Local Plan Background Paper: Transport and Connectivity

August 2014
1. Introduction

The Local Plan

1.1 The Legacy Development Corporation became the Local Planning Authority for its area on 1st October 2012. As a result it is required to prepare a Local Plan, which when adopted will become the statutory development plan for its area, setting out the policies and proposals that will be used to guide development in its area and will be used in making planning decisions when determining applications for development.

1.2 The National Planning Policy Framework, 2012 (NPPF) requires that local planning authorities set out their strategic priorities for the area including strategic policies to deliver:

- The homes and jobs needed in the area;
- The provision of retail, leisure and other commercial development;
- The provision of infrastructure for transport, telecommunications, waste management, water supply, waste water, flood risk and energy;
- The provision of health, security, community and cultural infrastructure and other local facilities; and
- Climate change mitigation and adaptation, conservation and enhancement of the natural and historic environment, including landscape.

Purpose of this Background Paper

1.3 The NPPF requires that Local Plans are prepared using a proportionate, adequate, up-to-date and relevant evidence base “about the economic, social and environmental characteristics of the area”. This background paper draws together and summarises the evidence that has been considered in developing those policies and other aspects of the Local Plan that have regard to Transport policy. At an early stage in preparation of the plan the Legacy Corporation commissioned CH2MHILL to carry out a desktop review of a number of recent transport and connectivity studies that had been carried out in order to inform development of the Legacy Corporation. This study is attached to this paper as Appendix 3. It was not considered necessary to commission an entirely new piece of primary research, as a number of transport studies had been recently completed and remain relevant in their assessments and conclusions. These included the OLSPG strategic transport study, the A12 Study and the Transport Assessment for the Legacy Communities Scheme planning application.

1.4 The Local Plan draws on the content of the plans affecting the area that were adopted by each of the four Boroughs (Hackney, Newham, Tower Hamlets and Waltham Forest) prior to 1st October 2012 and the evidence prepared to support these. It is the intention of the Legacy Corporation that its Local Plan draws on these plans and where necessary updates the approach taken and the evidence used in support in preparing its own Local Plan. This paper, therefore, sets the approach to the Local Plan in the context of national planning policy and legislative requirements, the strategic policies and strategy set out in the London Plan and the extant planning policy in the appropriate adopted plans published by each borough.

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1 See Appendix 2 References for further details.
What is the background and purpose of the Legacy Corporation?

1.5 In February 2012 the Mayor of London announced his formal decision to create a Mayoral Development Corporation to be responsible for the regeneration legacy from the 2012 Olympic Games. The Legacy Corporation came into being on 9th March 2012.

1.6 On 1st October 2012, the London Legacy Development Corporation (Planning Functions) Order 2012 came into force giving the Legacy Corporation a range of planning functions that would normally be available to a local planning authority, including plan making powers.

1.7 The Legacy Corporation also has powers which allow it to become a Community Infrastructure Levy (CIL) charging authority. In becoming a local planning authority the Legacy Corporation has subsumed the planning functions of the Olympic Delivery Authority (ODA), the London Thames Gateway Development Corporation and the London Boroughs of Hackney, Newham, Tower Hamlets and Waltham Forest for the land within its area.

1.8 The purpose of the Mayoral Development Corporation is: “To promote and deliver physical, social, economic and environmental regeneration in the Olympic Park and surrounding area, in particular by maximising the legacy of the 2012 Olympic and Paralympic Games, by securing high-quality sustainable development and investment, ensuring the long-term success of the facilities and assets within its direct control and supporting and promoting the aim of convergence”.

1.9 The Legacy Corporation aims to achieve its goals by:

- Working in partnership with the Mayor of London and the Greater London Authority, Central Government, the Olympic Host Boroughs, residents in neighbouring local communities, local organisations, businesses and regeneration agencies and other partners in both the public and private sector, including national and international sporting, cultural and leisure organisations;
- Leveraging our public assets to attract and secure private investment for the development of the Park;
- Setting and maintaining standards for quality of design, construction and urban planning, to ensure a sustainable and enduring legacy for the Park.

1.10 Four priority themes have been developed that reflect the purpose of the Legacy Corporation. These are:

- Promoting convergence and community participation;
- Championing equalities and inclusion;
- Ensuring high quality design; and
- Ensuring environmental sustainability.
2. Legislative and policy context

2.1 The Legacy Corporation’s planning related powers and responsibilities are primarily drawn from the following legislation:

- Town and Country Planning Act 1990 (as amended)
- Planning and Compulsory Purchase Act 2004 (as amended)
- The Planning Act 2008 (as amended)
- Town and Country Planning (Local Planning) (England) Regulations 2012
- Town and Country Planning (Development Management Procedure) (England) Order 2010 (as amended) and other statutory instruments made under Part III of the 1990 Act
- Localism Act 2011
- London Legacy Development Corporation (Planning Functions) Order 2012
- The Community Infrastructure Levy Regulations 2010 (as amended)

2.2 The primary sources of policy that will influence the development of the Local Plan are:

2.3 The National Planning Policy Framework, 2012 which sets the out the Governments Planning Policies for England and how it expects these to be applied.

2.4 The London Plan, 2011, including Revised Early Minor Alterations and Draft Further Alterations to the London Plan, 2014 (including the Schedule of Suggested Changes, 2014). The London Plan is the overall strategic plan for London, and it sets out an integrated economic, environmental, transport and social framework for the development of the capital to 2031. It forms part of the development plan for Greater London. London planning authority local plans need to be in general conformity with the London Plan, and its policies guide decisions on planning applications by London Local Planning Authorities and the Mayor.

2.5 Borough Adopted Plans. These are the adopted planning policy documents that were in place before 1st October 2012 and remain the relevant local planning policy until such time as the Legacy Development Corporation Local Plan is adopted. These comprise:

- London Borough of Newham Core Strategy (2012)
- London Borough of Hackney Core Strategy (2010)
- London Borough of Tower Hamlets Core Strategy (2010)
- London Borough of Tower Hamlets, Fish Island Area Action Plan (2012)
- London Borough of Waltham Forest Core Strategy (2012)

2.6 These documents all contain policies relevant to this Background Paper (see Appendix 1).

2.7 These policy and evidence base documents have all been reviewed and their findings used to inform the policies within the Legacy Corporation’s Draft Local Plan.
National Planning Policy Framework

2.8 Guidance for transport is provided within the National Planning Policy Framework (NPPF). The NPPF states (paragraph 29) “the transport system needs to be balanced in favour of sustainable transport modes, giving people a real choice about how they travel.” Relevant extracts are set out below:

“30 In preparing local plans, local planning authorities should therefore support a pattern of development which, where reasonable to do so, facilities the use of sustainable modes of transport.

34 Plan and decisions should ensure developments that generate significant movement are located where the need to travel will be minimised and the use of sustainable transport modes can be maximised.

37 Planning policies should aim for a balance of land uses within their area so that people can be encouraged to minimise journey length for employment, shopping, leisure, education and other activities.

38 for larger scale residential developments in particular, planning policies should promote a mix of uses in order to provide opportunities to undertake day-to—day activities including work on site.

39 if setting local parking standards for residential and non-residential development, local planning authorities should take into account:

- The accessibility of the development
- The type, mix and use of development
- The availability of and opportunities for public transport
- Local car ownership levels; and
- An overall need to reduce the use of high-emission vehicles.

41 Local planning authorities should identify and protect, where there is robust evidence, site and routes which could be critical in developing infrastructure to widen transport choice.”

Planning Practice Guidance, 2014

2.9 This guidance sets out what Travel Plans, Transport Assessments and Statements are, and how they can be used in planning decisions to assess and mitigate the negative transport impacts of development in order to promote sustainable development. The guidance says they are required for all developments which generate significant amounts of movements. The Legacy Corporation local plan includes policies to require Travel Plans, Transport Assessments and Statements to be submitted alongside relevant planning applications.

The London Plan, 2011

2.10 The transport section of the London Plan specifically sets out policies to support delivery of the sixth objective of the London Plan. “A city where it is easy, safe and convenient for everyone to access jobs, opportunities and facilities with an efficient and effective transport system which actively encourages more walking and cycling, makes butter uses of the Thames and supports delivery of all the objectives of this
plan.” The London Plan contains high level policies to integrate transport and development by taking a strategic approach (Policy 6.1), provide public transport capacity and safeguard land for transport (Policy 6.2) assess effects of development on transport capacity (Policy 6.3). There are also other strategic policies on better streets (Policy 6.7) Cycling (Policy 6.9) Walking (Policy 6.10) Smoothing traffic flow (6.11) Road network capacity (Policy 6.12) and Parking (Policy 6.13) that are particularly relevant to development and the preparation of the Legacy Corporation Local Plan.

**Draft Further Alterations to the London Plan, 2014**

2.11 These alterations do not have big implications for the general thrust of transport planning policy in the Legacy Corporation area. The main changes to the policies are to provide more emphasise and detail of implementation of a network of cycle routes across London, including the Cycle Superhighways and Quietways. The alterations also reflect the ongoing development of projects such as Crossrail 2, HS2, the Mayor’s ambitions for a new airport in the Thames Estuary and a new Thames crossing at Silvertown. Although not adopted at the time of writing, where possible, changes within the draft further alterations have been reflected within the Local Plan, e.g. Crossrail 2 proposals.

2.12 The parking standards have also been reviewed as part of the further alterations, in conjunction with Transport for London and the advice of the Outer London Commission. This means that the alterations propose that maximum residential parking standards have increased to allow properties with 4 or more bedrooms up to 2 spaces per unit rather than 1.5, 3 beds up to 1.5 rather than 1 and 1-2 beds 0-1 rather than less than 1.

2.13 The Legacy Corporation Local Plan follows the parking standards set out in the London Plan. However, as much of the area is in an area of good public transport accessibility (where the standards require that all developments in areas of good public transport accessibility should aim for significantly less than 1 space per unit, and towards zero / car free in the areas of highest accessibility), it is considered that the increase in the maximum residential standards will be of limited significance in the Legacy Corporation area. Therefore it is still considered appropriate for the Local Plan to follow the London Plan parking standards.

2.14 Other strategies and plans prepared by the Mayor and Boroughs will also be relevant parts of the evidence base for each policy topic area within the Local Plan, for example The Mayor of London’s Transport Strategy (2010).

**The Mayor’s Olympic Legacy Supplementary Planning Guidance, 2012**

2.15 This seeks to supplement and apply London Plan policy for an area that includes the LLDC area at its heart; it sets out the Mayor’s “strategic priorities and long term vision for the Queen Elizabeth Olympic Park and its surrounding areas”.

2.16 Connectivity and Transport issues are covered by section 2.c of the guidance. The Overarching development principle – C is “To remove and overcome barriers to movement and ensure that existing and new communities across the OLSPG area are linked by a network of strategic and more fine-grained local connections, promote walking and cycling, use the area’s public transport infrastructure to achieve a lasting shift to more sustainable forms of transport and movement, and minimise adverse
impacts on the capacity and operation of the area’s public transport and highway networks”.

