4

TRANSPORT STRATEGY

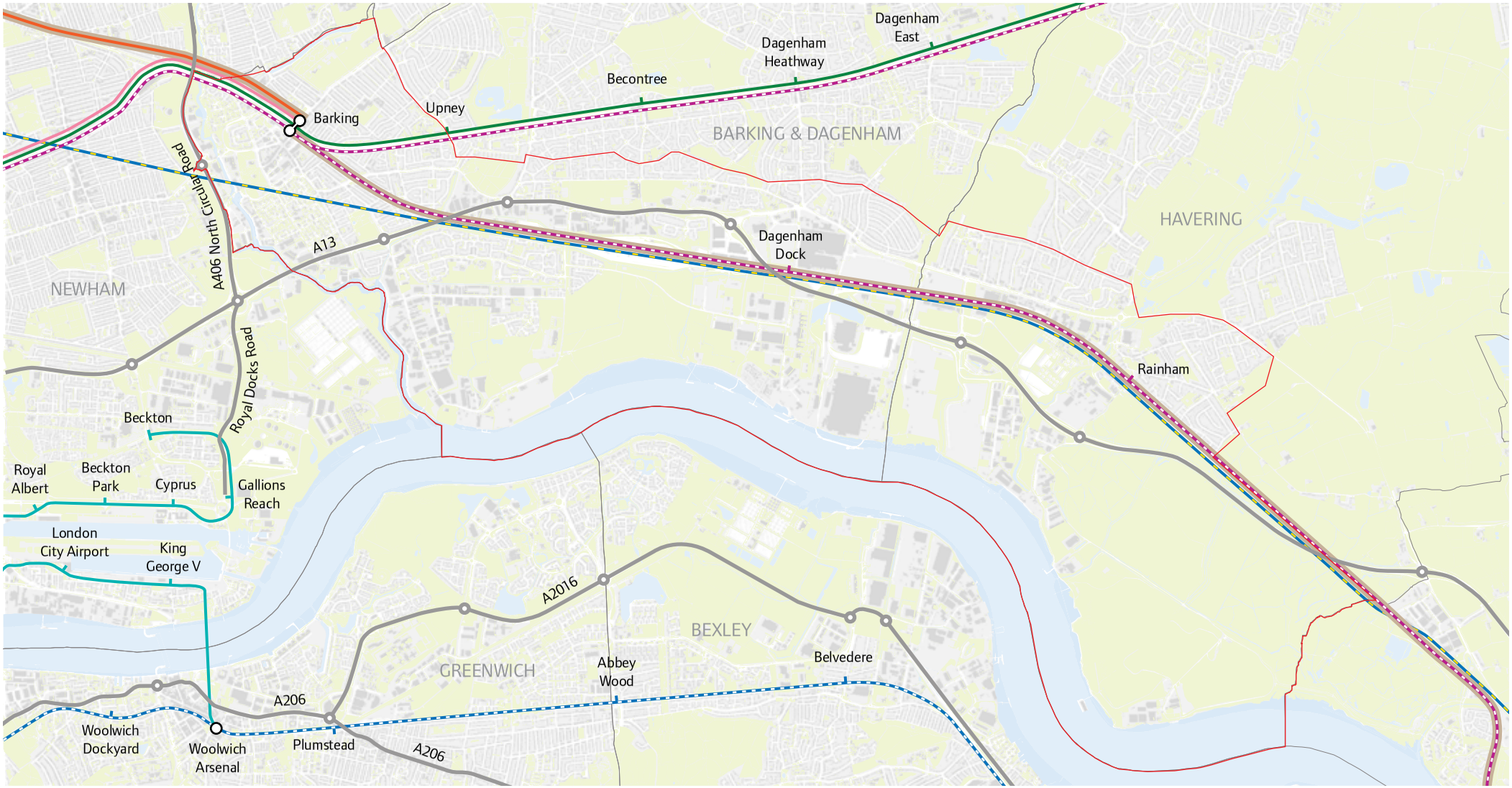


Figure 4.1 Existing transport infrastructure

4.1 Introduction and summary

Transport investment in London Riverside is essential to support the transformational change set to take place over the next twenty years. Transport improvements will help to facilitate the delivery of new homes, jobs and support existing communities and businesses. This chapter is underpinned by a supporting transport study, which sets out the required transport improvements to support this growth. These improvements focus on:

