LEA RIVER PARK HOUSING ZONE SITES STRATEGY REVIEW

24/11/17

5th studio

with



THE REAL PROPERTY IN

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This Housing Zone sites strategy review has been prepared by 5th Studio for the London Borough of Tower Hamlets and the London Borough of Newham.

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NOTE: This document is intended for double-sided printing / 'two-page-up' viewing. A number of the appendices are formated for A3.





EXECUTIVE SUMMARY

The Opportunity

Tower Hamlets' Poplar Riverside Housing Zone initiative represents a significant opportunity to help meet London's housing challenge.

The opportunity grows out of the lower Lea Valley's industrial history. Shifting patterns of land use now mean that significant scope for development exists on former industrial sites, supported by strategic planning - for example, the Opportunity Area Planning Framework (2007). It is critical that this scarce land resource is used in an optimal way.

Development in Poplar will address housing need within the Borough, with the potential to deliver around 13,000 new homes. This is as significant an area of new housing as the total provision on the Queen Olympic Park (10,000 new dwellings in the E20 postcode) yet in contrast to the public sector-led delivery of the Olympic Park, Poplar Riverside will be delivered with a fraction of the investment and planning resource.





The Threats to Success

The same legacy of industry and infrastructure poses a significant challenge to realising the Housing Zone's aims and the creation of 'good growth' in the lower Lea Valley.

The river has always acted as both a physical and an administrative boundary, creating something of a no-man's land. Significant road and rail infrastructure further fragment the valley, creating a fractured landscape that is very difficult to negotiate. Historically this isolation has locked in poverty, separating communities from essential physical and social infrastructure.

Above: Poplar Riverside Housing Zone and sites within the context of the Lower Lea Valley. Source: *HZ Poplar Riverside Housing Zone, Affordable for East London*, September 2014, LB Tower Hamlets / STOCKWOOL

Left: Infrastructure in the Lower Lea Valley - showing Poplar Riverside Housing Zone sites and key infrastructural severances.

Page opposite: Aerial view of the Lower Lea Valley showing the core of the Poplar Riverside sites bounded by the A12, A13 and the River Lea.

The Growth Boroughs' Convergence agenda seeks to ensure that east London communities will have the same social and economic chances as the rest of London. The London Mayor's Good Growth initiative aims to create successful, inclusive and sustainable places.

Unless these connectivity challenges are addressed, there is a significant risk that new neighbourhoods will be left disconnected and disadvantaged; a set of conditions with the potential to trigger the repeat of failures and mistakes of the past. The creation of a fine connective grain is critical to ensure areas of new housing relate well to schools, jobs and transport infrastructure, including the growing local centres at Bromley by Bow, Stephenson Street and Canning Town, as well as the amenities and economic drivers of the Royal Docks, The Queen Olympic Park and Canary Wharf.

Right: The location of the proposed Lea River Park (in red), with respect to the Lee Valley Regional Park (outlined), the London Legacy Development Corporation area (green) and the joint Olympic host boroughs.

Below: The connective role of the Lea River Park in supporting regeneration and Housing Zone developments in the Lower Lea Valley.

The Lea River Park - A Connected Valley

The Lea River Park is a major new landscape for London, extending for 3 miles along the banks of the River Lea, from the Queen Elizabeth Olympic Park to the Thames at Blackwall, and creating links to the Royal Docks and Canary Wharf.

The Lea River Park leads the transformation of a former industrial backland into the centreground of one of the largest new growth areas for London, and will address the physical and social fragmentation created by a legacy of infrastructure, political boundaries and topography.

The strategic initial phase of this vision is the delivery of a linear park named The Leaway, establishing a continuous walking and cycling route along and across the River Lea. The Leaway connects a series of existing but fragmented public open spaces; over time this route will be added to with new parks and additional pedestrian and cycle connections, delivered as land becomes available.

The Lea River Park addresses a deficit in access to open space, and creates the conditions for healthier travel choices between homes, workplaces and local amenities.



Poplar Riverside and the Lea River Park

The Leaway connections will form the main body of a series of new links that will support the delivery and success of the Poplar Riverside Housing Zone sites.

Both individually and collectively these projects have the scope to knit Poplar Riverside's new neighbourhoods into a well-connected urban quarter with a high degree of interconnectedness.

A new walking and cycling network in the Lower Lea - local and strategic benefits

The new network will deliver a combination of benefits ranging in scope from the local to the strategic. New routes and connections will provide improved access to public transport and services - supporting



the delivery of additional new homes at Poplar Riverside.

Multiple connections will establish a high quality network - building in capacity, resilience and integration with the surrounding urban fabric.