2.17 The OLSPG was supported by a strategic transport study carried out by TfL that looked at existing conditions and at the impact of the scale and form of development on the area’s existing and planned transport networks.

2.18 The evidence base that fed into the OLSPG strategic transport study has been reviewed, to consider whether there have been any changes in circumstances which mean that the findings are now out of date.

2.19 Changes identified include: change in the routing of Crossrail 2 (the Chelsea Hackney line). The existing safeguarding for Chelsea Hackney which was confirmed in 2008 includes an alignment through Hackney and joining the Central line at Leytonstone. The safeguarding therefore just skirts the northern boundary of the LLDC. This option has been removed by TfL and it is likely that Crossrail alignment would now head north after Hackney Central.

2.20 Funding confirmed for the new Lea Bridge Station in Waltham Forest. The station will open before the end of 2014. It is not considered that these changes are of major significance and that the OLSPG transport study therefore remains relevant.

Sustainable Community Strategies & the Strategic Regeneration Framework:

2.21 The Sustainable Community Strategies published by each of the boroughs have helped to set the context for their adopted Planning Documents. The wider context is also partly set by the Strategic Regeneration Framework (SRF) which has been published by the Olympic Growth Boroughs to link the physical improvements brought about by the Olympics and its Legacy, with the wider socio-economic change in their boroughs, so that the Games are used as a catalyst to fundamentally change the life chances of their residents.”2 This in essence provides the equivalent to a Sustainable Community Strategy for the Legacy Corporation area in developing the Legacy Corporation Local Plan. The SRF draws its objectives together under the concept of ‘convergence’ which includes three themes:

- Creating wealth and reducing poverty
- Supporting healthier lifestyles
- Developing successful neighbourhoods

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2 Mayor’s Olympic Legacy SPG (July 2012)
3. Evidence and policy development

3.1 The evidence that underwrites the approach to transport within the Local Plan has been built up over a number of years alongside the development of the major projects that have influenced the significant amount of change that has occurred. The construction and opening of the now transformed Queen Elizabeth Olympic Park for the 2012 Games and that of much of the Stratford City development, including Westfield Stratford City and the International Quarter, has been supported by significant levels of investment in expanding and improving the transport network and its capacity that now serves the area. This will be supplemented by Crossrail in 2018/19. In addition to the recent physical infrastructure and service improvements, the area has also during this period been the subject of a number of detailed studies and assessments on which the change to date and the longer term planned legacy changes have been based, for example the Mayor’s Olympic Legacy Supplementary Planning Guidance (2012) and its accompanying detailed transport study, along with widely scoped transport assessments very large strategic development schemes such as the Legacy Communities Scheme, which have essentially been assessed in the context of the levels of growth planned for the Legacy Corporation Area.

3.2 In 2013 the Legacy Corporation commissioned C2HMILL to review these existing sources of evidence to ascertain whether in the context of the growth assumptions identified for the Local Plan, the conclusions drawn by the existing evidence base material remained valid and that the potential measures required to support the proposed growth remained up to date. The report is included within this Background Paper at Appendix 3. The review considered both the capacity required and the more detailed connectivity measures needed.

3.3 The report makes recommendations in the context of this review, particularly in terms of identified interventions that are considered to be necessary to support the planned growth. Wider schemes that would offer significant benefits and are considered worthy of support but that are not considered necessary to future development are also identified.

3.4 The findings and recommendations from this review have been used, alongside the existing evidence base, to shape the approach taken within the transport and related infrastructure policies within the Local Plan and for relevant elements of the Sub Area sections of the Plan, including site allocations.

3.5 The report concludes that the public transport demand from planned scale of growth can be accommodated within the existing and planned public transport investment and that the policy emphasis would need to be focuses on improving local connectivity, particularly in terms of walking and cycling. It considers, given the lack of opportunity to increase capacity that the potential effects on the highway network will need to be addressed through approaches that manage demand for private car use. This is reflected in strategy summarised in Paragraph 7.11 of the Publication version of the Local Plan:

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<tr>
<th>Local Plan, Publication version, Paragraph 7.11</th>
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<tr>
<td>Analysis shows that the planned growth can be accommodated without significant new public transport investment, as long as there is an emphasis on walking and cycling and smarter travel choices built in to new developments. Therefore the</td>
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strategy for transport and connectivity that the Legacy Corporation will follow which is set out in the policies in the plan is:

1. The Legacy Corporation will promote sustainable transport choices to ensure that the development of the area is optimised.

2. The level of private car use will be managed to ensure that the impact of new development on local and strategic roads within the area is mitigated. The Legacy Corporation will use its development management powers to ensure developments have appropriate car parking levels, provide for pedestrians and cyclists, and promote smarter travel through Travel Plans.

3. Improvements to public transport, and improved access to stations in the area will be promoted and supported by the Legacy Corporation, though its planning and other powers. Such schemes include the new entrance to Stratford Station, improvements to Hackney Wick Station and upgrading and improved accessibility to Bromley-by-Bow Station.

4. The Legacy Corporation will also use its powers and influence to promote International trains stopping at Stratford International Station, and seek to ensure that Stratford benefits as far as possible from any new proposal to link High Speed 1 to High Speed 2 following the cancellation of the central London link between Euston and St Pancras.

5. Through the above measures, the Legacy Corporation will seek to continue the now well established trend of a net shift in London away from private motorised transport to the public transport modes.

3.6 The transport policies within the Local Plan have been shaped to reflect this evidence, supporting delivery of strategic and local transport infrastructure and connectivity improvements, promoting walking and cycling above private car use and seeking to manage the level of demand for private car use. The policies also directly reflect the equivalent policy directions within the London Plan and the Mayor’s Olympic Legacy Supplementary Planning Guidance.

3.7 Policy T.1. Strategic Transport Improvements, supports the delivery of those major transport project that would have an effect on the Legacy Corporation area. Crossrail for example is essential in delivering sufficient public transport capacity to meet project growth needs, while achieving stopping trains servicing Stratford at Stratford International Station would provide a significant boost to the economic growth potential within the Metropolitan Centre at Stratford with its potential for significant quantum’s of high grade office space and also to locations such as Here East.

3.8 Policies T.2, Transport Improvements, and T.3, Supporting Transport Schemes, in particular are designed to help ensure that those transport improvements and transport schemes that would have a positive effect on the area, particularly where these are identified in the Legacy Corporation Infrastructure Delivery Plan (IDP), are not prejudiced by new development and that particular schemes are given sufficient levels of support. It is intended that the IDP is subject to an annual review and update to ensure that schemes and projects listed remain up to date and relevant to the circumstances within the Legacy Corporation area at that time.
3.9 Policy T.4, Managing Development and its Transport Impacts, and T.5, Street Network, together set the overall strategy for measures that will help in managing the demand on the highways network and ensure that traffic is managed effectively and appropriately through the hierarchy of streets.

3.10 Policy T.7, Transport Assessments and Travel Plans, set out the requirements for the use of transport assessments and for travel plans and where the use of these will be appropriate. This is directly linked to the policy requirements in the London Plan and technical guidance provided by Transport for London, making the policy consistent and in conformity with the London-wide approach.

3.11 Policies T.8, Parking and Parking Standards in New Development, and Policy T.9, Providing for Pedestrians and Cyclists, apply London Plan standards to the Legacy Corporation area but make clear that minimisation of provision of car parking will be important within this framework of standards, particularly where public transport access is high, for example in Stratford, and where the urban form and the likely form of new development, for example in Hackney Wick and Fish Island, may constrain the availability of land for parking provision if acceptable approaches to achieving active and well designed development and streets are to be achieved. Policy T.9 is particularly designed to reinforce the need for increases in walking and cycling to reinforce the approach to improved local connectivity and management of transport and highway demand.

3.12 Policy T.6, Facilitating Local Connectivity, provides a key link to achieving the identified need for greater levels of local connectivity within the area and the related identified projects that are included within the Legacy Corporation Infrastructure Delivery Plan. It also helps to ensure that development proposals help to achieve these improved connections through the approaches to scheme design. The Local Plan identifies the range of key connections that exist or are planned and the locations where improvements are required in Figure 24 (Key Connections). These are reflected in greater detail within each of the four sub area sections of the Plan and have also been defined within the maps associated with each Site Allocation in the Plan, ensuring that the plan provides clear guidance as to the locations and circumstances that development will need to take these connections into account.
3.13 Policy T.10, Using the Waterways for Transport, reflects the fact that the area’s character is defined by the waterways that run through it, forming a significant part of the Lower Lea Valley waterway network, with links to the wider canal system and to the River Thames. The policy fits with the London Plan approach to the Blue Ribbon Network and water transport, encouraging passenger, freight and leisure use. It also links to Policy BN.2 Creating Distinctive Waterways, within the Plan and Figure 14, Waterways and Indicative Moorings, which helps to identify particular areas of opportunity for implementing aspect of the policy and increase the opportunities for sustainable transport.
Appendix 1: Existing Planning Policy within the Legacy Corporation Area

The following are extracts from relevant Borough Policy Documents, adopted before 1st October 2012

**LB Newham Transport Policy (Core Strategy)**

**Policy SP7 Quality Movement Corridors and Linear Gateways**

6.66 Reinforce the linear gateway and movement corridor role performed by the borough’s principal street network through the application of quality urban and architectural design and public realm interventions.

**Policy**

1. The streets listed below will be the subject of public realm and regenerative improvements that reinforce their role as high quality movement corridors and linear gateways. The desirability of reclaiming the streets for people through introducing active frontage to their edges that stimulates social activity and interaction along them;

2. The importance of consolidating ribbon developments of commercial and community uses into defined local and town centres and local shopping parades, and in the case of hotels, in Stratford Metropolitan and the Royal Docks in line with Policies INF5, INF8 and SP6;

3. The general principles of good urban design expressed in Policies SP1 and SP3 and SP5, ensuring they are extended to edge treatments to positively contribute to the street scene and way-finding;

4. The particular need in these environments to enclose the street and reduce the noise and air pollution impacts of passing traffic, without creating a ‘tunnel’ effect, maintaining the building line excepting overriding good design or highways considerations;

5. The need to significantly raise and easily maintain the quality of the public realm, with particular attention to de-cluttering, inclusive access, continuity of footways and materials, the value of tree planting to improve amenity and the desirability of introducing public art at appropriate locations; and

6. The importance of facilitating the smooth and efficient but safe movement of traffic in the context of an overall shift to sustainable transport in line with policy INF2.

