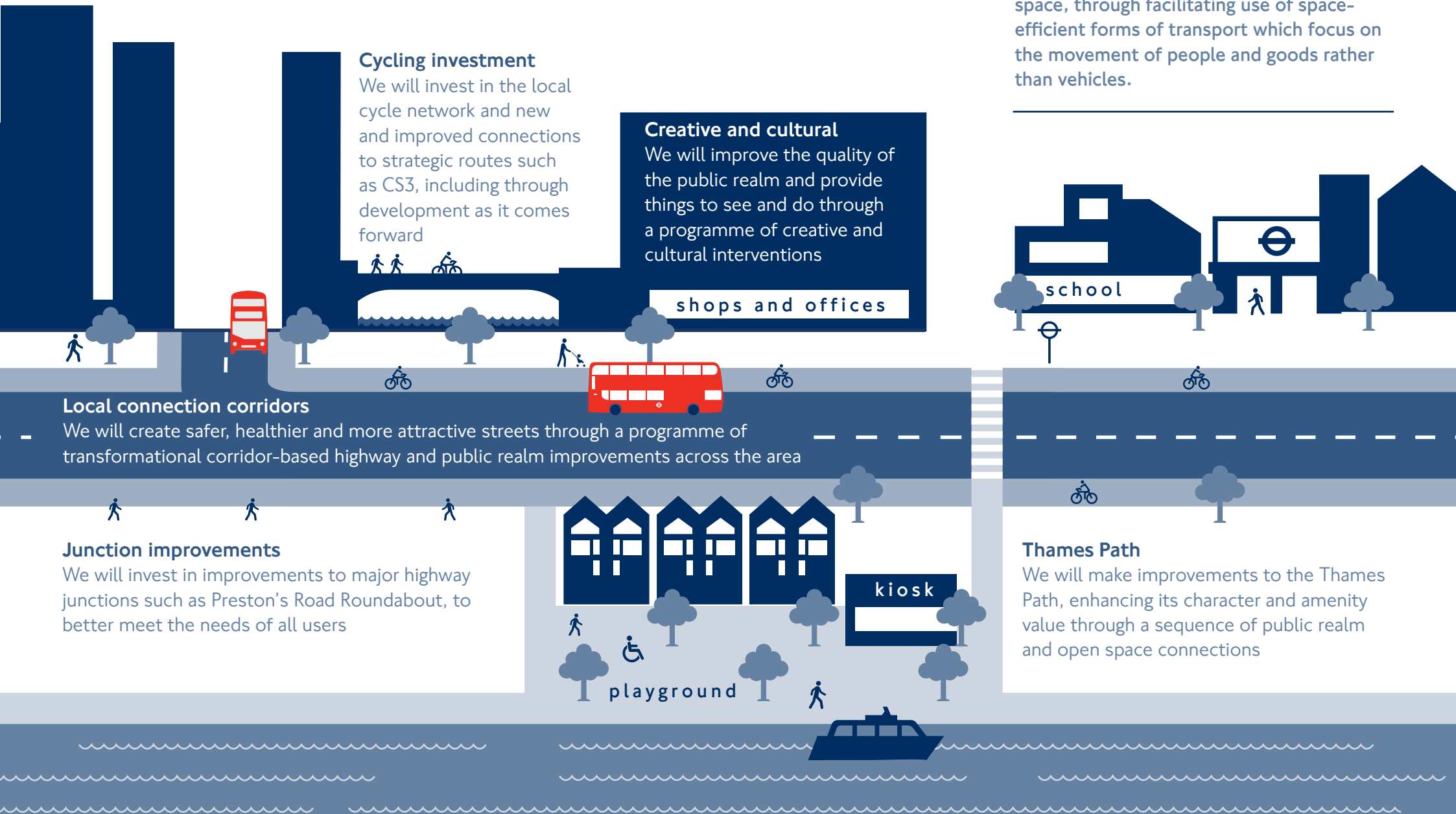
We will provide new Thames crossings, including the Silvertown Tunnel (opening 2022/23), as well as a strategic walking and cycling link between Rotherhithe and Canada Water OA and Canary Wharf and the Isle of Dogs and South Poplar OA



Creating healthy streets



We need to make more efficient use of road space, through facilitating use of space-efficient forms of transport which focus on the movement of people and goods rather than vehicles.



Cycling investment

We will invest in the local cycle network and new and improved connections to strategic routes such as CS3, including through development as it comes forward

Creative and cultural

We will improve the quality of the public realm and provide things to see and do through a programme of creative and cultural interventions

shops and offices

Local connection corridors

We will create safer, healthier and more attractive streets through a programme of transformational corridor-based highway and public realm improvements across the area

Junction improvements

We will invest in improvements to major highway junctions such as Preston's Road Roundabout, to better meet the needs of all users

Thames Path

We will make improvements to the Thames Path, enhancing its character and amenity value through a sequence of public realm and open space connections

school

kiosk

playground

Improving how we travel



We will create opportunities for people to broaden the range of travel options open to them, for example through flexible working or learning to cycle safely, as well as providing enhanced information to enable people to choose how and when they travel.

Compact neighbourhoods

We will support delivery of compact neighbourhoods, set around enhanced town centres that reduce the need for people to travel

New ways of travelling

We will support the provision of genuine alternatives to car use, including providing greater information and choice in how and when we travel to access opportunities



Working through the planning process to secure maximum benefit for the area

We will take a proactive approach to cycle parking, storage, together with lower car parking, through the planning process to ensure that new developments are future proofed and sustainable

Management of on-street activity

We will create a comprehensive strategy for the area to manage construction, delivery and servicing across the area, as well as manage road works and utilities

Addressing the dominance of peak travel

We will address the dominance of travelling at peak hours through providing enhanced information and travel planning measures to help us manage how and when we travel in order to reduce crowding and congestion