- Creating new public transport links to unlock new residential and employment development at key sites like Barking Riverside, Beam Park and Beam Reach;
- Stimulating regeneration and new development at Barking Town Centre, Chequer's Corner and Rainham Village;
- Supporting employment centres south of the A13 including the London Sustainable Industries Park (LSIP) and the Rainham Employment Area;
- Encouraging a shift to public transport, cycling and walking to minimise the impacts of growing demand on the transport network;
- Improving public transport connectivity across the OA and to adjacent areas identified for growth such as the Royal Docks, Bexley Riverside, Thames Gateway and the wider south-east.

Whilst improvements are needed across the Opportunity Area these have been developed within a wider context. Growth across east and south-east London and beyond means the improvements needed for London Riverside are part of a wider strategy to improve transport across the Thames Gateway. TfL are working closely with the relevant boroughs through the east and south-east sub-regional transport panel to help develop this wider strategy.

4.2 The existing transport network

The existing transport network facilitates significant east-west movement through the OA by road, rail and water. The Essex Thameside line passes through the centre of the OA providing a direct link for passengers from Rainham via Barking to central London. In addition Barking is served by London Overground, District and Hammersmith & City lines with journey times of 15 minutes to the City and 20 mins to Canary Wharf. The Essex Thameside railway tracks are also heavily used by freight trains.

The A13, a major arterial road, runs through the centre of the London Riverside area. It is a strategically important route for freight and is one of the busiest roads in London providing a direct link from Tilbury Docks, DP World London Gateway Port and the M25 to the City. The A1306 and A123 which run in parallel to the A13 provide east-west access for local traffic. Other local access is provided across the OA by the local borough road network.

The bus network links residential and industrial areas with local town centres, the rail network and other amenities, for example, schools and health facilities.

There are several London Cycling Network (LCN) routes through London Riverside and Cycle Superhighway 3, Barking to Tower Gateway starts at the A13/River Road junction. Walking is important for accessing local services such as shops, schools and transport hubs and areas of high footfall include Barking Town Centre, Chequers Corner and Rainham Village.