**Key Movement Corridors and Linear Gateways identified within the LLDC area include:**

- Carpenters Road
- Leyton Road/Angel Lane
- Olympic Legacy Streets - Bridge road; Celebration Avenue; Honour
- Lea Avenue; International Way; Penny Brookes Street; Montfichet Road; Temple Mill Lane; Olympic Park Avenue; Warton Road;
- Westfield Avenue;
- Stratford High Street;
- Stratford Gyratory (Great Eastern Road, Broadway);
Objective

6.186 Secure investment in strategic transport networks that will lever investment and regeneration into Newham, further integrating the borough with the rest of London and overcoming major physical barriers to movement without having an unacceptable impact on residents.

Policy

Support will be given to ongoing investment in the committed strategic transport network set out in the London Plan:
1. Crossrail 1 including stations at Stratford, Maryland, Forest Gate, Manor Park and Custom House;
2. International trains calling at Stratford international station and / or, depending on capacity, linkages from Stratford International to the proposed High Speed 2 and Chelsea-Hackney railways;
3. Increased capacity and service enhancements on main line railway services serving the borough;
4. Increased capacity and service enhancements between the West Anglia main line and Stratford;
5. Capacity increase on north London railway (London Overground);
6. Strategic bus network investment including bus priority;
7. Enhanced river bus services and piers;
8. Cable car links across the River Thames at suitable locations as they come forward;
9. Extensions and upgrading of to the strategic cycle network including Cycle Superhighways; and
10. Extensions to the strategic footpath walking network.

Support will be given to other, currently unfunded, strategic transport proposals that will contribute towards Newham’s regeneration and economic and physical development; these include

1. Safeguarded river crossing routes at West Silvertown and Gallions Reach(5) (see key diagram), delivered as a package and consideration of ferry-based options east of a crossing at West Silvertown, subject to satisfactory assessment (see London Plan Policy 6.12);
2. Extensions to the DLR network from Gallions Reach to Dagenham Dock, north of Stratford International and double tracking between Stratford and Bow Church Station;
3. East London Transit bus link from Barking to Canning Town via Beckton and the Royal Docks;
4. Proposals for traffic and public transport corridor improvements, including bus priority measures and streetscape enhancements, particularly in a north/south direction; and
5. Other strategic transport projects and river crossings as they come forward or as identified in the London Plan.

Support will be given for optimisation of airport capacity, including access and other freight and passenger facilities. Any proposals for future growth at the airport (above the approved 120,000 flight movements per annum) in line with the Airport Masterplan will need to be carefully considered to ensure the potential impacts on the Royal Docks and its future role and function are taken into account.
Development proposals should have regard to the Airport Safeguarding Area and Public Safety Zone. As a general principle, in line with London Plan Policy, safeguarded wharves will be protected. However, the Council supports the relocation and/or consolidation of Safeguarded Wharves within the Royal Docks (see Policies J2 and S3). Proposals for alternative sites will need to demonstrate that the locations of existing safeguarded wharfs sites are inappropriately located or they have been developed and further safeguarded wharves within the borough are needed, and are in suitable locations in accordance with locational criteria set out in paragraph 7.77 of the London Plan (2011).

Safeguarded railheads and freight sidings, including access from the road network and any associated wharves, will be protected. Proposals for new sites to enable the transfer of freight to rail and water will be supported where these accord with other policies in the Core Strategy.

Proposals to encourage the improvement and use of Newham's navigable waterway network including rivers, canals, wharves, locks and winding holes for water freight, passenger and leisure transport purposes will be supported in appropriate locations, consistent with relevant spatial and land use policies.

**INF2 Sustainable Transport**

**Objective**

6.207 Secure a more sustainable pattern of movement in Newham, maximising the efficiency and accessibility of the borough's transport network on foot, cycle and public transport in order to reduce congestion, enable development, improve the health, fitness and well-being of residents and make necessary car journeys easier.

**Policy**

Development proposals which address the following aspects of sustainable transport will be supported:

1. Raising and maintaining the safety, quality, appearance and functioning, as spaces for social activity and movement, of the public realm which comprises new and existing streets and other public spaces including squares, parks and riverside pathways;

2. Continuing to address linear and other physical barriers including rivers, railways and major roads and, where applicable, providing connecting public routes through and within new development and to public transport nodes. This policy supports and strengthens Policies SP1 and SP3;

3. Reviewing, completing, adding, maintaining and improving defined routes for walking, horse riding and cycling including the LCN+ and, Cycling Superhighways, and green and blue ribbon networks including the Capital Ring, the Roding Valley Way, the Lea River Park, the Olympic Cycling and Walking Network (OCWRE), and the Greenway and their access points;

4. Providing safe, high quality measures to encourage and facilitate cycling as an increasingly popular mode of transport, including, as appropriate, the provision of high quality, continuous dedicated infrastructure, general public realm interventions that benefit cyclists and public cycle parking both on-street and in secure, covered facilities;
5. Supporting improvements to local public transport services by continuing to invest in infrastructure and network enhancement, including new bus stops and bus priority measures and service enhancements;

6. Maintaining careful management of the supply of routes, capacity and parking for motor traffic in order to reduce or minimise congestion and the dominance of motor-vehicular traffic in the public realm and to make space for other modes;

7. Major development proposals that generate or attract large numbers of trips, including higher density residential and commercial development, should be located in areas with good public transport accessibility and demonstrate the existence of, or propose new safe, attractive walking and cycling routes to public transport node;

8. Development proposals will not be supported where they would have an unacceptable adverse impact on the capacity or environment of the highway network. Where applicable proposals must be accompanied by Transport Assessments and monitored Travel Plans which show the likely impacts of trip generation, and which include: acceptable robust, monitored proposals to counter or minimise the potential impacts identified, these include 'smarter travel' strategies and plans; and proposed measures to facilitate and encourage more widespread walking, cycling and public transport use; and

9. The incorporation of appropriate cycle and car parking standards, as set out in the London Plan. These standards are subject to a local review in the forthcoming Development Management Policy Manual DPD in line with the potential for Newham to realise a substantial increase in cycling.

**LB Hackney (Core Strategy)**

**Core Strategy Policy 6**

**Transport and Land Use**

The Council will encourage patterns and forms of development that reduce the need to travel, particularly by car, and will ensure that development results in the highest standard of design quality, environment and facilities for pedestrians and cyclists. The Council will aim to improve the quality of an area and the way it functions in transport terms by:

- Meeting access standards, and in turn the mobility requirements of all users, including people with sensory or mobility difficulties,
- Maximising accessibility for pedestrians, cyclists and public transport users,
- Mitigating any potentially negative impacts of the development on the transport network,
- Promoting public transport improvements, including rail,
- Safeguarding sites for Crossrail 2 alignment and construction access,
- Managing travel demand by car,
- Seeking reductions of through traffic,
- Reduced or preferably no on site parking in areas of good accessibility,
- Reallocating road space to sustainable modes of travel where appropriate.
LB Tower Hamlets (Core Strategy)

Policy SO1 Delivering Tower Hamlets’ regional role

Sitting successfully in a regenerated east London, Tower Hamlets will contribute to the regional role of London and the Thames Gateway, by:

- Positioning Tower Hamlets within London’s global offer to ensure it continues to be a place of diversity, enterprise and cultural significance.
- Fulfilling our gateway role in the Thames Gateway, supporting Canary Wharf, Stratford and the Lower Lea Valley as key drivers of sub-regional growth.
- Optimising the use of land to deliver the growth agenda and targets as defined by the London Plan.
- Ensuring growth is supported by all types of infrastructure, (including CTRL and Crossrail) to help Tower Hamlets develop as a liveable, sustainable and healthy area of inner London.
- Fulfilling our environmental responsibilities to protect our natural environment, manage and reduce flood risk, and live within the environmental limits of the region.
- Ensuring large developments of regional significance are planned to maximise benefits for local people and the region as a whole.
- Working in partnership to deliver a long-term and proactive approach to the regeneration of east London and Tower Hamlets.

Policy SO2 Maximising the benefits of the Olympic legacy

Tower Hamlets will maximise the benefits and opportunities offered by 2012 Olympic and Paralympic Games and its legacy through:

- Working closely with the appropriate authorities including neighbouring boroughs, ODA, GLA, CLG, LTGDC and the LDA to ensure a collaborative approach to the planning and implementation of the Olympic Legacy.
- Regenerating Fish Island to facilitate a better connected place that responds to its surroundings by connecting Bow to the Olympic Legacy area, Stratford City and wider transport links. (See Fish Island vision p.102)
- Delivering High Street 2012 as a series of linked physical improvement projects, economic development, marketing and cultural projects.
- Assisting in the creation of the Lea River Park to link the Olympic Legacy area and Lea Valley Regional Park with the Thames through a series of public open spaces and footpaths.
- Significant investment in Victoria Park as a green space of regional importance.
- Taking full advantage of people visiting the borough as the “playground of the Olympics”, to stimulate the local economy.
- Supporting our communities in participating in activities, sports and opportunities linked with the Olympics and the Olympic Legacy.
- Stimulating economic regeneration through the creation of new local employment, enterprise and business opportunities.
The AAP includes proposals to improve accessibility from Fish Island and Hackney Wick across the River Lea Navigation into the Queen Elizabeth Olympic Park, and within the Fish Island and Hackney Wick area itself. These are discussed further in the Sub Area 1 Topic Paper. At a more strategic transport level, AAP Policy FI3.6 identifies the upgrade of Hackney Wick Station, bus service improvements and new Barclays Cycle Hire Docking Stations as priority actions for enhancing public transport in Fish Island.

**LB Waltham Forest (Core Strategy).**

**Policy CS7 - Developing Sustainable Transport**

**Strategic Objective 7**

Ensure Waltham Forest is a safe, vibrant and healthy place to live and work by enhancing connectivity across the Borough, facilitating regeneration and growth in a sustainable manner, minimising congestion and pollution, and providing a range of attractive travel options to access jobs, opportunities and facilities within the Borough and beyond.

The policy sets out a number of ways in which the Council will facilitate growth and regeneration in a sustainable manner and promote sustainable travel. These include encouraging reinstatement of Chingford to Stratford line, safeguarding land for Crossrail 2, guiding development to accessible locations, requiring Transport Assessments and Travel Plans, encouraging walking and cycling, and managing private motorised transport.
Appendix 2: References

London Plan (Greater London Authority, 2011)
Revised Early Modifications and Alterations to the London Plan (Greater London Authority, 2013)
Draft Further Alterations to the London Plan (Greater London Authority, 2014)
Mayor’s Waste Management Strategies (Greater London Authority, 2011)
Olympic Legacy Supplementary Planning Guidance (Greater London Authority, 2012)
Olympic Legacy Supplementary Planning Guidance: Strategic Transport Study (Greater London Authority, 2012)
Infrastructure Delivery Plan Study Report (Legacy Development Corporation, 2013)
Stratford Metropolitan Masterplan (London Borough of Newham, 2011)
Fish Island Area Action Plan (London Borough of Tower Hamlets, 2012)
Northern Olympic Fringe Area Action Plan Preferred Options (London Borough Waltham Forest, 2011)
A12 Study (London Thames Gateway Development Corporation, 2010)
Legacy Communities Scheme Transport Assessment (Olympic Park Legacy Company, 2012)
Travel in London Report 6 (Transport for London, 2013)
Final Report

Transport and Connectivity Review

Prepared for
London Legacy Development Corporation

Date July 2013

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Transport and Connectivity Review

1 Introduction

This review considers the likely future transport conditions in the LLDC area and its vicinity and sets out the necessary transport measures required to support the proposed growth within the LLDC area. This considers both the capacity required and the more detailed connectivity measures needed.