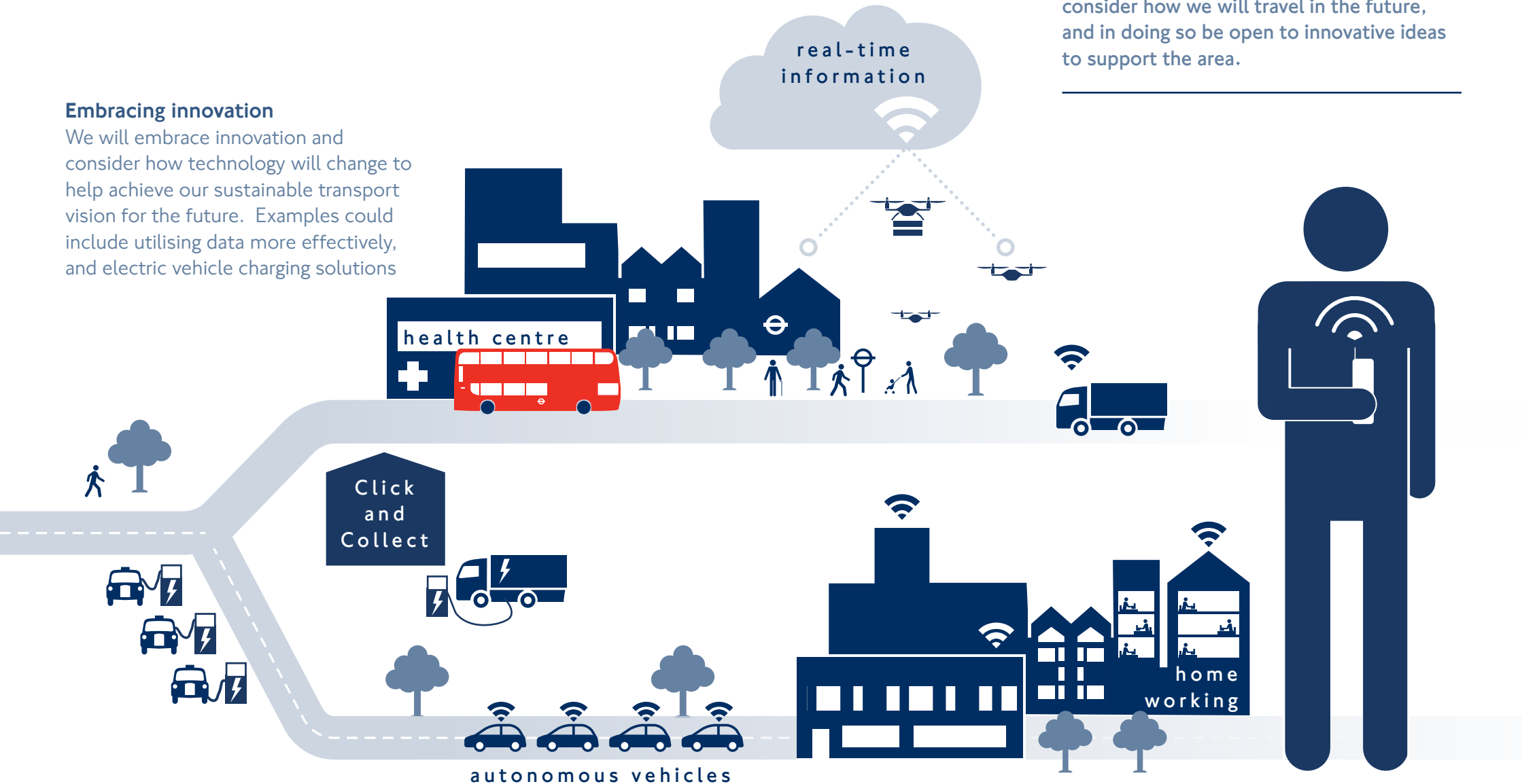
Innovation



We need to keep pace of change and consider how we will travel in the future, and in doing so be open to innovative ideas to support the area.

Embracing innovation

We will embrace innovation and consider how technology will change to help achieve our sustainable transport vision for the future. Examples could include utilising data more effectively, and electric vehicle charging solutions



5 Infrastructure investment and implementation

The delivery of this strategy will be reliant on organisations and stakeholders working together to realise the vision of the OAPF. Responsibility for its delivery does not sit with any one organisation and it will require collaboration between TfL, LB Tower Hamlets, GLA and other stakeholders for it to come to fruition.

Achieving a transport system and creating a sense of place that meets the needs of the present and future residents and employees will require a substantial funding package. Without this funding, quality of life and health and social integration are at risk, and there will be damage to London’s economic growth, ability to deliver new housing and resilience to climate change. More detail on the overall funding strategy for the area can be found within the DIF Study Appendix to the OAPF.

How much will it cost?

The total high-level costs for the package of measures are as follows, highlighting how we are investing to achieve the aims set out in the document, and in turn address the challenges.

Funding of infrastructure

The DIF Study highlights in more detail how potential funding could come forward towards the package of measures. There are a number of sources of funding that will support the delivery of the infrastructure identified within this report, as shown in Figure 22.

Programme of investment*	2016 - 2021	2021- 2026	Post 2026
Making better use of public transport	£20m	£755m	£440m - 1bn
Strategic capacity	£15bn	TBC (subject to further work)	TBC (subject to further work)
Reducing severance	£13m	£213m	£145m
Creating Healthy Streets, Improving how we travel and Innovation	£40m	£59m	£20m

* This table shows a mixture of funded, part-funded and unfunded projects. For more detail please refer to Section 6.

Broadly, this can be highlighted as follows and in Figure 21:

Strategic measures: These will be funded through mainstream sources. This includes the TfL Business Plan which will play an important role in delivering transport infrastructure and significant funding needs to come forward as part of the business planning process to deliver interventions such as new rolling stock and enhanced services.

Local measures: At the more local level we need to achieve the vision for Healthy Streets across the area. That is to address severance through new bridges and stitching together existing communities and new developments, as well as improving corridors and junctions to balance the needs of all users, whilst ensuring stations can support the needs of its users in the future. This requires the borough, TfL, developers, statutory undertakers and other stakeholders to work together to harness available mainstream funding sources to ensure we deliver the much needed infrastructure.

Further sources of funding will be required to deliver the OAPF up to 2041 as highlighted within the DIF Study (including third party, developer works and other sources).

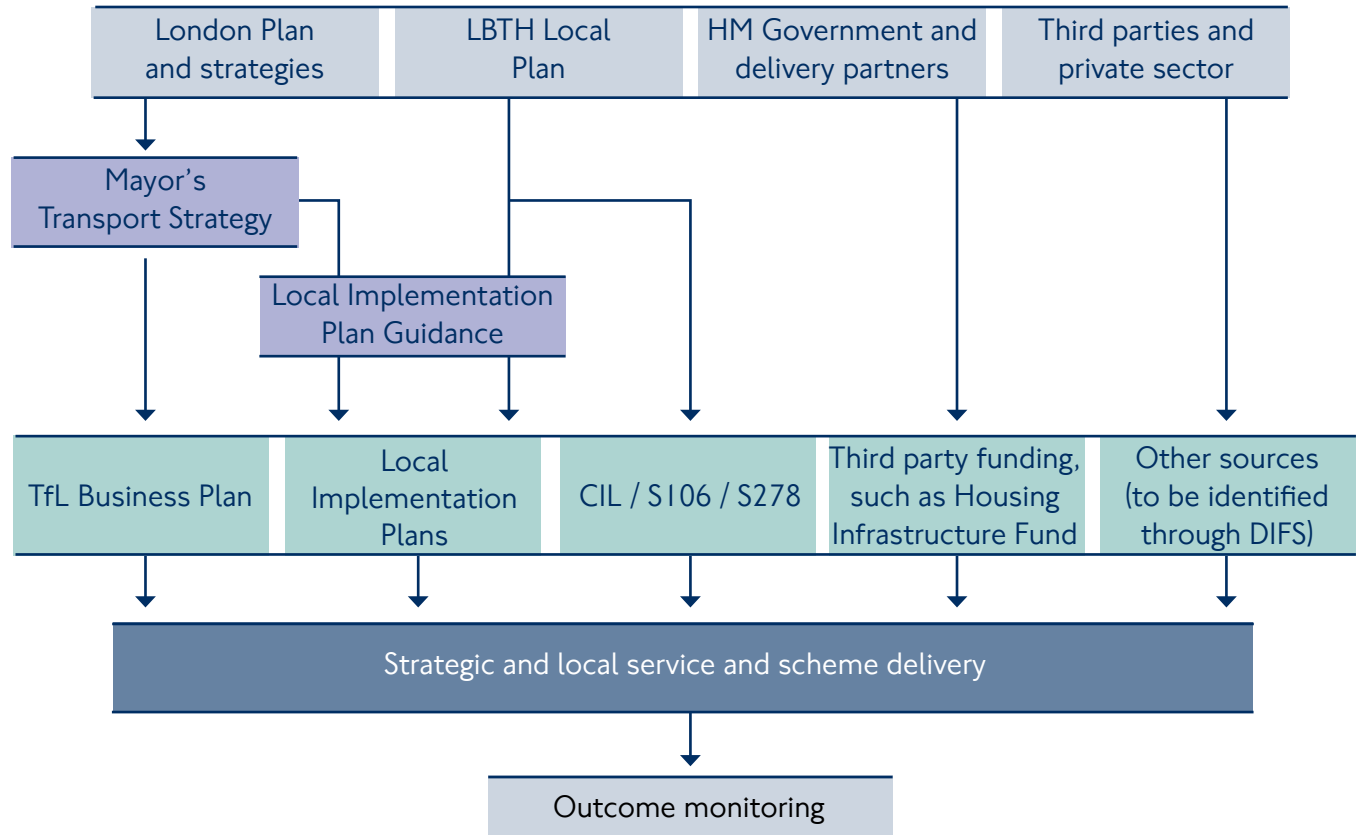


Figure 22. Transport strategy funding and delivery process

How will it be delivered?