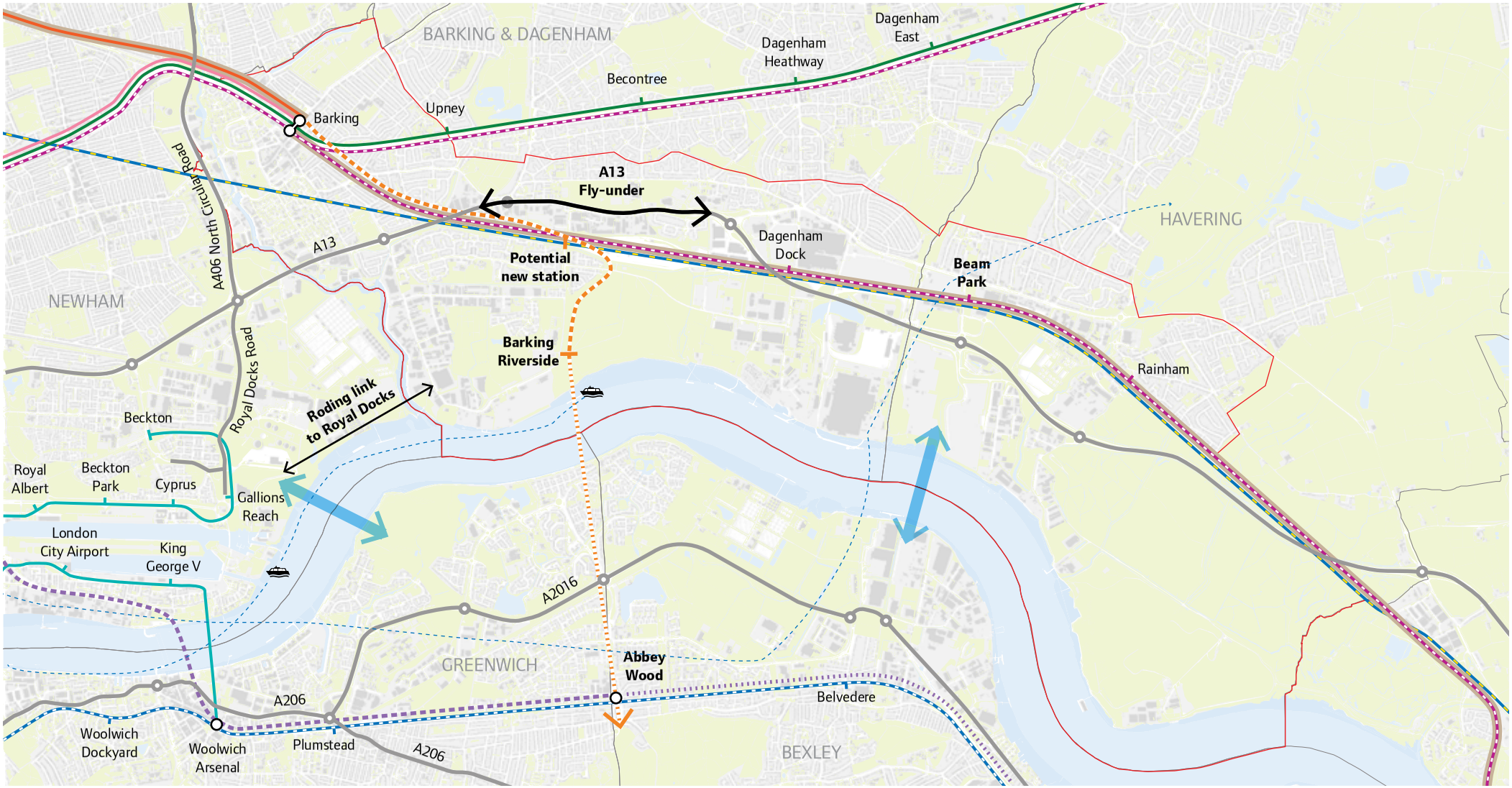


Figure 4.2 Potential transport infrastructure for London Riverside

4.3 The transport challenges

Transport challenges for east and south-east London have been identified by the Sub-Regional Plan. These are listed below and have been used to highlight the transport challenges specific to London Riverside:

- Reducing physical barriers to, and the environmental impact of travel ;
- Improving connectivity to, from and within key locations;
- Public transport crowding and highway congestion;
- Supporting the efficient movement of freight;
- Maximise the benefits of committed investment

4.3.1 Reducing physical barriers to travel

The rivers, major roads and rail infrastructure that run through the OA create barriers to movement by public transport, cycling and walking. The resulting severance limits the growth potential of some areas as they can be difficult to get to and from by more sustainable modes of travel. Physical barriers can also result in a lack of alternative routes and place additional pressure on existing links. In addition, the major roads and rail infrastructure create poor environmental conditions for cycling and walking, in particular noise and air pollution from the A13.