It does this through looking at the policy and transport context and previous studies and schemes and proposals identified within those studies.

It then goes on to identify those schemes and proposals that it is recommended are necessary to support future development and should be positively taken forward as part of the Local Plan. Wider schemes that would offer significant benefits and are considered worthy of support but that are not considered necessary to future development are also identified.

2 Purpose and Context

The purpose of this review is to consider through a desktop study the likely future transport conditions in the LLDC area and set out the transport measures required to support the proposed growth within the LLDC area. The assessments in this review build upon: the analysis previously undertaken for the Olympic Legacy Supplementary Planning Guidance Strategic Transport Study (OLSPG); and the subsequent detailed modelling undertaken as part of the Legacy Communities Scheme (LCS) planning process (which itself updated analysis for the Olympics Planning Permissions). The modelling undertaken for the LCS is the most up-to-date assessment of transport conditions and capacity in the context of the scale of development envisaged for the LLDC area and wider east London. The desktop study has concluded that it is not necessary to undertake further modelling work for the LLDC local plan at this stage as the scale of development proposed is broadly similar to that which was assessed previously, and the conclusions of the previous analysis and modelling work therefore remain valid. The assessment also draws upon the various fringe masterplans and their visions for the local area. It should be noted that many of these documents include proposals that are already complete or are being implemented through the Olympics project or its S106 funding.

In summary, the following planning policy documents have been considered in developing this review:

**Olympic Legacy Supplementary Planning Guidance: Strategic Transport Study** (TfL, 2011): This concluded that “The main focus of future interventions will be encouraging mode shift away from cars while still supporting regeneration through enhancing connectivity into the surrounding areas with a particular emphasis on walking and cycling connectivity or public transport only links”

**Stratford Metropolitan Masterplan** (LBN, 2011): This highlighted the need to “successfully deliver significant travel behaviour changes” (to minimise car use) and identifies that “the most urgent need probably lies in physical interventions that address existing barriers and foster connectivity and environment”. The focus is consequently on local connectivity and local access and general measures to minimise car use. This includes improved access from the south-west to Stratford station and, outside the LLDC area, changed traffic arrangements to reduce the impact of traffic in Stratford town centre.
Fish Island Area Action Plan (LBTH, 2012): The particular focus in transport terms is on reducing the barrier effects of the A12 and waterways, with proposals for east-west links (many now part of the Olympics or LCS schemes) and a new north-south link through Fish Island and the creation of an upgraded Hackney Wick station as part of a Hackney Hub.

Hackney Wick Area Action Plan (LBH, 2012): In common with the Fish Island AAP, this focuses on walking and cycling links and the upgrading of Hackney Wick station. It identifies the barrier effect of the A12 and of waterways. Aside from highway works to improve conditions for walking, cycling and public transport, the AAP includes no significant highway improvements and aims to minimise car parking.

Northern Olympic Fringe Area Action Plan Preferred Options (LBWF, 2011): Although most of area covered is outside the LLDC area, this again highlights local connectivity and in this case the barrier effect of railways. In addition to improved/additional walking and cycling links (including additional links to the Olympic Park) it supports restoration of the Hall Farm Curve to facilitate improved rail links and supports upgrading of Leyton Underground station.

The overall conclusions from consideration of these policy documents is that increased development can be accommodated if based upon low car use and other sustainable low transport impact policies.

The key initiatives to support development envisaged by TfL and the GLA and the local boroughs are:

- Addressing the barriers to local connectivity of the A12, waterways and rail infrastructure
- Improving access to local stations
- Maximising walking, cycling and public transport
- Highway improvements limited to site access, connectivity, efficient use of the existing network (particularly for walking and cycling) but no proposals for increasing highway capacity

In addition to the borough and TfL policy reports, two other sources have been drawn upon. These are:

A12 Study: (LTGDC, 2010): The A12 study’s conclusions have been part of the development of the various policy documents. Its focus was also inevitably relatively narrowly drawn on the A12 corridor. However, in relation to overall access, it concludes “The existing and planned highway and public transport networks can reasonably accommodate the levels of development proposed”, “the provision of an enhanced local public transport network (buses) and improved pedestrian and cycle network will be needed” and “A number of regeneration sites will require improved access”.

Recommended measures focused particularly on Sugar House Lane and east of Bromley-by-Bow. Of the top ten interventions proposed, in the LLDC area only Victoria Bridge enhancements have been implemented and Eastway two-way bus operation is planned for completion at the end of 2013. The A12 is also a case study within TfL’s Roads Task Force, which is discussed below.

Legacy Communities Scheme Transport Assessment (OPLC, 2012): As part of the Legacy Communities Scheme planning application (consented in 2012), the transport impacts of
OLSPG levels of development were considered. This involved a sensitivity test of the transport models for OLSPG levels of development. It did not consider the detail of local connectivity or policy issues. The analysis identified increased highway and public transport flows and suggested an appropriate response would be additional local junction measures to optimise their use for higher levels of demand and consideration of local station congestion and further bus capacity enhancements. The assessment provided important modelling inputs to this study but did not include any detail on the appropriate measures needed to accommodate further growth.

The OLSPG and the sensitivity test undertaken as part of the LCS for OLSPG growth include comparable levels of development to that proposed in the LLDC Local Plan. The LCS sensitivity test builds upon the existing Stratford City, Olympics and the LCS permissions. Given these recent studies of broadly similar development scenarios, it has not been considered necessary to undertake further detailed modelling and the outputs from the existing analysis have been used to inform this assessment.

3 Anticipated Growth

The LLDC Local Plan envisages approximately 20,000 new residential units and 930,000m² additional commercial floor space in the LLDC area over the 17 years between 2014 and 2031. The delivery of both types of development is slightly front-loaded, gradually tailing off towards the end of the planning period. This can be seen in Table 1 below.

Table 1: Estimated Net New Residential and Commercial Floorspace within the LLDC area

<table>
<thead>
<tr>
<th>Phase</th>
<th>Residential units</th>
<th>Commercial floorspace (m²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014-16</td>
<td>3,938</td>
<td>187,588</td>
</tr>
<tr>
<td>2017-21</td>
<td>6,062</td>
<td>268,596</td>
</tr>
<tr>
<td>2022-26</td>
<td>6,199</td>
<td>249,753</td>
</tr>
<tr>
<td>2027-31</td>
<td>4,204</td>
<td>225,785</td>
</tr>
<tr>
<td>Total 2014-2031</td>
<td>20,403</td>
<td>931,722</td>
</tr>
</tbody>
</table>

Source: LLDC Infrastructure Delivery Plan, URS Final report, April 2013, Table 2.2.2

This includes almost 20 distinct development areas, most of which combine residential and commercial uses (i.e. mixed use), and cover much of the LLDC area. (Ref LLDC Infrastructure Delivery Plan (IDP), URS Final report April 2013, Table 2.2.1). These include major developments that are already permitted and, indeed, in some instances largely ready for occupation. Most notably the future phases of the Stratford City development represents almost half of the total commercial space and the combination of the Stratford City and Legacy Communities Scheme is approaching half of the residential units.

Estimates suggest that the 20,000 new residential units and 930,000m² additional commercial floor space will translate into just over 48,000 new residents and approximately 37,300 jobs (IDP, URS Final report, Table 2.3.3).

This level of growth and development needs to be set in the context of wider London Plan development in east London that will also place pressure on the transport networks. Newham and Tower Hamlets are the boroughs with the highest London Plan population growth to 2031. Even without such external pressures, population and employment increases of the magnitude envisaged for the LLDC area present significant and, given the setting, somewhat unique infrastructure-related challenges.
4 Transport Capacity, Connectivity and Planned Development Growth

The LLDC area is extremely well-served on the strategic level by long-established highways, railways networks and bus services. Recent Stratford City and Olympics-related transport projects have expanded and improved on what already allowed the area to be justifiably described as extraordinarily accessible (although rail connectivity to the north-west is weaker relative to other directions). Legacy Transformation projects and the introduction of Crossrail will add to the offer.

Development of the OLSPG and LCS assessment involved substantial analysis of the capacity for the local highway and public transport networks to accommodate growth. This is drawn upon in the discussion below.

4.1 Highways

From a strategic highways perspective, the A12, which skirts the north and southwest of the LLDC area, provides very important near motorway-level access from the northeast, linking to the M11, and south including cross-river access to the A2. It also links to central London to the west. The A11/A118 provides a direct route into central London. However, although these provide good connectivity they already experience high levels of use and associated congestion that is expected to worsen into the future. This can be seen in Figures 1 and 2 drawn from the LCS Transport Assessment that shows the extent of the neighbouring highway network that is expected to be at or close to capacity in 2031 with the scale of growth envisaged in the London Plan and in the LLDC Local Plan. These forecasts are based upon development prioritising sustainable modes and limiting car access. This highlights the need to focus movement onto more sustainable modes in the LLDC area.

Locations of particular concern within or adjacent to the LLDC area include:

- the A12 generally;
- Lea interchange with the A12;
- Bow Roundabout;
- the Stratford town centre road network and Stratford High Street (A11/118); and
- northern Chobham Farm/Leyton Road corridor, particularly Major, Chobham and Leyton Roads and Henrietta Street.

While some limited local improvement to address hot-spots may be beneficial, major local highways improvements are unlikely to have substantial benefit given existing capacity constraints on the A12 and broader network capacity issues on all sides of the LLDC area. In any case, current funding constraints mean that, even if policy supported it, investment on large scale road schemes in the short to medium term is likely to be severely constrained (the only significant strategic highway scheme under consideration is for additional river crossings that would have limited impact on the LLDC area, although they would help to improve the resilience of the road network which can be affected by incidents on the existing crossings).

The Roads Task Force (RTF) has been formed as the result of a manifesto commitment made by the Mayor to look at how the road network could better serve local communities, helping to transform the urban realm, cut pollution and ease congestion across the capital. Membership is diverse and includes all key stakeholders. This comprehensive review will enable the Mayor and TfL to make the best possible long term strategic decisions for the competing demands London’s road network faces, while planning for population growth and economic
development. The RTF recognises that a well-functioning city needs a variety of street types that serve different roles and functions. On some types of road the priority will be on the reliable movement of traffic, whereas on others it will be about calming traffic and improving conditions for pedestrians and cyclists and enhancing the quality and sense of place. The A12 was used as a case study. The findings and recommendations of the RTF will be set out in a report to be published in July 2013, which will be accompanied by a TfL delivery plan setting how these recommendations will be taken forward. In relation to the A12, particularly, and other key corridors these recommendations are likely to require further analysis for the Local Plan.