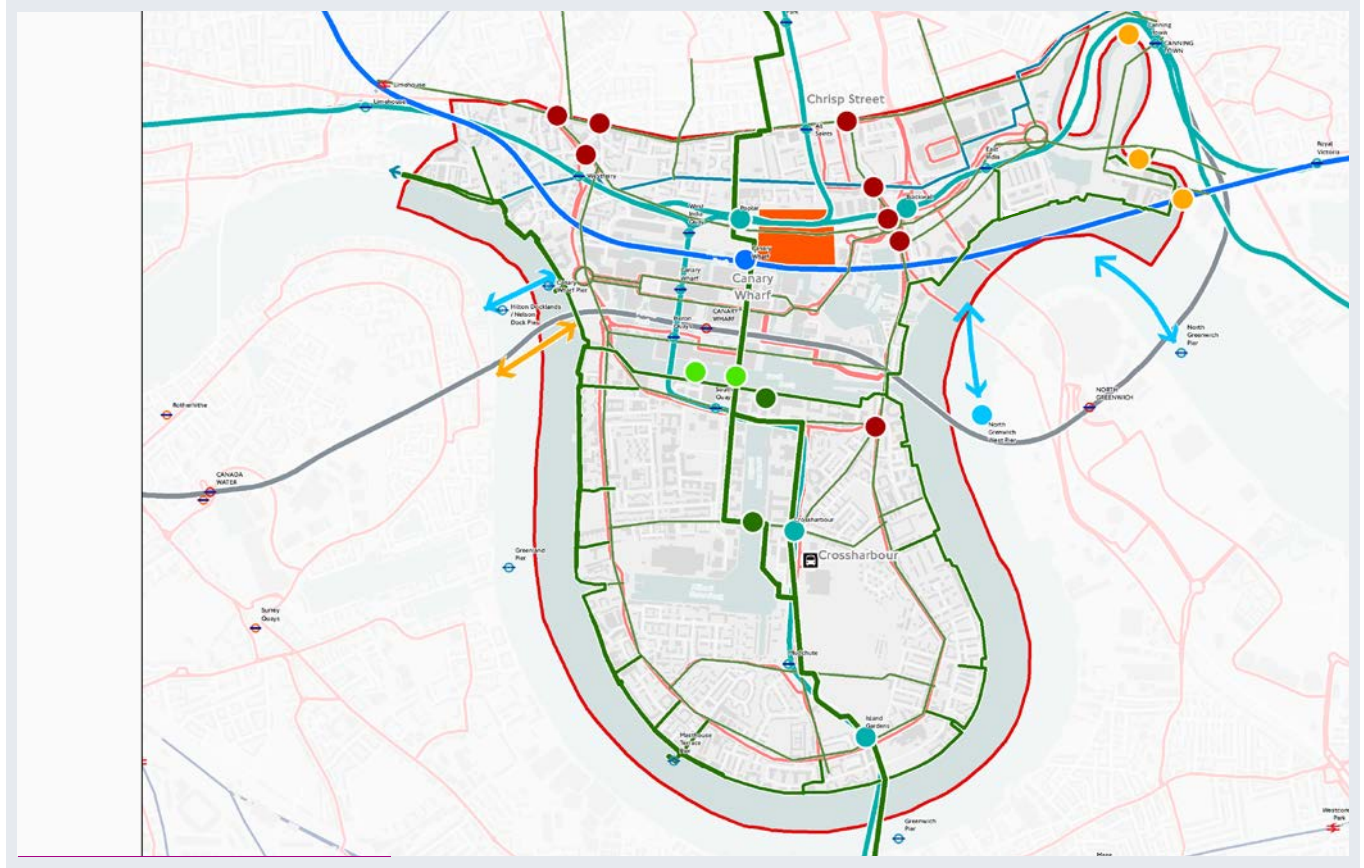
To deliver this package an infrastructure delivery working group has been setup between relevant stakeholders to coordinate delivery of the OAPF in the future.

Many schemes reported here are part of wider programmes and will be progressed in parallel, and continue to inform the OAPF, particularly in terms of the strategic transport interventions, for example the delivery of new DLR rail cars.

Delivering the vision for healthy streets will require a more hands on approach. The OAPF highlights how a bespoke delivery authority could be set up as an interim authority, while longer term funding arrangements are authorised. This authority would be responsible to co-ordinating delivery through a detailed delivery plan.

Freight is a critical issue for the area and TfL will work in partnership with LB Tower Hamlets to create a coordinated approach to mitigating its impact. This is highlighted in more detail within the OAPF Delivery Chapter.

Figure 23. Isle of Dogs and South Poplar - map of proposed interventions



6 Transport implementation and delivery plan

The transport implementation and delivery plan sets out the package of strategic and local infrastructure to support the Isle of Dogs and South Poplar, whilst addressing the challenges up to 2041. This is highlighted in Figure 23 and in the following chapter.

Longer-term unfunded schemes are at varying stages of development. Scheme development will be regularly reviewed to ensure alignment with policy priorities, value for money, deliverability and to take account of opportunities for funding that may become available.

KEY	
Challenge	A – Improve local connectivity and reduce severance B – Improve health of residents and enable travel by sustainable modes C – Maximise transport investment and use D – Manage public transport crowding and increase capacity E – Managing performance of the highway network
Outline cost	£ - Up to 5M ££ - Up to 10M £££ - Up to 20M £££+ - Greater than 20M
Funding	F – Funded FF – Assumed to be funded in the future or potential funding source identified PF – Partially funded UF - Unfunded
Priority	Priority refers to how critical the infrastructure element is for the OAPF as follows: 1: critical enabling 2: essential mitigation 3: high priority 4: desirable.
Phasing period	Phasing refers to when the infrastructure should come forward within the short term (ST: Up to 2021); medium term (MT: Up to 2026); and long term (LT: post 2026 and 2031).