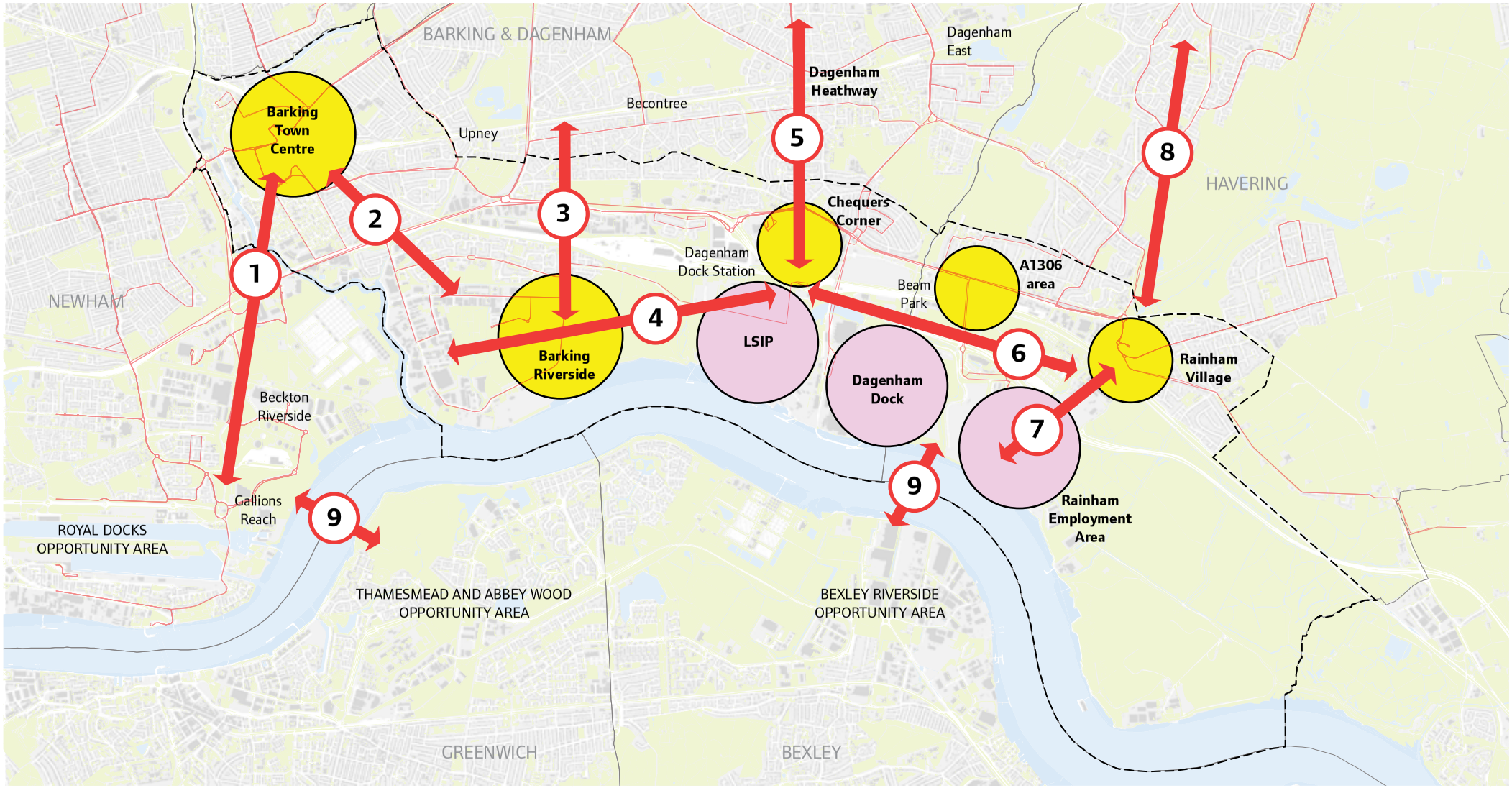
The main physical barriers to travel are:

- Both the A13 and A1306 constrain north-south movement across the OA in particular for walking, cycling and public transport;
- The railway lines, which follow the broad alignment of the A13, also limit north-south movement;
- Beam River and Rainham Creek limit east-west movement across the employment sites south of the A13;
- The River Roding severs the OA with the opportunity area at the Royal Docks;
- There are no River Thames crossings in this part of London, meaning any cross Thames trips originating from the OA have to travel west to the Blackwall Tunnel or east to the Dartford Crossing;
- Large sites of undeveloped brownfield land that have no existing street network prevent through-movement.

4.3.2 Improving connectivity to, from and within key locations

The physical barriers to movement discussed above result in poor connectivity between key locations.

To support growth within the OA it is important to improve this connectivity as improvements to transport networks are an essential catalyst in enabling regeneration. Across London Riverside, improving links between Metropolitan and District Centres and new residential areas should be prioritised, for example between Barking Riverside and Barking Town Centre and between Beam Park and Rainham Village. Improving connections for local residents to the employment centres of LSIP and South Rainham is also important as these sites are relatively poorly connected. Beyond London Riverside, improving connections west to the employment centres of the City, Canary Wharf, the West End and to the east in Essex, is essential to the delivery of new housing at Barking Riverside and Beam Park and improving access to jobs for those new residents. Improved connectivity across the River Thames and Roding would also help to link the area with emerging opportunities in Bexley and Thamesmead and emerging residential and employment areas around the Royal Docks. The GLA, the boroughs and TfL are willing to work together with developers and land owners to facilitate and implement improved linkages across these barriers, such as through the provision of bridges over waterways.