In this context, local interventions are unlikely to have a significant impact. However, with appropriate policies and measures to promote sustainable modes and minimise car use, the OLSPG and LCS analysis concludes that the existing highway network with local optimisation to reflect changes in travel patterns can generally accommodate the levels of development proposed.

**Priorities for improvement are Bow Roundabout/Interchange and the Leyton Road corridor.**

For Bow Roundabout this priority is to ensure that conditions improve for walking and cycling given the high level of severance that the hostile environment presents. For the Leyton Road corridor, this is forecast to become a particular pinchpoint and without action this will create local connectivity problems and, particularly, reduce its attractiveness for local walking and cycling trips in what is essentially a local street.

At a more local highway level, the past severance of the Stratford Rail Lands area will be substantially addressed by the new roads created by or being created by Stratford City, the Olympics Post Games Transformation development and the Legacy Communities Scheme. The limited crossings of the A12 and rail lines remain but are generally improved or upgraded. New or upgraded crossings are provided of the Lea Navigation to the west and the rail lines to the east and south. No new highway links to the north are provided but the existing highway links are replaced. This network provides key access routes into and across the Olympic Park. The area where local access remains difficult is to the south of the LLDC area in the Sugar House Lane and Bow areas, where some bridge proposals have already been identified.

### 4.2 Public Transport

The LLDC area is served by a number of rail stations, conveniently connecting public transport users to countless locations across and beyond Greater London. At Stratford, this includes two Underground lines, various National Rail services, the London Overground and two branches of the DLR. In rail terms, Stratford is one of the best connected locations in London. Through Stratford Regional and International Stations, the LLDC area is connected to central London and the entire east and far southeast of England. In addition, high speed rail services stopping at Stratford International provide fast services into Central London in one direction and Kent in the other.

In addition to Stratford station, the area is served by the London Underground District line at Bromley-by-Bow, the London Overground at Hackney Wick, DLR at Pudding Mill Lane, and the recent Stratford High Street and Stratford International DLR Stations.

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1. The Post Games Transformation is part of the 2007 Olympics Permissions relating to converting the Olympic Park for legacy use, including conversion of the venues and establishment of the Olympic Park highway network, walking and cycling routes.
It is expected that Crossrail, serving Stratford, will be completed in 2018 substantially increasing capacity, particularly to central London as well as opening up new journey opportunities and reducing journey times.

Given both the general policy priority on sustainable modes and the highway congestion in the local and wider area, there is a need and also opportunity to exploit the benefits that this public transport offer and investment provide if the area is to live up to the vision set out for it in adopted planning documents and policies.

Complementing the impressive rail access, a significant number of important bus services, from all points of the compass, converge on Stratford Town Centre, locating the LLDC core at the hub of an extended network of local and sub-regional bus services. These also provide interchange between bus services and the diverse range of rail services. The current bus network will be enhanced through proposals arising from the Stratford City, Olympics and LCS planning permissions and initially funded through S106 contributions. The Olympics Post-Games Transformation will create a new highway network across the Olympic Park enabling new bus services to be provided linking across the LLDC area.

Modelling suggests that the public transport system should provide adequate capacity into the future. The fact that much of the future demand growth is expected to coincide with spare counter-peak direction capacity (for example into the LLDC area from the west in the AM peak) supports the public transport system’s ability to cope with future demands. However, increased crowding is evident at key stations and interchanges (e.g. Bromley-by-Bow). On the local level, several stations suffer from congestion and poor accessibility. Current rail crowding on several routes into central London will worsen in the near future but in due course Crossrail will provide substantial relief. There is also expected to be increased demand for buses in the future.

The LCS TA provided a clear picture of the forecast levels of crowding. This is shown in Figures 3, 4, 5 and 6. Although busy, the network is generally operating within capacity. This analysis does, however, include Crossrail and the overall rail capacity will be more constrained until this opens in 2018. Nonetheless the LCS analysis suggests that there will be capacity for further growth over-and-above the LCS and other committed development.

However, despite the overall capacity available and the excellent strategic-level movement offer, the public transport focus is primarily upon Stratford and local access and connectivity consequently varies across the LLDC area — especially as one moves away from Stratford Town Centre and existing bus and rail corridors towards the western, northern and southern boundaries of the LLDC area where the land uses may require greater road based access. The bus service improvements and the improved walking environment arising from recent planning approvals substantially improves upon previous access but the differences remain. Public Transport Accessibility (PTAL) levels within the LLDC area clearly illustrate this point. Although generally at or better than 3 for most of the LLDC area, the PTALs vary between a high 6b around Stratford Station to a relatively poor 2 at a number of locations. This is shown in Figure 7.

Despite improvements in local connectivity and improved bus services funded through the Olympics, Stratford City and LCS S106, PTALs drop significantly away from main transport hubs and bus corridors and particularly where pedestrian links are poor or missing, which can make access to public transport circuitous. Consequently, it is important that local connectivity maximises access opportunities to the public transport network and, particularly, makes public transport an attractive option.
In addition to existing and committed public transport schemes, a number of strategic transport projects in the wider area may affect access to the LLDC area. These include:

**Eurostar services stopping at Stratford International**: This would connect Stratford directly to Europe.

**Crossrail 2**: Depending upon alignment this could improve access to the western edge of the LLDC area.

**DLR Twin Tracking and 3-Car Operation**: These would increase capacity on the Poplar DLR branch serving Stratford and Pudding Mill Lane.

**Hall Farm Curve**: Restoration of the Hall Farm curve and rail services into Stratford could increase connectivity to the North-East.

**West Anglia Main Line upgrade**: This would increase capacity and connectivity to the Cambridge / Stansted corridor.

However, although all of these projects would improve access to the LLDC area, the purposes and primary beneficiaries relate to London or indeed regional transport challenges and opportunities. Their absence does not fundamentally undermine the connectivity of the LLDC area.

### 4.3 Walking and Cycling

The area has in the past been very difficult and unattractive to cross by pedestrians and cyclists. However, the Olympics Post Games Transformation creates a walking and cycling network that potentially binds the area together and into the surrounding areas. Nonetheless there remain significant gaps and barriers to movement due to the major road, rail and waterways crossing and surrounding the area as discussed below. In addition, a number of the existing links present a relatively hostile environment or include relatively inconvenient elements.

Addressing the gaps and ensuring routes are attractive and considered secure should be a key priority. Research by TfL has highlighted that many trips are within easy walking or cycling distance and the substantial opportunities to increase walking and cycling, reducing pressure on both roads and public transport through provision of high quality, secure routes and facilities.

### 4.4 Remaining Barriers to Movement

Although Legacy highways, bus service proposals and new walking and cycling routes will open up the old rail lands, simple comparison of the highways networks for the “new” and “old” areas of Stratford reveals significantly different levels of grain. While the coarser grain of the LLDC area presents development and local road configuration opportunities that old Stratford no longer offers, the coarser grained movement networks over much of the LLDC area are less permeable and openly connected to neighbouring areas, potentially limiting travel options.

These access barriers are often associated with the major infrastructure that crosses or surrounds the LLDC area. Railway and waterway barriers, particularly in the extreme north-western, south-western and eastern areas, aggravate matters. Further, the A12 generally presents an additional barrier on the western and northern boundaries of the LLDC, severing it from its western and northern neighbours.

The permeability problem is particularly pronounced in three areas.

**Crossings of the Lea Navigation**: An existing issue, but the Olympics Post-Games Transformation, Olympics S106 schemes and, in due course, LCS will address this with new crossings for multi-mode use, improved bus access and dedicated walking/cycle links.
**Bow and Sugar House Lane:** The extreme southwest of the study area, where the existing bridges linking Three Mills to Sugar House Lane and eastern Bromley by Bow are not available for general traffic use and, as a result, not as useful to the locality as they could be. The opening of these bridges to general traffic (especially buses) and addition of new crossings would substantially improve the permeability of the Sugar House Lane, Three Mills and eastern Bromley-by-Bow vicinities. Improved access across the A12 would make walking, cycling and public transport more attractive. Equally, better access to link Sugar House Lane to Marshgate Lane north of the A118 would improve connectivity.

**Hackney Wick/Fish Island:** The Hertford Union canal presents a significant barrier to north-south walking and cycling links through Fish Island and the routes that do exist are unattractive for walking and cycle access. This is a particular barrier to gaining access to Hackney Wick station to the north.

Available analysis focuses on relatively distant time horizons and assumes that a number of significant transport investments are in place. Perhaps more fundamentally, the forecasts depend upon sustainable modes being attractive, accessible and supported by appropriate policy instruments. Simply speaking, a full range of interventions – transport and land use in nature – are needed if planned development is to be adequately catered for in terms of its movement and access needs. Such interventions range between:

- proactive efforts to maximise walking, cycling and public transport use with comprehensive and attractive networks;
- rail station capacity and accessibility improvements;
- ensuring sufficient bus infrastructure and capacity;
- more efficient and effective highway traffic management and localised highway improvements (to relieve bottlenecks); and
- land development policies and planning, design and approval processes that foster more efficient and sustainable travel choices and behaviours and limit car use.

Some of the movement and access issues require relatively modest investment. Others involve more substantial expense and the mobilisation, involvement and support of parties beyond those immediately associated with or directly responsible for the LLDC area. Further, certain issues can only be settled through ongoing planning and design work.

### 5 Movement & Access Options

Numerous development and transport-related planning exercises have been undertaken encompassing the LLDC area over recent years, both in advance of and anticipating the Olympics and Legacy initiatives as well as before and effectively independent of them. All of this planning has come to a head in the series of planning documents discussed in Section 2, perhaps the most significant of which is the OLSPG and its associated Strategic Transport Study.

While the OLSPG addresses a larger area than the LLDC area, it brings together the relevant findings of recent studies addressing the area and its immediate context and identifies key measures to improve transport links and meet development needs. As discussed in Section 2, the priorities of the various planning documents is consistent.

Local schemes include:

- improved stations and their access;
new and improved pedestrian and cycling links across the A12 and other physical barriers, particularly on the western, northern and northeast boundaries of the LLDC area;

- better bus connections;
- exploitation of existing linkages and assets such as the waterways; and
- re-balanced highways environments in certain important locations in the interests of improved public realm and/or pedestrian and cycling.

Certain schemes fall outside but close to the LLDC boundary. They are considered relevant to the LLDC Local Plan because they are important to movement into, out of and through the LLDC area.

The following sections of this review consider the measures that are considered necessary to support development under the headings of:

- Highways;
- Public Transport;
- Walking & Cycling; and
- Waterways.

Several schemes elude simple categorisation as purely highways, public transport or walking and cycling in nature. Accordingly, they are allocated to the most natural heading, and their broader implications and benefits for other travel modes discussed.

As already acknowledged, certain schemes fall outside but close to the LLDC boundary, but are considered important to movement into, out of and through LLDC.