A DLR, London Underground and Rail

Ref.	Isle of Dogs and South Poplar Interventions	Details	Challenge	Outline cost	Funding	Priority	Phasing period
A1	Elizabeth line	Introduction of the new Elizabeth line with 12 trains an hour.	D	£££+	F	1	ST
A1i	Elizabeth line service patterns	In addition to A1, longer-term consideration is being given to capacity enhancements to the Elizabeth line.	C, D	£££+	FF	2	LT
A2i	Jubilee line service patterns - short term	Work to enable higher frequencies on the jubilee line during a longer peak in the short term.	C, D	N/A	F	1	ST
A2ii	Night services on Jubilee line, DLR and Elizabeth line	The Night Tube was rolled out to the Jubilee line in 2016. Further work is being undertaken to look at how night time services could be rolled out on other services, such as DLR and Elizabeth line.	C	£££	FF	4 (Jubilee line delivered)	ST

A DLR, London Underground and Rail

Ref.	Isle of Dogs and South Poplar Interventions	Details	Challenge	Outline cost	Funding	Priority	Phasing period
A2iii	New rolling stock for Jubilee line	Work to look at replacement of rolling stock on Jubilee line when it comes to the end of its life. These are approximate costs based upon delivering new rolling stock out on other lines.	C, D	£££+	FF	3	LT
A3	DLR Rolling Stock Replacement Programme (additional and replacement rail cars), more frequent services and associated infrastructure works)	Procurement of new rolling stock to enable additional capacity to be provided on the network. This will achieve more on train capacity and enable high levels of services to be provided (working towards achieving 30tph network-wide). Trains would be delivered from 2022 onwards.	C, D	£££+	FF	I	MT
A4i	Crossharbour DLR Station	Redevelopment of station, increasing capacity to accommodate demand generated by adjacent development and improving integration of the station with its surroundings, in particular the new District Centre at Crossharbour.	D	££	PF	I	ST - MT

A DLR, London Underground and Rail

Ref.	Isle of Dogs and South Poplar Interventions	Details	Challenge	Outline cost	Funding	Priority	Phasing period
A4ii	Poplar DLR Station (western entrance)	To be delivered as part of C4. It would involve improving existing access arrangements to the station.	D	£	FF	N/A	N/A
A4iii	Poplar DLR Station (eastern entrance)	Additional station entrance and works to Poplar Station, to be delivered as part of wider decking strategy for Poplar DLR depot and Aspen Way.	C, D	£££	UF	1	LT
A4iv	Island Gardens DLR station	Improvements to the station proposed after 2021. It would involve a station deep clean and new lifts.	D	£	UF	4	ST - MT
A4v	Blackwall DLR station	Station improvements including additional stair capacity at Blackwall station and public realm upgrades.	D	£	PF	3	MT

B Overcoming severance over Aspen Way

Ref.	Isle of Dogs and South Poplar Interventions	Details	Challenge	Outline cost	Funding	Priority	Phasing period
B1	Package of land bridges across Aspen Way	To support the delivery of north – south links between South Poplar and Canary Wharf. B1 and B2 would link the Canary Wharf Estate with the proposed decked development on top of the existing DLR depot (which would remain in operation to support the operation of DLR).	A, B, C	£££	UF	I	LT
B2	Lightweight decked structure over Aspen Way	To support the delivery of north – south links between South Poplar and Canary Wharf. This would constitute a larger piece of open space instead of / or phased with B1.	A, B, C	£££+	UF	I	LT

C Improving local connections, including multi-modal links and public realm

Ref.	Isle of Dogs and South Poplar Interventions	Details	Challenge	Outline cost	Funding	Priority	Phasing period
C Ii	Bus Service Enhancements – short term	As part of the South Tower Hamlets Bus Review, London Buses have determined what potential bus service changes should take place in the short term to benefit the growth in the OA, utilising proposed infrastructure.	C, D	££	F	I	ST
C Iii	Further bus service enhancements – medium term	Continued development of the bus network and services to support growth in the OA in the medium term. This could include increases in services, together with other capacity increases on routes, as well as the potential for new routes to serve the area. Suitable bus priority will be needed to support continued route development and reliability.	C, D	£££	UF	I	MT
C Iiii	Further bus service enhancements – long term	Continued development of the bus network and services to support growth in the OA in the long term (to 2041). This could include further increases in services, together with other capacity increases on routes, as well as the potential for new routes to serve the area. Suitable bus priority will be needed to support continued route development and reliability.	C, D	£££+	UF	I	LT

C Improving local connections, including multi-modal links and public realm

Ref.	Isle of Dogs and South Poplar Interventions	Details	Challenge	Outline cost	Funding	Priority	Phasing period
C1iv	Bus priority to support bus service enhancements above	<p>Bus priority measures to support the bus service enhancements. Could include improvements to:</p> <ul style="list-style-type: none"> • Western approach to OA (West India Dock Road and Westferry Road) • Eastern approach to OA • South Poplar E-W link • Isle of Dogs circular <p>TfL is undertaking a further study to review and understand the detailed requirements for improving bus priority in the area to inform and support the bus service improvements above.</p>	C	£	UF	1	Lifespan of OAPF
C2i	Wood Wharf bus link	New bus link to be delivered as part of the Wood Wharf development around Canary Wharf.	A, C	N/A	F	2	ST
C2ii	Upgraded bus interchange at Crossharbour District Centre	As part of the redevelopment of Crossharbour District Centre it is proposed that a new and improved bus interchange is provided, including standing space.	B, C	N/A	FF	2	ST
C2iii	Bus standing and interchange at Canary Wharf	Potential for additional standing and interchange space around Canary Wharf to support continued development of the bus network.	C	£	UF	4	LT

C Improving local connections, including multi-modal links and public realm

Ref.	Isle of Dogs and South Poplar Interventions	Details	Challenge	Outline cost	Funding	Priority	Phasing period
C3	Access to developments	As development comes forward suitable access arrangements need to be sought for all modes, including cycling and walking access in line with healthy streets.	A, B	N/A	FF	I	Lifespan of OAPF
C4	Upgrade Poplar footbridge	<p>Work being developed as part of redevelopment of North Quay and through existing Elizabeth line obligations to understand the need for upgrades to Poplar footbridge to improve connectivity to the north into Poplar, as well as to Poplar DLR station.</p> <p>Details on how the footbridge is upgraded to be developed in due course as part of the planning process for North Quay.</p>	A, B, C	£	FF	I	ST
C5	Package of local connections including for walking, cycling and urban realm which could be delivered progressively across the OA within distinct packages.	<p>The Transport Strategy identifies a package of infrastructure across the Isle of Dogs and South Poplar to enable improved local connectivity. This would complement the infrastructure items highlighted within the Delivery Plan.</p> <p>Only an outline cost is available at present and will be refined as work continues. Key corridors have been identified as follows.</p>	See below	See below	N/A	N/A	Lifespan of OAPF

C Improving local connections, including multi-modal links and public realm

Ref.	Isle of Dogs and South Poplar Interventions	Details	Challenge	Outline cost	Funding	Priority	Phasing period
C6	East India Dock Road	Public realm improvements and new north-south connections and support emerging development in the area. This cost is inclusive of junction improvements at: <ul style="list-style-type: none"> • East India Dock Road / Burdett Road • Cotton Street / East India Dock Road 	A, B, E	££	UF	2	LT
C7	West India Dock Road	Improvements to crossing facilities and walking and cycle connections to Westferry DLR Station, as well as the junction at Westferry	A, B, E	££	PF	2	MT
C8i	Blackwall Connections	Public realm improvements around Cotton Street and Preston’s Road. Improved walking and cycle connections through Preston’s Road Roundabout to Blackwall Station and upgrades to Blackwall Way.	A, B, E	£	UF	2	ST
C8ii	Preston’s Road Roundabout Junction improvements	Junction improvement scheme to reduce severance by introducing at grade crossings, infilling subway entrances and improving urban realm in centre of roundabout – whilst limiting impact on journey time reliability. This would also include improvements to Preston’s Road / Baffin Way.	A, B, E	£	F	1	ST