1 Linking Barking to the Royals
2 Improving access from Barking Riverside
3 Providing access to the District Line
4 New east west connections across Barking Riverside
5 Improving access to Crossrail
6 Better links between Rainham Village, Beam Park and CEME
7 Linking Rainham Village to Rainham Employment Area
8 Improving access to Crossrail
9 Maximise potential future river crossings to create new bus links
Housing areas
Employment areas

Figure 4.3 Indicative bus corridors

4.3.3 Public transport crowding and highway congestion

Public transport crowding and highway congestion can make travel to, from and within the OA difficult. This limits access to jobs and services, and can impact local businesses. The A13 suffers from highway congestion particularly around the Lodge Avenue Flyover and Renwick Road/A13 junction and at the junction with the A406. This congestion can cause disruption across London Riverside and beyond, and lead to heavy goods traffic diverting on to less suitable routes. Maintaining the important movement function of this strategic corridor, whilst mitigating the severance effect it has on the local area is a key challenge.

The Essex Thameside line is the only passenger rail link that serves the OA east of Barking Town Centre and this can experience crowding in the morning peak. Improving access to rail based public transport will be necessary to support the growth of the OA. Barking Station is well served by rail services and is an important interchange for the wider area. Maintaining this function whilst accommodating additional demand and managing existing crowding will be difficult without improvements to the Grade II listed station, which C2C are committed to delivering by 2017.

4.3.4 Supporting the efficient movement of freight

The A13 is a strategically important route for freight providing a direct link from Tilbury and the London Gateway Port and the M25 into central London. There is also a freight link available at Box Lane into HS1 line enabling freight to be received from the continent. Traffic congestion however, affects how efficiently freight moves through the OA and addressing this challenge is a sub-regionally important issue because of the strategic nature of the A13.

Improvements will also benefit the employment land uses in this area which rely on the A13 for efficient freight movements. The OA is also an important rail freight corridor with freight trains using the Tilbury Loop of the Essex Thameside line. Shifting freight trips from road to rail can help to relieve traffic congestion, but the issue of having both passenger and freight services on the same line needs to be considered. There is also an opportunity to make better use of the rivers flowing through the OA to move goods by boat, including the Thames and the Roding, and it is important to recognise the need for efficient navigational access for these waterways when considering river crossings.

4.3.5 Maximise benefits of committed investment

Where investment in public transport unlocks new development it is important to get the most out of the transport network. This is important to mitigate the impact of the extra demand generated by new development. It will be essential therefore, to encourage high public transport use, walking and cycling mode shares for all new developments. Similarly strengthening links to new and existing transport hubs can help to positively influence the mode shares of existing communities.

Land use planning measures can also help to make the most of committed investment by encouraging higher density development around existing and proposed transport nodes at Barking Town Centre, Barking Riverside, Dagenham Dock, Beam Park and Rainham stations, together with investment in public realm improvements at the new stations at Barking Riverside and Beam Park.

4.4 Improvements

4.4.1 Rail

The sub-surface upgrade programme will see a capacity increase of 33% on the Hammersmith & City and District Line services by 2018, and service improvements on the Essex Thameside line will also further boost east-west connectivity across the OA.

The electrification of the Gospel Oak to Barking Overground Line will improve services on the line with the introduction of longer electric trains, and an extension to this line from Barking to Barking Riverside is essential to unlock further development of this area. TfL is progressing with plans to have the extension operational by 2020.

The DLR extension to Dagenham Dock was previously identified as the intervention to serve this area, which is reflected in existing borough policy documents. It became clear, however, that the cost of the DLR extension was unaffordable and other interventions were considered which resulted in the London Overground Gospel Oak to Barking line extension to Barking Riverside being identified as the preferred option. It presents the most deliverable and affordable option and provides a direct link to Barking Town Centre from the heart of the Barking Riverside development. The Overground extension proposals went to initial public consultation in September 2014 with 90% of responses supporting the proposal. Further detailed consultation took place in March 2015 with a Transport and Works Act order application proposed to be made in December 2015.