These sections are following by:

- A Connectivity section summarising how proposed improvements address and improve existing connectivity generally, particularly given planned development.
- A section on Policy, Travel Management & Planning.

The following provides a list of schemes that the LLDC considers not only to reflect the blend of interventions necessary in the short to medium terms, but also the list of schemes which are considered essential and realistic to produce a “minimum” movement and access network for planned development and which is deliverable within the planning timeframe. These are shown in Figure 8, marked by the relevant scheme reference.

6 Highways

As discussed above, it is not considered necessary or appropriate to provide significant new capacity on the highway network. There are limited requirements, or, indeed, realistic opportunities to improve overall highway capacity and movement. The highways improvements proposed are a combination of the creation of new linkages to address poor connectivity and the specific bottleneck along the eastern edge of the LLDC area. The localised network interventions proposed are important because they will address the existing gaps or significantly improve pedestrian and cyclist amenity. Although they do not offer strategic-level capacity improvements, they address local bottlenecks or corridors that deserve more balanced attention (e.g. in favour of pedestrians, cyclists and adjacent development).

Stratford City and Post Games Transformation are providing a new core highways network across the Park. This new network is the starting point for this review. This will be enhanced as
the LCS development progresses, including the new L03 link between the North and South Parks, a re-aligned southern loop road and re-alignment of Marshgate Lane (that also creates improved walking and cycling routes along Pudding Mill Lane).

Highways schemes recommended in this review for inclusion in the Local Plan are:

- **Leyton Road Corridor improvements** (Ref H1): highway improvements in the Chobham Farm area along the eastern edge of the LLDC area. Junctions on the Leyton Ladder are expected to come under increasing pressures as development proceeds as can be seen in Figures 1 and 2. Accordingly, a corridor approach to ensure all users are able to use this route is needed. This could include junction upgrades at a number of locations but will need to ensure walking and cycling are attractive options including public realm improvements as necessary.

- **Sugar House Lane to Marshgate Lane link** (Ref H2): an all mode access off Stratford High Street into Sugar House Lane together with a direct link across the A118 between Sugar House Lane and Marshgate Lane from the all mode access off Stratford High Street into Sugar House Lane. This requires a new route through developments on either side of, together with a new bridge across, the Bow Back River. This creates improved bus access but would also help bind together the LLDC area creating better local links.

- **Monier Road link to Olympic Park** (Ref H3): additional access routes to reduce the severance effect of the Lee navigation are proposed. As part of the LCS scheme a new all mode crossing from Monier Road into the Olympic Park is to be provided (this complements the recent upgrade to White Post Lane bridge to accommodate double deck buses).

Recommended highways-related schemes affecting but aimed at road users other than vehicles, include:

- **Access to and Across Sugar House Lane** (Ref H4): Access in the south-west of the LLDC area is restricted by the barriers of waterways preventing through routes for buses, pedestrian and cyclists. A new bus, walking and cycling connection between Bromley-by-Bow and Sugar House Lane is proposed to facilitate a new direct bus route between Bromley-by-Bow and Stratford High Street via Sugar House Lane.

- **Bow Interchange** (Ref H5): Bow roundabout is a significant barrier to attractive walking and cycling routes east-west from the LLDC area. Improvements at Bow roundabout are needed to improve east-west pedestrian connectivity and cycling use and safety. The scheme will have to carefully balance improved pedestrian and cycling with the strategic access function of Bow interchange.

- **Eastway Bridge bus link** (Ref H6): A scheme to provide for two-way bus operation is currently being implemented through OPTEMS\(^2\) funding, which will significantly enhance the options for buses to serve the LLDC area.

- **Bromley-by-Bow to Three Mills Access** (Ref H7): Access into the Three Mills area from west of the A12 and the A12 itself is poor and unattractive. A new all-movements junction would improve access and connectivity and incorporate improved and at-grade pedestrian and cycling links. A scheme was agreed as part of redevelopment proposals to the east of the A12, but if new proposals were brought

\(^2\) OPTEMS: The Olympic Park Transport and Environmental Management Scheme is a process established to determine mitigation measures for the 2007 Olympics permissions using S106 funding of some £20m.
forward this scheme would need to be reviewed. Alongside this, improved pedestrian access across the A12 from Bromley-by-Bow to Three Mills is envisaged.

- If the **Bow Eastern Rail Yard** (Ref H8) were to change use then there would need to be improved general highway and walk/cycle access from the west (Pedestrian access is identified in W15 below).

Newham has proposed two schemes for Stratford High Street (and Cycle Superhighway 2 will involve the redesign of elements of Stratford High Street). The schemes are:

the narrowing of Stratford High Street to the northeast of Warton Road; and

the downscaling of the Warton Road junction to improve pedestrian amenity and public realm and reduce the severance associated with Stratford High Street.

Both of these schemes are likely to depend on proposals to re-introduce two-way operations around Stratford town centre to improve the general environment and make it more attractive for all users. While this, and the proposals to re-introduce two-way operations are broadly supported, these are not considered necessary to the delivery of the Local Plan proposals.

While recognising that increased highway capacity is not appropriate, it is important to make the best use possible of available capacity – recognising the competing claims upon its use. State-of-the-art traffic management measures are already being used, including SCOOT funded partly through the Olympics S106, to ensure more efficient transport system operation. This strategy needs to continue to be applied (e.g. Intelligent Transport Systems – ITS - generally as well as measures being used in the Mayor’s Traffic Smoothing program or from the Roads Task Force) and will help optimise the use of available capacity, including providing a safe and attractive walking and cycling environment.

Measures to minimise car use generally are also needed. The levels of congestion on the strategic and local highway mean that development needs to focus upon sustainable modes and restraint of vehicle use. This needs to include enhanced sustainable mode access and active promotion, limiting car parking, promoting car clubs, car sharing and taxi facilities. Similarly measures will be needed to limit the impact of traffic through traffic management to favour pedestrians and cyclists. These policy requirements are addressed in Section 11 below.

## 7 Public Transport

The analysis discussed above and presented in the OLSPG and LCS Transport Assessment shows that the planned overall public transport network generally has sufficient capacity to accommodate additional development. A number of major public transport improvements have or will become available in the short to medium term as a result of the Olympics, TfL’s Business Plan and Network Rail’s HLOS programme. They include a number of London Underground upgrades and bus improvements and most fundamentally Crossrail in 2018. The access and connectivity benefits of both recent and imminent public transport improvements are significant, but they need to be maximised by minimising any barriers to use. For example, stations need to be as accessible as possible from their immediate surroundings and access routes need to be attractive and secure.

The LLDC local plan should support the TfL and Network Rail programmes but these have much wider benefits than those for the LLDC area, including in the longer term Crossrail 2. Nonetheless, these should be supported by the LLDC Local Plan although they are not necessary for development. It is useful to note the improvements that could potentially come forward in the medium term:
- **3 car services on the DLR**: The Stratford to Canary Wharf DLR line has a limited ability to carry additional passenger demands and procurement of additional rail cars will allow 3-car services and increased capacity. DLR modelling suggests that there will be crowding on the Stratford International to Canning Town route and that capacity enhancement, possibly through 3-car operation, may be needed from around 2015/16.

- **DLR Poplar branch twin-tracking**: Increased train frequencies on the Poplar branch is also likely to be required which requires the section between Bow Church and Stratford to be double-tracked. This is not currently funded but can be delivered in phases. This would take advantage of the opportunity of Crossrail works and land secured as part of the LCS proposals, but to be complete would require further agreements with some landowners along the route and it is likely that demolitions would be necessary.

- **Central Line Upgrade**: The Central line currently operates a morning peak frequency of 30 trains per hour westbound and 27 trains per hour eastbound for a short period of time. A power upgrade would allow 30 trains per hour in both directions for a sustained period of 2.5 hours during the morning peak. Increasing the frequency of eastbound services will improve service reliability and also reduce wait times for people taking eastbound morning peak journeys.

In relation to the development needs of the LLDC area, there are a number of important public transport initiatives that are needed. These focus on easing local constraints, improving local access and the key objective of ensuring public transport options are as attractive as possible.

The public transport proposals that are recommended in this review for inclusion in the Local Plan as necessary to support development are:

- **Hackney Wick station upgrade** (Ref PT1): the existing access to Hackney Wick is unattractive, offers poor accessibility and is inconvenient for many users. A major upgrade has been identified offering more direct access, removing pinch-points and creating full DDA access to the station.

- **Stratford Regional South-west Station Access** (Ref PT2): Access to Stratford station from the south-west is inconvenient and unlikely to promote high public transport use for this area. Options are being developed to improve access with a new south-west entrance, which would dramatically improve accessibility and promote greater use.

- **Bromley-by-Bow station upgrade** (Ref PT3): Current congestion problems at Bromley-by-Bow reduces the station’s attractiveness or suitability for increased use. This will become an increasing issue as development levels increase and an upgrade is proposed – and has already been substantially designed.

There are wider public transport issues that concern wider stakeholders and LLDC should support, but these are not considered necessary to support development. These include:

- **Leyton station upgrade**: Leyton Underground station suffers significant congestion and there is a clear case for action to address current and forecast constraints and crowding. However, the station has a very limited role in supporting development within the LLDC area.

- **North-west transport links**: A number of schemes have been considered to improve rail access to Stratford from the north-west. A new station at Lea Bridge Road is
currently being pursued through STIG\textsuperscript{3} and DfT funding. Although further improvements may be possible, including restoration of the Hall Farm Curve, the principal beneficiaries would be those travellers seeking to make journeys through Stratford rather than to/from the LLDC area. While such improvements would offer benefits to the LLDC area, they are not considered necessary to support LLDC development. However, better rail links to the north should be supported in policy terms, so that residents of those areas have better access to the jobs and facilities in the new metropolitan centre at Stratford.

Highway measures already identified above that particularly support public transport include: a new bus, walking and cycling connection between Bromley-by-Bow and Sugar House Lane; an all mode access off Stratford High Street into Sugar House Lane and into Marshgate Lane; and two way bus operation of Eastway.

Alongside infrastructure improvements, a number of improvements to bus services are needed and are provided for within existing S106 agreements from the Stratford City, Olympics, LCS and Sugar House Lane planning permissions. These will provide for the extension of existing bus routes across the northern LLDC area.

**Bus Service Improvements** (Ref PT4): As further development comes forward the capacity of the bus network and, potentially, the need for additional links and capacity to meet likely demands will need to be kept under review.

At a relatively local level, proposals for the provision of escalators at Pudding Mill Lane DLR Station would be a welcome initiative but are not considered necessary to support LLDC development.

The area will also need to have appropriate facilities for taxis (and private hire) and coaches. In addition to taxi provision alongside key nodes such as stations, facilities such as venues, major employment locations and schools will need to provide appropriate facilities as part of their developments. In relation to coaches a coordinated approach across venues is required through Conditions on the Olympics and subsequent Venue planning permissions.