The new network will enable higher quality connections to key local destinations. In making walking and cycling safer and more attractive, the proposals align with TfL's Healthy Streets objectives, and will help realise the broader health and environmental benefits of greater adoption of active transport.

New connections will also open up a series of strategic links along and across the valley, stitching Poplar Riverside into walking and cycling routes of city-region importance.

Left: The proposed park connecting the river valley with the communities and landscapes on either side.

Below: Proposals for Poplar Reach Bridge (top) and the Leaway (bottom).





Taking stock - a shared delivery context

The delivery of the Poplar Riverside will take place via multiple development sites over a 10 to 15 year timescale. The timing for individual sites coming forward will be dependent on a range of delivery factors and constraints. Similarly, the delivery picture for each of the proposed connections projects also varies - with design proposals, governance, funding for each at different stages of resolution.

A '15 year vision' to support delivery

The purpose of this study is to summarise this delivery context and assess the individual and collective benefits that the new connections could provide for the Housing Zone sites. The findings are intended to inform decision making, assess priorities and underpin a delivery plan for new public realm infrastructure to support the successful realisation of Poplar Riverside's full potential. The summary findings are illustrated in a '15 year vision', describing a strategic narrative for creating this supporting walking and cycling network, keyed to the relative priorities, timings and constraints discussed above.

Below: Illustrative summary of the 15 year vision for delivery of the new walking and cycling network and Poplar Riverside development sites, with the elements aligning with the recommendations highlighted in orange.

RECOMMENDATIONS

1 A high quality network

Establish the long term aim of delivering a high quality walking and cycling network unifying development on both side of the Lea. The network should provide the network density expected in a well-connected piece of active city (illustrated by the case studies presented in this study) and embody the principles of legibility, high utility, extensity, resilience and high capacity.

2 All proposed connections have value further links are required

All of the currently proposed links would play a role in delivering this overarching objective - providing both the local and strategic benefits. Gap analysis suggests that the addition of further connections to achieve the recommended network density, with potential links identified at Four Mills, Gillender Street, and north of the A13 road bridges.

An improved link to Canning Town

Establishing a high quality direct link from Poplar Riverside to Canning Town Station should be a priority. This link emerges as the highest impact component of the network in terms of an uplift in public transport access for the greatest number of Poplar Riverside sites. A new bridge link between the Leven Road site and Mayer Parry Wharf offering the lead option for achieving this.



3

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4 Leven Road Bridges

Proposals for a bridge at Poplar Reach would work in tandem with the link to Mayer Parry Wharf to serve the Leven Road site. Via Cody Dock, Poplar Reach bridge would open up a new link to areas of employment east of the Lea, make Star Lane DLR a viable option for public transport access, and establish a connection to the Eastlea schools cluster. Given the local and strategic benefits they would provide, and imminent timescale for development at Leven Road, the Leven Road Bridges should be treated as high priority projects.

5 Lochnagar Bridge - support for new homes at Ailsa Wharf

The proposed bridge at Lochnagar Street will offer similar support to proposed development at Ailsa Wharf - linking new homes to areas of employment east of the Lea, Star Lane DLR, and the Eastlea schools cluster. This project should be treated as high priority given the imminent timescale for delivery and the tangible benefits it offers.

6

(7)

Deliver integrated improvements at the A13 Lea Crossing

Core routes and connections established in the short term should be enhanced through delivery of additional connections in the longer term. The immediate scope for improved walking and cycling at the A13 road bridges is significantly affected by plans for replacement of the central road bridge and longer term delivery timeframe for adjacent sites. However, there is potential to deliver improved links in tandem with infrastructure works and development.

Strengthen the Thameside strategic links between the Royal Docks and Canary Wharf

The proposed crossings at Leamouth / Hercules Wharf and Thames Wharf will provide key links in an emerging Thameside movement network linking the Royal Docks and Canary Wharf.

8 Support delivery of a connected riverside

In line with Local Plan policy, riverside developments that are outside of the Housing Zone sites should be required to deliver public riverside routes and access to the river. This incremental delivery will provide additional components to the network.





1 INTRODUCTION

OVERVIEW

This study provides a strategic review of the role of a suite of new walking and cycling connections within the Lower Lea Valley in supporting the delivery of LB Tower Hamlet's Poplar Riverside Housing Zone project. Most of the connection projects relate to the Lea River Park project - an overarching initiative to create a new public park for London within the Lower Lea Valley, connecting Queen Elizabeth Olympic Park to the Thames.