The emerging Barking Riverside masterplan is designed around maximising accessibility to the new station. The Overground extension will however be built in such a way as to not preclude the DLR from being extended in the future should additional rail capacity be necessary to support further growth in the area.

Further development potential could be realised at Beam Park with the addition of a new station on the Essex Thameside line, which has funding and could open as early as 2020. Improvements to existing stations and integrating new stations into the urban environment including providing good interchange facilities will help to maximise the benefit of this future investment. For example, the redevelopment of Ford DSTO site offers the opportunity to provide logical direct pedestrian, cycling and potentially bus routes connecting the new Beam Park station with Dagenham Dock.

Barking Station is the main public transport interchange in London Riverside. As part of a new franchise agreement, C2C are committed to delivering significant improvements to Barking Station, which are timetabled to complete by 2017.

In the longer term new rail connections across the River Thames might be needed to better connect the Thames Gateway. One of the proposals in the Mayor's 2050 Infrastructure Plan is for a cross Thames extension of the London Overground from Barking Riverside to Abbey Wood, which would help to improve access to jobs and services and provide interchange with Crossrail services. There is also potential to extend Crossrail from Abbey Wood to Ebbsfleet which would improver connections and unlock the considerable housing capacity of the Bexley and Thamesmead Opportunity Areas to the south. There is also the possibility in the future of providing an eastern spur to Crossrail 2 to Barking as an extension of the route safeguarded to Hackney.

4.4.2 Highway

Improvements to the A13 will be important to help ease congestion through the OA with investment and management of the road network required to accommodate increases in demand. Investment should be focused on improvements at Lodge Avenue Flyover, River Road and Renwick Road although it is also noted that investment will be necessary at the junction with the A406. Maintaining the strategic arterial function of the A13, improving north-south connectivity and the public realm are key objectives. Achieving these objectives will require significant long term investment to deliver a step- change in conditions for this part of the OA and enable development. This investment should consider the range of options set out in the Roads Task Force Report for reducing the severance caused by arterial roads and enabling the provision of new homes and jobs. TfL are currently investigating the long term option of undergrounding part of the A13, and interim options in advance of this to improve access to the areas south of the A13, reduce north-south severance for public transport, pedestrians and cyclists and removing an east-west pinch point for vehicles.

The development of Barking Riverside and Beam Park requires the construction of new highway links to unlock development plots. These new links provide the opportunity to integrate new sites with their surroundings and create new routes for buses, walking and cycling. Opportunities to make new connections where there are currently barriers to movement should also be explored. For example a link across Rainham Creek would help to better connect the Rainham employment area and provide the potential to extend bus services to provide better access to jobs.

TfL is currently exploring the potential locations for new river crossings in east London. A crossing at Gallions Reach and one connecting Rainham and Belvedere are two of the locations proposed. Further work is required to develop these proposals further but these new links would transform the connectivity of outer east London, provide the opportunity for new cross river public transport services and help to support the delivery of jobs and homes across a wide area. In addition to this, outside the GLA boundary, the Department for Transport and the Highways Agency are progressing work on a new Lower Thames Crossing which would provide additional resilience to this part of the highway network.

4.4.3 Buses

Bus services will play a key role in supporting new development across London Riverside. The three key approaches to achieving this will be accessibility, capacity and quality. Accessibility involves securing high quality access into new development sites (in an efficient and direct manner) so as to serve the new development and link it to existing centres and stations. Increased demand to travel by bus will require securing additional bus capacity and the associated infrastructure to support higher frequencies e.g. bus stands. New bus priority measures and facilities will need to be provided in order to maintain reliability and protect the quality of service from the impact of traffic congestion and therefore be attractive to users. Development sites at Barking Riverside and Beam Park have the opportunity to deliver exemplar bus infrastructure.