8 Walking and Cycling

The walking and cycling measures being established as part of Post Games Transformation will provide a step-change in provision over the previous situation across the Olympic Park. These build upon Stratford City measures and the LCS proposals further develop on this provision.

Alongside this the STIG and OPTEMS programmes have developed a range of pedestrian and cycling initiatives to link to the wider local area.

In relation to cycling, the Cycle Superhighway 2 is being extended to Stratford from Central London along Stratford High Street. In addition, Barclays cycle hire has been introduced in Tower Hamlets and land has been safeguarded within the LCS scheme and as part of other LLDC area developments.

There is recent policy guidance included in the Mayor’s Vision for Cycling in London document. This provides increased budgets for cycling and includes four key outcomes, namely: a tube network for the bike; safer streets for the bike; more people travelling by bike; and better places for everyone. The document notes that the existing planning approvals for the Olympic

\textsuperscript{3} STIG: The Stratford Transport Integration Group is a process established to determine mitigation measures for the Stratford City planning permissions using S106 funding.
Park contained insufficient provision for cycling and the intention to improve such new schemes, which has been applied to the planning application for Waterden Road within the Olympic Park.

In addition to the internal Stratford City and Olympic Park networks, key improvements necessary to support development that are recommended for inclusion in the Local Plan are:

**Eastern Boundary:**

- **Leyton Road corridor improvements** (Ref W1): Pedestrian and cycling-related highways improvements in the Chobham Farm/Leyton Road Area (directly related to the highway improvements mentioned in Section 6) to establish an effective all-mode north-south movement corridor

**A12 Corridor**

Further efforts to improve pedestrian and cycle links across the A12, including:

- **Wallis Road Footbridge and Cycle Link** (Ref W2): Further improvements to the pedestrian/cycle connection over the A12 between Wallis Road and Cadogan Terrace
- **Wansbeck Road** (Ref W3): Improvements to the pedestrian and cycling environment on Wansbeck Road and at the junction with Rothbury Road
- **Bow Interchange** (Ref W4): Improved cycle and pedestrian facilities at Bow Interchange linked to the highway measures outlined above
- **Links that are being progressed through OPTEMS funding**, including: provision of improved cycling and pedestrian facilities at the **A12/Tredegar Road/Wick Lane junction** (Ref W5); the upgrade of the existing **Crown Close Footbridge and cycle link** (Ref W6) over the A12; and **Linking Dace Road to the Greenway** (Ref W7) and Old Ford Lock.

**Lea Navigation**

Improved north-south pedestrian and cycle connections on both sides of the River Lea to better link Queen Elizabeth Olympic Park to Hackney Marshes to the north and Three Mills and beyond to the south

- **Eastway to Mabley Green towpath** (Ref W8): An improved pedestrian and cycle link under the A12
- **Lee Navigation Western towpath** (Ref W9): Continuous public access to both banks of Lee Navigation, particularly the western bank
- **Stour Road to Olympic Park bridge** (Ref W10): The introduction of a new bridge over the Lea Navigation linking Stour Road to the Olympic Park
- **Old Ford Lock** (Ref W11): The upgrade of the Lea crossing
- **Fatwalk**: Improved links over the River Lea south of Bromley-by-Bow to ensure north-south continuity of the Fatwalk, including works to create a Twelvetrees Bridge link (Ref W12) and at Sugar House Lane (Ref W13)

**Fish Island**

- **North-South Fish Island Link** (Ref W14): A new link between Fish Island North and Fish Island Mid to provide a more direct route between the hub at Hackney Wick and Fish Island Mid, including enhanced crossings over the Hertford Union Canal.
This needs to be supported by environmental upgrades to the approaches to Hackney Wick station.

**South-west Connections**

- **Links to Bow Midland East rail yard** (Ref W15): Dependent on the future of Bow Midland East rail yard in Newham, new connection across the River Lea at Autumn Street or Riverside Wharf linked to the highway access (H8) discussed above

- **Pudding Mill Lane walking and cycle link** (Ref W16): The re-alignment of Marshgate Lane within Pudding Mill Lane area to include a new pedestrian and cycle link along the alignment of Pudding Mill Lane up to the DLR station

**Sugar House Lane**

- **Bow to Sugar House Lane link** (Ref W17): A new pedestrian/cycle bridge link between Hunts Lane in Sugar House Lane and the portion of Bromley-by-Bow immediately opposite (a local link with broader local connectivity implications – the northern portion of the section of Bromley-by-Bow to the east of the A12 is particularly isolated)

- **Bisson Street to Sugar House Lane link** (Ref W18): A pedestrian/cycle link between the Bisson Street and Sugar House Lane areas (part of the Southern Parallel proposed in the Stratford Metropolitan Masterplan)

**Access to Stratford**

- **Carpenters area and Stratford Town Centre** (Ref W19): Improved pedestrian and cycle connections, including upgrading or replacing the Jupp Road footbridge

**Barclays Cycle Hire** (Ref C1): The scheme is tantalisingly close to the LLDC area, and the LCS scheme is making provision for its potential extension. As part of the Local Plan this intent needs to be translated into provision across the LLDC area.

The extent to which many of the above can be successfully pursued varies. Continued improvements, however, are important to connect the LLDC area effectively to its immediate neighbours and provide internal pedestrian and cycling connections.

**Signing and Wayfinding** (Ref W20): To support this programme of individual interventions, a broader signing and way-finding strategy needs to be implemented across the LLDC area building upon Legible London schemes and principles already being brought forward for Olympic Fringe areas. This should be part of a general programme to improve the public realm and maximise the willingness of residents and visitors to use sustainable modes.

**9 Waterways**

One of the unique features of the LLDC area is the recently re-vitalised canal and waterways network threading through the area. It offers significant opportunities of both a development delivery and development operations nature.

Substantial construction is expected over the planning period, much of which will be in areas immediately adjacent or extremely close to navigable waterways. The transport of construction materials into and removal of construction spoil out of development sites by barge needs to be maximised.

In so far as waterways provide attractive recreational and residential environments, they also offer the opportunity to improve the general permeability of the area by providing continuous
walk and cycle links and, when occupied, pure human presence (important to personal safety and the perceived attractiveness of a walking and cycling route.

Although specific proposals are not included for improved water transport, it will be important to consider opportunities for use for construction, freight/waste and passenger services. These should be promoted and supported.

10 Connectivity

The OLSPG acknowledges the fundamental importance of improved transport and connectivity to the successful delivery of planned growth in the OLSPG area in its third overarching development principle:

Connectivity and transport: To ensure that existing and new communities across the OLSPG area are linked by a network of strategic and more fine-grained local connections, to use the area’s public transport infrastructure to achieve a lasting shift to more sustainable forms of transport and movement such as walking and cycling, and to minimise adverse impacts on the capacity and operation of the area’s public transport and highway networks.

As already discussed above, local connectivity is vital and a key priority and some areas of the LLDC area are much less accessible than others. Parts of Fish Island and Hackney Wick in the northwestern part and Three Mills and Sugar House Lane in the southwestern part of the LLDC area have low levels of public transport accessibility compared to the wider area. Further, they suffer poor levels of connectivity – pedestrian, cycling and vehicular – with their immediate neighbours. Ironically, it is movement elements like rivers and canals, rail corridors and roads that present the greatest barriers to movement, particularly cycle and pedestrian movement. The A12 is a particular barrier to movement, severing the LLDC area from its neighbours to the west and north and a number of the schemes already outlined will help to reduce this barrier. The main east-west rail corridor cuts the LLDC area in half, as does, but to a lesser degree, the wide and relatively high speed Stratford High Street.

Almost all of the schemes proposed support further improvements to the LLDC area’s excellent connections, particularly its public transport connections, by making the area more permeable on the local level and better connected strategically. In doing this, they also foster walking, cycling and public transport use, thereby reducing car use and dependency and, potentially, avoiding ever increasing highways demands.

Significantly, the proposed schemes also promote and respect relevant local, regional and national policies and objectives concerning movement and access.

11 Policy, Travel Management & Planning

Notwithstanding recent and future transport infrastructure investment and provision, forecast travel demands are such as will place substantial pressures on both available and improved highway networks. Indeed, analysis clearly shows that the LLDC area’s transport system can only realistically expect to cope with forecast increases in travel demand if an ambitious and sustainable movement strategy is adopted which secures consistently higher public transport use and walking and cycling over time and increasingly judicious and efficient trip-making generally. Wholesale highway network upgrades are not feasible given broader network capacities and highway environment aspirations for all users.

A successful movement strategy will be multi-pronged and prioritised in nature, including both hard and soft measures in a holistic and coordinated manner. Significantly, it must successfully deliver significant travel behaviour changes. The ‘clean slate’ offered by the brownfield status of much of the LLDC area presents obvious opportunities in this regard, because land parcel
arrangements and development options can be geared to sustainable outcomes. However, the railway, roadway and waterway barriers that criss-cross these same areas, on the other hand, will work against fully open and permeable development arrangements and would, without the programme of interventions outlined above, present significant challenges to the achievement of real and lasting travel behaviour changes. Accordingly, this is an urgent need for the interventions that address existing barriers and foster the connectivity and environment essential if desired sustainable development is to be deliverable. This review sets out those requirements in Sections 6 to 9 above.

Infrastructure interventions, however, must be accompanied by effective and sustainable transport and land-use plans - especially for an area within a large conurbation like London - with supportive policy and smarter travel initiatives aimed at effecting significant travel choice and behaviour changes.

Land Use policies should be actively used to minimise car use and encourage walking, cycling or public transport. To encourage minimum transport impacts, development needs to encourage the maximum local trip-making, particularly encompassing mixed use development. Higher density development needs to link closely to the most accessible public transport nodes.

Measures should also be taken to promote local employment oriented towards residential areas that are local or to the east of the OLSPG area (for example, by considering the phasing of development to ensure that when homes are built there are jobs available in the local area and also ensuring that the skill requirements for the jobs in the area match the skills of the local residents).

Critically, parking standards should support the need to minimise vehicle use and should be used for all vehicles and purposes (residential, commercial and events) and consider not only the impact of new but also existing development. Indeed, car free or low car developments should be considered where appropriate and particularly in areas with good walking, cycling and public transport access (i.e. high PTALs).

To complement the infrastructure improvements and supportive development plans, a Travel Plan approach is needed that will increase public transport usage, walking and cycling, reduce private car usage, reduce inappropriate car parking, improve health and wellbeing, increase road safety and reduce traffic congestion. The approach should require all developments to implement effective travel plans that would include:

- introducing measures that actively promote walking and cycling and public transport use (cycle parking, travel and wayfinding information, etc.);
- promoting sustainable car use through initiatives like car sharing and car clubs;
- providing a greater smarter choice offer (alternative employment hours, ridesharing, information, etc.);
- transport provision for mobility impaired users;
- active planning of freight and deliveries into and out of the LLDC area generally and particular specific development sites more specifically; and
- site and land-use specific travel plans.