C Improving local connections, including multi-modal links and public realm

Ref.	Isle of Dogs and South Poplar Interventions	Details	Challenge	Outline cost	Funding	Priority	Phasing period
C9i	Poplar High Street	Placemaking study for Poplar High Street (including junction improvements). Improvements to Poplar High Street in line with the Healthy Streets principles, to improve its placemaking role within the local area and review its longer term movement function.	B, E	££	UF	1	MT/LT
C9ii	Cotton Street / Poplar High Street	Improved facilities for pedestrians and cyclists	B, E		PF		
C10i	Preston's Road / Manchester Road	Upgrades to improve public realm and provide better facilities for cyclists. This would build on the existing LIPs scheme that is being delivered.	B, E	£	PF	2	ST
C10ii	Blue Bridge improvements	In the short term this would include improvements to the cycle level of service on the Blue Bridge and its approaches. A further review of the capacity and constraints of this bridge needs to be undertaken to inform appropriate measures.	B, E	£	UF	2	MT
C10iii	Manchester Road / Marsh Wall	Junction improvement scheme to improve safety and pedestrian facilities – raising the junction and making East Ferry 1 way	B, E	£	PF	1	ST

C Improving local connections, including multi-modal links and public realm

Ref.	Isle of Dogs and South Poplar Interventions	Details	Challenge	Outline cost	Funding	Priority	Phasing period
CI ii	Marsh Wall	Streetscape improvements to respond to high density development proposed along Marsh Wall. Pedestrian and cycle connections to South Dock Bridges. Proposals need to be transformational. Could include upgrades to pedestrian comfort, urban realm and potential management of vehicles using the street.	B , E	£££	UF	I	MT
CI iii	South Dock Bridge – West	Upgrade or replacement of existing Wilkinson Eyre Bridge to support growth coming forward in the vicinity, together with enabling improved connectivity across South Dock. Further work to define costs, including operation costs (OC), are still required and will be undertaken as part of South Dock Bridge Study by LBTH/TfL.	A, B, D	££	FF	I	MT
CI iii	South Dock Bridge – East	New bridge infrastructure across South Dock from South Quay Plaza to Canary Wharf. This would be a major new connection designed for walking and cycling. Further work to define costs, including operation costs (OC), are still required and will be undertaken as part of South Dock Bridge Study by LBTH/TfL.	A, B, D	££	FF	I	ST
CI iv	Millwall Cut Bridge	New bridge to connect South Dock and Thames Quay	A, B	£	UF	4	LT

C Improving local connections, including multi-modal links and public realm

Ref.	Isle of Dogs and South Poplar Interventions	Details	Challenge	Outline cost	Funding	Priority	Phasing period
C12	East Ferry Road (including Crossharbour District Centre)	Improved pedestrian and cycle connections to Crossharbour District Centre, including upgrades to the East Ferry Road underpass to improve safety and perception of safety for users.	B, E	£	UF	1	MT
C13	Westferry Road	Upgrades to improve public realm, and provide better facilities for cyclists, connecting into the upgrades of Manchester Road at Island Gardens. Includes replacement of Westferry Road footbridge with surface level crossings. This would also include the removal of the bridge on Westferry Road.	A, B, E	£	UF	2	MT
C14i	Tiller Road / Pepper Street	Upgrading the east-west connection between Westferry Road and Manchester Road via the Millwall Inner Dock. This route should operate efficiently for all users, creating important connections to the DLR and Crossharbour District Centre	B, E	£	UF	2	MT
C14ii	Glengall Quay Bridge	Upgrade to existing bridge to improve access for pedestrians and cyclists.	A, B	£	UF	2	ST
C15	Millharbour	Cycle improvements to Millharbour	B	£	UF	3	ST
C16	Spindrifft Avenue	Signage and wayfinding improvements for pedestrians and cyclists.	B, E	£	UF	4	MT

C Improving local connections, including multi-modal links and public realm

Ref.	Isle of Dogs and South Poplar Interventions	Details	Challenge	Outline cost	Funding	Priority	Phasing period
C17i	Limehouse to Leamouth walking route	Upgrades to the Thames Path public realm to create a high quality, continuous connection with a strong identity. The first step would be undertaking a feasibility study (below)	A, B	£	UF	2	Up to 2021
C17ii	Thames Path feasibility study	Feasibility study to look into potential for completing missing links along the Thames Path	A, B		UF		
C18	Dock Edge connections	Delivery of publicly accessible connections along the dock edge where there are currently gaps. This would be delivered through new development as it comes forward.	B	N/A	N/A	3	Lifespan of OAPF
C19	Connections to CS3	Upgraded cycling facilities on routes connecting to CS3. Consider opportunities for upgrades to CS3 such as between A1020 and Poplar High Street and re-routing Ming Street section to Pennyfields.	B	£	UF	2	MT - LT
C20	DLR station public realm upgrades	Improvements to station public realm to improve the placemaking role of the station within the wider area. This could include Mudchute, Crossharbour (As part of wider works), South Quay, Poplar (as part of wider works) and Blackwall (as part of wider works indicated above).	B, C	£	UF	2	ST - MT

C Improving local connections, including multi-modal links and public realm

Ref.	Isle of Dogs and South Poplar Interventions	Details	Challenge	Outline cost	Funding	Priority	Phasing period
C21	DLR station public realm – Westferry	Upgrade to the setting of Westferry Station, as part of 82 West India Dock Road development.	B, C	£	FF	2	ST
C22	Greenwich foot tunnel – Active travel management	The Royal Borough of Greenwich is leading on a study to explore active travel management for cyclists to enable them to use the Greenwich Foot Tunnel without dismounting off peak.	A, B	N/A	F	3	ST
C23	Saunders Ness Road	Remove vehicular traffic from the western section of Saunders Ness Road and create a high quality, green space for pedestrians and cyclists along the northern side of Island Gardens.	B, E	£	UF	4	MT
C24	Wayfinding and Legible London	It is assumed that Legible London would be delivered as part of ongoing planning process, together with being incorporated into the above package of Local Connections	B	N/A	PF	2	As development comes forward
C25	Cycle Hire	It is assumed that new Cycle Hire stations would come forward as part of the planning process, together with being incorporated into the above package of Local Connections, including at transport nodes such as stations and piers.	B	£	UF	3	As development comes forward

C Improving local connections, including multi-modal links and public realm

Ref.	Isle of Dogs and South Poplar Interventions	Details	Challenge	Outline cost	Funding	Priority	Phasing period
C26	Greening strategy	Strategy for greening throughout the OA including tree planting, soft landscaping, SUDS and rain gardens	B	£	UF	3	ST (rolling programme)
C28	Creative and cultural strategy, including wider wayfinding initiatives	A strategy for creative and cultural regeneration to inform the design of the public realm, streets and spaces and create places of exception and delight across the OA. This would also include wayfinding and a feature light strategy.	B	£	UF	2	ST - MT
C29	Further Junction improvements	Further work is required to understand further impact on junctions as growth comes forward. This will be taken forward as a next step of the transport work programme. This will include junctions to the west of the study area, including East India Dock Road / West India Dock Road and Westferry Road / West India Dock Road.	B, E	£	UF	2	ST
C30	East India Basin footbridge	Upgrade to the existing footbridge along the mouth of East India Dock	A, B	£	UF	3	MT