In employment areas such as the one south of Rainham the priority will be to seek infrastructure interventions to facilitate the development of an efficient bus network, and working with stakeholders to maximise demand for bus services and enable additional services to be introduced. In terms of bus connectivity to areas outside London Riverside, it is important that services are well connected to allow travel to the Metropolitan centres of Ilford and Romford. This will enable access to jobs and services in the area and also provide good links to Crossrail by public transport to ensure the benefits of Crossrail are maximised. TfL are also currently exploring potential river crossings and assessing where they would provide the opportunity to create new strategic cross-river public transport connections.

4.4.4 River Transport

The River Thames is heavily used for freight transport in the London Riverside area but further opportunities to increase its use should be identified. Bulky goods and materials can be efficiently moved by boat and this should be considered as an option in particular with all the new development coming forward and associated construction traffic. Increasing the use of the River Thames for freight could help to relieve some of the pressure on the road network.

As noted in chapter three, there are a number of safeguarded wharves located within the OA. To maximise their use, it is important that suitable HGV access to and from the Strategic Road Network is retained. The River Thames also provides the opportunity to facilitate passenger transport if London River Boat Services can be extended east from their current terminus at Woolwich Arsenal. A new pier at Barking Riverside for example could provide access to Canary Wharf in less than 30 minutes.

4.4.5 Cycling

Good quality, convenient, safe and attractive cycling routes are an essential part of new development and improving cycling infrastructure and current conditions in the OA will enable residents to make healthy lifestyle choices and relieve pressure on public transport. The area's topography lends itself to cycling and delivering a high mode share for cycling can further remove reliance on the private car and maximise accessibility to local facilities and public transport interchanges. To encourage new and existing residents and workers to cycle, new developments and the public realm must be planned and designed with cycle use in mind, including provision for a significantly higher mode share for cycling in the future.

The key challenge will be to overcome severance, by providing cyclists with safe ways in which to cross major road and rail infrastructure. New development must contribute to joined-up, integrated cycle networks that should include quieter streets and off-road routes as well as separate, dedicated facilities on, or alongside, main roads. The revised London Cycling Design Standards should inform design options and promote an integrated and ambitious approach to delivering high quality infrastructure for cycling in the area.

All buildings and locations should be fully accessible by cycle and include good quality cycle parking facilities that meet the London Plan (2015) standards. This is particularly important at stations, schools, community buildings and retail centres.

Strategic cycle routes serving London Riverside include the following:

- CS3 – Barking to Tower Gateway
- LCN13 – Purfleet/Rainham/Royal Docks/the City
- LCN16 – Newham Greenway/Beckton/Stratford
- LCN57 – Dagenham/Epping
- LCN58 – Rainham/Romford/Epping
- LCN59 – Rainham/Harold Hill

Many of these are largely in place but some sections remain under development and require ongoing maintenance to remain safe and attractive routes. New quietway routes will be needed to improve cycling connectivity and safety, for instance linking Barking Riverside with Barking Town Centre and between Beam Park and Rainham Village.

4.4.6 Walking

Increasing walking helps to reduce the number of short car trips and demand placed on public transport. New developments present opportunities to greatly improve the walking environment and developers will be required to contribute to public realm enhancements to ensure safe, comfortable and attractive walking conditions. Good standards of street design taking into account the needs of all users will be expected in accordance with the Manual for Streets, TfL Streetscape Guidance and Borough Supplementary Planning Documents. This will improve the existing network of pedestrian routes, within a high quality public realm and establish walking as the mode of choice for short trips. Wholesale redevelopment of large sites such as Barking Riverside and Beam Park will require the creation of new walking routes and streets and it is important these are integrated within the existing network and key desire lines.

4.4.7 Funding Improvements

Some of the transport improvements noted above are already funded while others will rely on mechanisms for securing investment from developers through the planning process. Where new infrastructure is required innovative ways of securing funding will be required and in most cases will rely on partnership working and pooling of funds from a variety of sources. Transport improvements can stimulate land value increases and where possible this should be captured and reinvested in the transport network. The work undertaken to date by TfL, the GLA and the boroughs on funding transport investment will feed into the forthcoming Development Infrastructure Funding Study (DIFS) work highlighted and explored in more detail in Chapter 7.