This approach needs to be applied to all development and to both construction and operation phases. The Local Plan predicts that there will be around 11,000 additional children in the LLDC area. Excessive travel to school by car has the potential to seriously aggravate AM peak traffic
conditions and therefore, school travel planning is particularly important to encourage low car mode share for these trips.

12 Conclusions

This review identifies a range of transport projects and initiatives to improve transport and connectivity into, out of and within the LLDC area. These projects are fundamental to the successful delivery of planned growth. However, further work will be required in the case of almost all the schemes before they can be actually delivered, particularly given uncertainties concerning redevelopment plans and options. That they are needed is beyond debate. When they are delivered and what they finally look like, however, still needs to be confirmed.

The primary focus should be on improving local connectivity and access, including to public transport nodes. Based upon previous analysis and modelling, it is considered that the wider strategic network will have the capacity and capability to support the planned development in the LLDC area. There are nonetheless a number of more strategic schemes that should be supported but these are not critical to successful development.

The local links proposed are a mixture of: local access links to address gaps or connectivity concerns (particularly for public transport); improvements to local public transport access; and a range of walking and cycling improvements that also complement and link to existing and imminent strategic public transport.

Alongside these schemes a supportive policy and planning framework will be necessary that, particularly, focuses on locating high trip generating development near to good public transport, limiting car parking and use and on travel plans to promote sustainable travel choices.

Table 2 below summarises the proposals set out above that are recommended for inclusion in the Local Plan and are considered necessary to support development across the LLDC area. The table includes indicative costs, comments – including scheme status - and potential funding sources. For many interventions, the detailed scope needs to be established together with indicative costs. Figure 8 identifies the broad location of each recommended intervention across the LLDC area.
## Table 2: Summary of Scheme Proposals

<table>
<thead>
<tr>
<th>Reference</th>
<th>Scheme</th>
<th>Estimated Costs</th>
<th>Comments and Potential Funding Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>Leyton Road Corridor improvements</td>
<td>£2.5m - £5m</td>
<td>Requires holistic approach for all modes, potential contributions exist from LCS and Chobham Farm S106 and potentially from Stratford City STIG funding</td>
</tr>
<tr>
<td>H2</td>
<td>Sugar House Lane to Marshgate Lane link</td>
<td>£3.5m included in IDP from SMM</td>
<td>Sugar House Lane S106 understood to include £2.65m Potential S106 from Marshgate Lane developers (but certainly land provision) Stratford High Street development provided land for route Likely remaining funding gap</td>
</tr>
<tr>
<td>H3</td>
<td>Monier Road link to Olympic Park – upgrade to highway link</td>
<td>n/a</td>
<td>Part of LCS planning permission and Conditions</td>
</tr>
<tr>
<td>H4</td>
<td>Access to and Across Sugar House Lane from west</td>
<td>No estimate, but likely to be circa £2.5m assuming free land</td>
<td>Potential SHL S106 Potential S106 contribution from future developer to west</td>
</tr>
<tr>
<td>H5</td>
<td>Bow Interchange</td>
<td>£1.5m to £5m for basic scheme</td>
<td>Funding of circa £400k available through OPTEMS S106, with TfL commitment to top-up for short-term scheme No other identified funders</td>
</tr>
<tr>
<td>H6</td>
<td>Eastway Bridge bus link</td>
<td>£1m</td>
<td>Fully funded through OPTEMS and STIG S106, planned completion December 2013</td>
</tr>
<tr>
<td>H7</td>
<td>Bromley-by-Bow to A12 access improvements together with pedestrian access Bromley by Bow to Three Mills</td>
<td>£5m in IDP (but inclusion of pedestrian links unclear)</td>
<td>IDP notes Tesco S106 fully funds if it progresses</td>
</tr>
<tr>
<td>H8</td>
<td>Bow Eastern Rail Yard access</td>
<td>No estimate, but likely to be circa £2.5m assuming free land</td>
<td>Should be funded as part of core access needs of any new development, but land access to create land may be an issue</td>
</tr>
<tr>
<td>PT1</td>
<td>Hackney Wick station upgrade</td>
<td>£10m</td>
<td>Funding of £1.25m from OPTEMS and £4m from LCS Potential S106 or land values from other neighbouring schemes TfL and Network Rail</td>
</tr>
<tr>
<td>PT2</td>
<td>Stratford Regional South-west Station Access</td>
<td>£5m (in IDP) – potential £2m for station entrance and £2m-£5m for pedestrian route to Stratford (see W19)</td>
<td>Scheme feasibility funding from LLDC (from LTGDC funds) plus £200k from LCS Potential Carpenters Estate S106</td>
</tr>
<tr>
<td>PT3</td>
<td>Bromley-by-Bow station upgrade</td>
<td>£9m in IDP</td>
<td>IDP identifies St Andrews S106 £3.5m Bromley by Bow North S106 £0.7m Sunflour Mill S106 £75k No further identified funders</td>
</tr>
<tr>
<td>PT4</td>
<td>Bus Service Improvements</td>
<td>Not known beyond current S106 commitments</td>
<td>Initial funding provided through Stratford City, Olympics and LCS permissions</td>
</tr>
<tr>
<td>Reference</td>
<td>Scheme</td>
<td>Estimated Costs</td>
<td>Comments and Potential Funding Sources</td>
</tr>
<tr>
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</tr>
<tr>
<td>W1</td>
<td>Leyton Road corridor improvements</td>
<td>See H1</td>
<td>Requires holistic approach for all modes, potential contributions exist from LCS (and Chobham Farm) S106 and STIG</td>
</tr>
<tr>
<td>W2</td>
<td>Wallis Road Footbridge and Cycle Link</td>
<td>Not known</td>
<td>Further scope requirements unclear.</td>
</tr>
<tr>
<td>W3</td>
<td>Wansbeck Road</td>
<td>£250k in IDP</td>
<td>Scope and priority unclear but should seek funding from Fish Island developments that link to Hackney Wick</td>
</tr>
<tr>
<td>W4</td>
<td>Bow Interchange</td>
<td>See H5</td>
<td>Funding of circa £400k available through OPTEMS S106</td>
</tr>
<tr>
<td>W5</td>
<td>A12/Tredegar Road/Wick Lane junction</td>
<td>Not known</td>
<td>OPTEMS funded</td>
</tr>
<tr>
<td>W6</td>
<td>Crown Close Footbridge and cycle link</td>
<td>Not known</td>
<td>Further scope requirements unclear.</td>
</tr>
<tr>
<td>W7</td>
<td>Linking Dace Road to Greenway</td>
<td>Not known</td>
<td>Funded through OPTEMS. No identified funds for any further works</td>
</tr>
<tr>
<td>W8</td>
<td>Eastway to Mably Green towpath</td>
<td>– potentially circa £250k</td>
<td>Scope unclear No identified funders</td>
</tr>
<tr>
<td>W9</td>
<td>Lee Navigation Western towpath</td>
<td>Given barriers of property, potential high cost for limited benefit</td>
<td>Scope (or deliverability) unclear No identified funders</td>
</tr>
<tr>
<td>W10</td>
<td>Stour Road to Olympic Park bridge</td>
<td>N/A</td>
<td>Part of LCS planning permission and Conditions</td>
</tr>
<tr>
<td>W11</td>
<td>Old Ford Lock</td>
<td>£232k in IDP</td>
<td>Scope needs clarification. No identified funders</td>
</tr>
<tr>
<td>W12</td>
<td>Fatwalk Twelvetrees Bridge link</td>
<td>IDP indicates Fatwalk total allocation at £1.1m</td>
<td>No identified funders</td>
</tr>
<tr>
<td>W13</td>
<td>Fatwalk at Sugar House Lane</td>
<td>As for W12</td>
<td>As for W12</td>
</tr>
<tr>
<td>W14</td>
<td>North-South Fish Island Link</td>
<td>Likely to be circa £1.5m assuming all land access free</td>
<td>Future Fish Island and Hackney Wick S106s</td>
</tr>
<tr>
<td>W15</td>
<td>Links to Bow Midland East rail yard</td>
<td>See H8</td>
<td>Should be funded as part of core access needs?</td>
</tr>
<tr>
<td>W16</td>
<td>Pudding Mill Lane walking and cycle link</td>
<td>N/A</td>
<td>Part of LCS planning permission</td>
</tr>
<tr>
<td>W17</td>
<td>Bow to Sugar House Lane link</td>
<td>Potential part of H4, but as addition likely cost circa £1m plus land access</td>
<td>Potential SHL S106 No identified funders</td>
</tr>
<tr>
<td>W18</td>
<td>Bisson Street to Sugar House Lane link</td>
<td>£0.7m in IDP, but land access needs assessing</td>
<td>Potential SHL S106 No identified funders</td>
</tr>
<tr>
<td>W19</td>
<td>Carpenters area and Stratford Town Centre link</td>
<td>£0.8m in IDP Full solution likely to be circa £5m</td>
<td>Part of feasibility study into Stratford station SW access Potential Carpenters Estate redevelopment S106.</td>
</tr>
<tr>
<td>Reference</td>
<td>Scheme</td>
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<tr>
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</tr>
<tr>
<td>W20</td>
<td>Signing and Wayfinding</td>
<td>Circa £0.5m to £1.0m</td>
<td>PGT and LCS includes and OPTEMS funding links around the Park From each development S106 but likely to be many gaps</td>
</tr>
<tr>
<td>C1</td>
<td>Barclays Cycle Hire</td>
<td>£8m to £15m (£8m in IDP)</td>
<td>TfL estimated £8m for Olympic Park, west of it and Stratford City – full LLDC area would be more</td>
</tr>
</tbody>
</table>
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Fish Island Area Action Plan (London Borough of Tower Hamlets, 2012):
Northern Olympic Fringe Area Action Plan Preferred Options (London Borough Waltham Forest, 2011):
A12 Study: (London Thames Gateway Development Corporation, 2010)
Legacy Communities Scheme Transport Assessment (Olympic Park Legacy Company, 2012):
Figure 1 — Strategic Highway Model Outputs—2031 AM SPG Volume over Capacity  
Source: LCS Transport Assessment
Figure 2 — Strategic Highway Model Outputs — 2031 PM SPG Volume over Capacity

Source: LCS Transport Assessment
Figure 3 — Network Rail Crowding (2031 with Scheme) OLSPG—AM Peak

Source: LCS Transport Assessment
Figure 4 — Network Rail Crowding (2031 with Scheme) OLSPG — PM Peak

Source: LCS Transport Assessment
Figure 5 — London Underground Crowding (2031 with Scheme) OLSPG—AM Peak

Source: LCS Transport Assessment
Figure 6 — London Underground Crowding (2031 with Scheme) OLSPG — PM Peak  
Source: LCS Transport Assessment
Figure 7 — PTALS post PGT/LCS changes

Source: LCS Transport Assessment