D Freight strategy

Ref.	Isle of Dogs and South Poplar Interventions	Details	Challenge	Outline cost	Funding	Priority	Phasing period
D I ii	Develop freight evidence base	<p>Develop a sound freight evidence base to inform freight management decision making in the OA. The evidence base should be kept updated as an ongoing process that feeds into the decision making body (see D I ii). A piece of work could be commissioned to set up the evidence base and for process for keeping it updated.</p> <p>This will look to create a robust strategy for the OA to support growth going forward, as well as provide quality of life for existing communities. It will look to inform the development of D I ii and D I iii below.</p>	B, E	£	PF	I	ST
D I ii	Freight mitigation coordination	<p>An OAPF freight coordination forum is to be set up to consider the information provided by the evidence base, coordinate mitigation delivery (see D I iv) and assess the need for strategic infrastructure intervention, for example creation of a consolidation centre or improved river access (see D I iii). The forum is to be made up of community groups, developers, the Council, TfL and the freight industry.</p>	B, E	TBC	F	I	OAPF Lifespan

D Freight strategy

Ref.	Isle of Dogs and South Poplar Interventions	Details	Challenge	Outline cost	Funding	Priority	Phasing period
D I iii	Strategic freight infrastructure	The OAPF freight coordination forum will assess the need for strategic freight infrastructure and put forward evidence backed proposals for intervention. Intervention may include consolidation solutions, such as locker banks or consolidation centres. As intervention proposals come forward, land should be safeguarded through the OAPF to support their delivery.	B, E	TBC	UF	I	OAPF Lifespan
D I iv	Freight coordination / collaboration measures	The OAPF freight coordination forum provides a space for the OA freight stakeholders to collaborate, coordinate and consolidate their freight activity. For example, consolidation could be achieved by reviewing delivery vehicle routes and loads with a view to sharing vehicle capacity where the opportunity exists. The forum will also engage and inform the community on freight matters.	B, E	TBC	UF	I	OAPF lifespan

E River crossings package

Ref.	Isle of Dogs and South Poplar Interventions	Details	Challenge	Outline cost	Funding	Priority	Phasing period
E1i	Thames Clipper Pier to the east of the OA	New pier to support enhanced river services to the east of the OA. It will enable improved walking and cycling connections between North Greenwich and the Isle of Dogs. In conjunction with this, improvements to walking and cycle connections to the pier as well as wayfinding signage will be required. In addition to infrastructure cost there will be a continued operational cost (OC).	A, B, C	£££ (depending on scale of intervention)	TBC (depending on scale of intervention)	3	ST
E1ii	Promotion of River Services	Raise awareness of services, together with improving wayfinding and connections across the OA. This would include particularly Masthouse Pier and the proposed new Pier.	B, C	£	UF	2	ST
E2i	Rotherhithe – Canary Wharf pedestrian and cycling crossing	New connection linking Rotherhithe and Canary Wharf. Actual cost will be dependent on the final design. In addition to this there will be a continued operational cost.	A, B	£££+ plus operating costs	FF	2	MT

F Behavioural change and travel demand management

Ref.	Isle of Dogs and South Poplar Interventions	Details	Challenge	Outline cost	Funding	Priority	Phasing period
F1	Travel Demand Management Strategy for the Isle of Dogs and South Poplar	Detailed work to increase the scope and depth of behaviour change initiatives for the area, in concert with the infrastructure improvements.	B, C, D, E	N/A	PF	I	Lifespan of the OAPF

SR Sub-regional interventions

In addition to the interventions mentioned above, there are a series of other interventions that would have a significant positive impact on the Isle of Dogs and South Poplar in the future.

Ref	Sub-regional interventions	Details	Phasing period
SR1i	DLR North Route Double Tracking – Phase 2	This intervention will double track a further section of the DLR North Route between Canary Wharf and Stratford. This will allow the number of trains to operate along this route to increase from 15tph to 22tph.	LT
SR1ii	DLR North Route Double Tracking – Phase 3	This intervention will double track a further section of the DLR North Route between Canary Wharf and Stratford. This will allow the number of trains to operate along this route to increase from 22tph to 30tph.	LT
SR2i	DLR Beckton Depot stabling enhancements (costs included as part of A3)	To accommodate and support the new proposed DLR Rolling Stock.	MT
SR3	Improved interchange at Shadwell between DLR and London Overground	Work investigating improved interchange between the two stations at Shadwell, which would assist in travel choice to/from the OA. This project is at feasibility stage and investigating three options, these range from £2m to £50m	LT
SR4	Reconstruction of Lewisham station	Reconstruction of the station to integrate DLR with a devolved and 'metroised' Southeastern services (and proposed Bakerloo line Extension)	LT
SR5	Enhanced Bank DLR station	Work to identify possible improvements at Bank to enable a 30tph service frequency.	LT

SR Sub-regional interventions

Ref	Sub-regional interventions	Details	Phasing period
SR6	Canning Town Station Footbridge (Leamouth Peninsula)	Bridge across River Lea. This would form an essential part of the development on the Lea Peninsular. This is for completion of the link to enable 24 hour access to Canning Town.	MT
SR7	Hercules Bridge (Leamouth North)	Bridge across River Lea. Further work would need to be undertaken to understand the cost of this.	MT
SR8	Trinity Buoy Wharf Bridge	Bridge across River Lea. Further work would need to be undertaken to understand the cost of this	MT
SR9	Connections to Lea Valley Park	Better walking connections between A1020 and Canning Town Interchange. Walking route crosses the River Lea into the Limmo Peninsula Ecological Park and along Wharfside Road under A13 to Silvertown Way. Issues around perception of safety and legibility. Improvements to this link are highlighted as part of the Lea Way programme.	MT
SR10	Wider A12 / A13 corridor improvements	Further works across the borough to improve connectivity across the A12 and A13, as part of the wider corridor programmes.	MT
SR11	Inner east and south east London public transport capacity	TfL-led study to review the need for further strategic public transport capacity across inner east and south east London, including supporting the Isle of Dogs.	LT

6 Glossary

Accessibility

In the context of this strategy, accessibility refers to how easy it is for people to use London's streets and public transport to get to places, jobs, homes and services, considering particularly the needs of older and disabled people.

Active travel

Trips undertaken by physical means, such as walking and cycling.

Addressing the dominance of peak travel

Mitigating the impact of travel during peak hours and encouraging travel outside of peak times, through both physical and behavioural change measures.

Business Plan

A five year plan which sets out how TfL will deliver the Mayor's ambitious plans for transport across London .

Community Infrastructure Levy (CIL)

A non-negotiable charge, which allows local authorities (including the Mayor) to help fund infrastructure needed to support the development of an area in line with local development plans.

Connectivity

The general term for how easy it is for people to get to places, jobs, homes and services.

Consolidation

The process of rearranging and combining deliveries to reduce the number of van and lorry journeys made in London.

Consolidation centre

A centre where deliveries can be brought for more efficient onward movement to their final destinations. It enables organisations and planning authorities to improve operational efficiency, resulting in reduced congestion, fewer delays and improved safety.

Construction and demolition waste

Waste arising from the construction, repair, maintenance and demolition of buildings and structures, including roads. It consists mostly of brick, concrete, hardcore, subsoil and topsoil, but it can contain quantities of timber, metal, plastics and occasionally special (hazardous) waste materials.

Cycling potential

An analytical TfL tool designed to understand the potential for growth in cycling travel

Cynemon

Cynemon is a cycling model which estimates cyclist flows at a strategic level across London for scheme and policy appraisal.

Development capacity scenarios

Scenarios undertaken to look at potential for residential and employment growth in the OA in the future.

Development Infrastructure Funding (DIF) Study

The DIF study identifies future infrastructure requirements to support the proposed level of development across the OA. The DIF study will include a set of recommendations for how to fund delivery of this infrastructure.

Evening / PM peak

The period in the afternoon and evening when travel demand is highest (4pm-7pm).

Greater London Authority

The strategic regional authority for Greater London.

Healthy Streets Approach

The Mayor and TfL's approach to prioritising people and their health in decision-making to create a healthy, inclusive and safe city for all. The approach makes London a more attractive place to walk, cycle and use public transport, and reduces the dominance of motorised transport.

Greening

The improvement of the appearance, function and wildlife value of the urban environment through soft landscaping.

Growth Area

Specific areas for new residential development to accommodate future population growth, as outlined in the Government's Sustainable Communities Plan. Within London these include the Thames Gateway and the London-Stansed-Cambridge-Peterborough Corridor.

Highway Assignment Models (HAMs)

The HAMs can be used for quantifying the impacts of demand changes on the highway network in the future, assessing large highway infrastructure schemes and assessing policy changes which are likely to have an impact on the highway network.

Inner London

The boroughs of Camden, City of London, Hackney, Hammersmith & Fulham, Haringey, Islington, Kensington & Chelsea, Lambeth, Lewisham, Newham, Southwark, Tower Hamlets, Wandsworth and the City of Westminster, as defined by the Office for National Statistics

Isle of Dogs Cordon Survey

An annual survey has been carried out each year (except 2009) since 1988 to monitor trends in travel to and from Docklands. The survey counts trips into and out of the Isle of Dogs on a designated working day each autumn.

Isle of Dogs and South Poplar

The geographical area to the east of Limehouse Basin, south of the A13 East India Dock Road and west of the River Lea. The River Thames forms the southern boundary.

Legible London

A map-based pedestrian wayfinding and information system that gives people clear and consistent information to facilitate and encourage walking journeys. It is managed by TfL but available for third-party use.

Liveable neighbourhoods

The Liveable Neighbourhoods programme provides a new funding stream that will apply the Healthy Streets Approach on the ground to make our streets places where people choose to walk and cycle, not to drive.

Local Connections Strategy and Design Guidance

Daughter document of the OAPF. This presents the shared priorities for walking and cycling improvements, in order to deliver Healthy Streets.

Local Implementation Plan (LIP)

A statutory transport plan produced by London boroughs, which brings together transport proposals to implement the strategy at a local level.

Local Plan

This plan sets out local planning policies and identifies how land is used, determining what will be built where.

London Atmospheric Emissions Inventory (LAEI)

A database of emissions sources and information about rates of emissions for air pollutants within and around London.

London Borough of Tower Hamlets

The London Borough of Tower Hamlets is a London Borough in inner east London. The Isle of Dogs and South Poplar OA is situated within this borough.

London Plan

The Mayor's spatial development strategy for London. Londoners: Permanent and temporary residents of London and, where also applicable, commuters from outside London, visitors and tourists.

London Transportation Studies model (LTS)

LTS is a strategic multi-modal four stage aggregate model for London and its surrounding area. It is used to prepare forecasts of growth in total travel, change in travel patterns, the transport mode chosen and the routing of trips through the road and public transport networks.

London Travel Demand Survey (LTDS)

LTDS is an established annual household travel survey of London residents that has been running on a continuous basis since 2005/06. The survey seeks to understand and quantify, in a statistically-robust way, the travel behaviour of Londoners and the relationships of this to a range of socio-demographic, spatial and transport network factors.

Mayor's Transport Strategy

This document sets out the Mayor's policies and proposals to reshape transport in London over the next 25 years.

Mode share

The relative use of each mode of transport. The calculation of mode share in the strategy is based on trips.

Morning / AM peak

The period in the morning when travel demand is highest (7am-10am).

Opportunity Areas

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

Opportunity Area Planning Framework (OAPF)

Strategic spatial plans for Opportunity Areas in London, as designated in the London Plan.

Particulate matter

A complex mixture of extremely small particles and liquid droplets that get into the air and can be inhaled.

Public realm

Publicly accessible space between and within buildings, including streets, squares, forecourts, parks and open spaces.

Public transport accessibility level (PTAL)

A measure of connectivity to the public transport network. For any given point in London, PTALs combine walk time to the network (stations, bus stops) with service wait time at these stops to give an overall accessibility index. There are six accessibility levels (1=poor, 6=excellent).

Railplan

Railplan is a public transport assignment model for London and its surrounding area. It takes inputs from the LTS model and can be used for assessing the impacts of major public transport schemes throughout London, assessing policy changes, to assess the effects of major developments on public transport and for station modelling.

Section 106 (s106)

These agreements confer planning obligations on persons with an interest in land in order to achieve the implementation of relevant planning policies as authorised by Section 106 of the Town and Country Planning Act 1990.

Step-free network

The network of Underground, London Overground and/or national rail stations that provide step-free access from the street to the platform or train, such as through the provision of lifts or ramps.

Trains per hour (tph)

Tph indicates train service/schedules for a particular railway route/station.

Transport for London (TfL)

One of the GLA group of organisations, accountable to the Mayor, with responsibility for delivering an integrated and sustainable transport strategy for London.

Transport model

A transport model is a mathematical representation of all or part of a transport system. It is used to evaluate existing conditions and to project future effects and needs.

Travel Demand Management

The application of strategies and policies to reduce travel demand, or to redistribute this demand in space or in time.

Trip

A one-way movement from one place to another to achieve a single main purpose. Trips may be further sub-divided into journey stages.

Ultra Low Emission Zone (ULEZ)

Charging zone in which vehicles that do not comply with emissions standards for air pollutants will be subject to a daily charge.

Urban realm

The area between building alignments, including public spaces next to streets. Streets make up the greatest part of the urban realm in most cities.

Walking Potential

An analytical TfL tool designed to understand the potential for growth in walk travel

7 Data and modelling assumptions

Development capacity assumptions

To test the residential and employment capacity for the OA, a transport scenario was agreed between TfL, GLA and LB Tower Hamlets to help to identify the impact of uncoordinated development across potential sites. This assumed an additional 60,000 homes across the OA and 110,000 jobs across the Canary Wharf Estate, accelerated to be delivered by 2031. This increment of 59,000 since 2011 was made up of homes either newly built, permitted or prospective. This was done for strategic modelling and analysis purposes only. The OAPF reports a range of lower residential figures between 31,000 and 49,000 homes.

Potential growth scenarios tested

Scenarios without and with the growth were developed for the strategic transport model, LTS. These were used to review if the mechanised transport networks could accommodate the development capacity growth scenario in the AM peak. This focusses on the time period identified as busiest for all modes.

2031 Isle of Dogs Reference case

The first scenario that was developed for the modelling was to represent 2031 with forecast growth included everywhere except in the OA itself. In the OA, the only growth since 2011 is:

- The housing identified as either already built or Permitted between 2011 and 2015
- The 2015 figure for the level of employment across the Canary Wharf Estate and the 2031 reference case employment elsewhere.

As the study area is already experiencing strong growth, this scenario for 2031 incorporates population growth of 62 per cent and employment growth of 33 per cent since 2011.

2031 Isle of Dogs Maximum Capacity growth scenario

This scenario starts with the 2031 Isle of Dogs Reference case and adds in the further population and employment growth that could happen in the study area up to a Maximum Capacity level. This represents:

- The housing sites identified as Prospective
- The jobs increment above the 2015 level required around the Canary Wharf Estate to meet the stated London Plan target of 110,000 additional jobs.

This scenario adds population growth of 112 per cent and employment growth of 51 per cent above the 2031 IoD RC. These numbers are illustrated in Figure 9 of Chapter 2.

	Population	Homes (assume pop / 2.2)	Difference from preceding	Housing scenario
2011 Base	53,000	24,000		Census level 2011 (LTS 2011 Reference Case)
2031 IoD Reference Case	86,000	39,000	+15,000 +62%	plus Newly Built + Permitted Homes by 2015
2031 IoD with developments	182,000	83,000	+44,000 +112%	plus Maximum Prospective Homes

	Employment	Difference from preceding	Employment assumption
2011 Base	129,000		LTS 2011 Reference Case
2031 IoD Reference Case	172,000	+ 43,000 + 33%	2015 employment level used for CWE
2031 IoD with developments	260,000	+ 88,000 + 51%	Increment required to meet LP target of 110,000 jobs added to CWE

All numbers above rounded to nearest 1000

Sources of travel trends data for the OA

Isle of Dogs and Canary Wharf Cordon Surveys

The recent redevelopment and distinctive geography of the Isle of Dogs makes it a unique case study for research into the interactions between employment growth, transport provision and travel patterns. The annual Isle of Dogs and Canary Wharf Cordon Surveys have monitored travel trends alongside the transformation of the area extensively. These weekday surveys focus on the area as an employment district with trips entering and exiting the area across a cordon. This includes freight vehicles. The survey records patterns of longer distance commuting and highlights a decreasing private mode share and the challenge of high volumes in the peak direction at peak times.

London Travel Demand Survey

To better understand all trips within the whole OA (i.e. including to the north of the survey cordon boundary and trips wholly internal to the areas within the cordon and the OA overall), data has been extracted from the London Travel Demand Survey (LTDS).

This data is only for Greater London residents and represents an average day across a 7 day week. While this means that some of the peak commuting characteristics are less evident simply because of the nature of the survey, it does highlight distinct travel trends not evident in the cordon survey. In particular shorter trips are presented, accompanied by a higher mode share for active modes.

The trips made by the residents of the E14 postal code has been used to represent the OA. Comparisons have been made with trips made by residents of LB Tower Hamlets and of Greater London.

Trips with origin and destination within the OA have also been extracted from LTDS. While this represents a mixture of trips by commuters and residents, only London residents are included, and for a 7 day week, so flows are lower than the cordon survey. On the other hand, short trips that would not be picked up by the cordon survey do get represented, for example local trips by workers at lunchtime.

Declining need to travel

The need and desire to travel is a part of everyday life, and it has frequently been observed that the quantity of travel per person per day remains roughly constant in different settings.

In London over the past two decades, there have been large changes in travel demand, largely driven by rapid population growth causing more travel at the aggregate level, but also due to a range of factors that led to substantial mode shift away from private car use toward public transport, walking and cycling. Through all of these changes, one thing that remained broadly constant was trip rates – i.e. the average number of trips per person per day.

Over the past few years, however, Londoners' trip rates (residents – as measured through the LTDS survey) have been observed to decline. This decline has seen the number of trips per day made by the average Londoner fall from 2.5 in 2013/14, to 2.4 in 2014/15, 2.3 in 2015/16 and then to 2.2 in 2016/17. This represents the lowest average trip rate that has been observed since TfL's London Travel Demand Survey was introduced more than 10 years ago.

The possible reasons behind this are under investigation, but recent national and London trends that are likely to have influenced this observed change include:

- A long term decline in shopping trips – maybe an increase in online shopping
- A more recent decline in leisure trips
- A decline in people travelling every day of the week.

This issue is explored further in TfL's Travel in London 10, published in December 2017.

Public transport corridors

To understand how the study area is served by public transport, the network is divided into three corridors: eastern, western and southern. These replicate the structure used by the IoD Cordon survey to capture flows in and out of the Island.

Eastern Corridor:

- Bus: Services entering or leaving the Isle of Dogs across Prestons Road roundabout
- Underground: Jubilee line between Canary Wharf and North Greenwich
- DLR: Services between West India Quay and Poplar
- Elizabeth line: Services between Canary Wharf and Custom House
- Walk: Pedestrians entering or leaving the Isle of Dogs via Trafalgar Way, Prestons Road, Upper Bank Street and Hertsmere Road

Western Corridor:

- Bus: Services entering or leaving the Isle of Dogs via Westferry Road North of Westferry roundabout
- Underground: Jubilee line between Canada Water and Canary Wharf
- DLR: Services between West India Quay and Westferry
- Elizabeth line: Services between Whitechapel and Canary Wharf
- Walk: Pedestrians entering or leaving the Isle of Dogs via Westferry Road North of Westferry roundabout

Southern Corridor:

- Bus: n/a
- Underground: n/a
- DLR: Services between Island Gardens and Cutty Sark
- Elizabeth line: n/a
- Walk: Pedestrians using the Greenwich Foot Tunnel

Modelled mitigations

Highway Mitigations

- Modelled highway improvements are restricted to enhancements of the Hertsmere Road/West India Dock Road Junction and the Prestons Road Roundabout. In addition, all bus improvements from the public transport Mitigation Case are coded in the highway model.

Public transport mitigation schemes

- On public transport, the mitigation measures focus on providing additional rail capacity and enhancements of bus frequencies as well as the provision of some additional bus connections. In summary, the following assumptions were made:
 - Jubilee line: Frequency enhancement to 36 tph and new rolling stock with 10% more capacity per train.
 - DLR: Strengthening of the Lewisham Corridor to 30 tph. New higher capacity rolling stock for the whole network (except the Stratford International services) with 12% more capacity per train.
 - Elizabeth line: Frequency enhancement to 30 tph (15 tph on the Isle of Dogs branch). Train lengthening to 11-car, giving 22% more capacity per train.
- Buses: Enhanced frequency on services D6, D7, D8 and 135. D8 changed from single to double-deck vehicles. D3 extended to Leamouth. D6 re-routed to serve Wood Wharf. 323 extended from Canning Town to Canary Wharf.
- Permeability: Wide-ranging enhancements of walk links and centroid connectors to represent bridging over Aspen Way / DLR depot, Wood Wharf build-out and additional foot bridges at South Quay, the Leamouth Peninsula and between Rotherhithe and the Isle of Dogs.

Public transport capacity

A convenient way of summarising public transport capacity is to measure service frequency and vehicle capacity at the Isle of Dogs cordon for the peak hour.

As the service patterns are largely symmetrical, the reporting has been simplified to considering services to the Isle of Dogs only. Minor asymmetry applies only to some bus services, where overall service level from the Isle of Dogs is marginally higher (by less than one bus per hour in all scenarios).

Figure 19 summarises the same information in terms of total capacity (seated plus standing), which is defined here as it is used in the Railplan model and in the crowding maps, with 7 people standing per m². The crowding information presented in Figures 16, 17 and 18 illustrates the average crowding in the AM peak hour.

This is a theoretical capacity only which may be reached on occasion in individual train carriages but will never be reached for the entire set of trains run during the peak hour. This is because trains tend to have uneven loadings along their length and there are demand peaks during the peak hour.