A key aspect of the Lea River Park is its role as a catalyst for regeneration - transforming the Lower Lea Valley into a well connected piece of city, with a vibrant network of parkland routes and spaces connecting areas of new development and existing local centres, with the River Lea at its core (see below). Also key to the park strategy is its role as an evolutionary project - open to change and adaptation over time, with continuity provided by a set of core principles.

This study seeks to review, and where necessary make recommendations for adjusting, the connections projects in the context of the new regeneration and development setting provided by Poplar Riverside Housing Zone (see page opposite). This review acknowledges the role of the Housing Zone in forming this emerging context for the park and assess the current prospects for delivery of new interventions and their value to the existing and future residential areas - registering both new obstacles and new opportunities.

Study structure and methodology

This study provides a baseline review of the development sites, context and connections projects, before describing a series of scenarios. The scenarios test the local and strategic benefits of the proposed connections projects - both individually and in a series of combinations.

The findings of this scenario testing and key observations from the baseline review then underpin a set of recommendations for the connections projects - in terms of prioritisation and coordination.

These recommendations and a corresponding outline delivery plan are then illustrated in a '15 year vision' describing a strategic narrative for the delivery of the new network of routes and connections in conjunction with development of the Housing Zone sites





Left: the connective role of the Lea River Park in supporting regeneration and Housing Zone developments in the Lower Lea Valley.

Above: Poplar Riverside Housing Zone and sites within the context of the Lower Lea Valley.

Source: HZ Poplar Riverside Housing Zone, Affordable for East London, September 2014, LB Tower Hamlets / STOCKWOOL



POPLAR RIVERSIDE HOUSING ZONE SITES

The Poplar Riverside Housing Zone proposals aim to deliver in the region of 13,000 new homes over the next 10 to 15 years. The proposals were adopted in 2015 as part of the second wave of the GLA's Housing Zone allocations.

Housing Zone status brings with it additional investment to help unlock development, including area funding to bring forward connections across the River Lea to increase access to transport and amenities and levels of overall connectivity between the Housing Zone sites and the surrounding urban fabric.

The designation as a Housing Zone and the associated investment is intended to accelerate the delivery of new homes.

The sites along the River Lea (Sites 2-9) also fall within the Lower Lea Valley Opportunity Area.

The drawing on the opposite page provides an overview of the Housing Zone sites adjacent to the River Lea. These sites, and their relationship to a proposed series of river crossings, form the focus of this study.

KEY



Housing Zone Area



Housing Zone development site:

- Site 1 Chrisp Street
- Site 2 Aberfeldy
- Site 3 Leamouth Peninsula South
- Site 4 Leamouth Peninsula North
- Site 5 Oban Street
- Site 6 Leven Road Gas Works
- Site 7 Ailsa Street / Nairn Street
- Site 8 Gillender Street
- Site 9 Empson Street
- Site 10 Ailsa Street / Nairn Street
 - Lower Lea Valley Opportunity Area boundary



Extract from the Mayor of London's Housing Zones brochure demonstrating the benefits of the GLA's investments



Key statistics

6,404

Total number of homes

Developer There are mixed development



Planning status Planning applications are progressing on the Aberfeldy, Chrisp Street and Gillender si schemes while a master plan

being prepared for Ailsa Stree



 $\langle \nabla \rangle$

47ha

12,808



Total Housing Zone area

Aberfeldy, Chrisp Estate and Oban Rpad Number of Estate Regeneration sites

Transport improvements: Four new footbridges over the River Lea, improvements to a further bridge and better connections over the A12 and A13.







THE LEA RIVER PARK & LEAWAY CONNECTIONS

The Lea River Park is central to the wider regeneration of the Lower Lea Valley area, which will undergo massive change over the coming decades. It completes a vision for leisure in the valley that was first expressed in the 1940s, but also responds to pressing contemporary needs. It is strongly supported in planning policy at both the Mayoral level and at Borough level through its incorporation into Local Plans. The park also represents a response to the needs of local communities and stakeholders for new exciting open spaces, as expressed consistently in consultation and engagement over a number of years.

The route will connect Queen Elizabeth Olympic Park and Three Mills Green to the Thames at Trinity Buoy Wharf and East India Dock Basin, as well as Canning Town and the Royal Docks. The route will primarily follow the eastern (Newham) bank of the River Lea, connecting stretches of previously underused public realm by delivering new park infrastructure and landscaped routes. The project also incorporates improvements to local routes connecting neighbourhoods on both sides of the river to the Leaway. The value in the completion of the Leaway also allows - for the first time - a series of previously disconnected attractions to operate as a cohesive whole. This linear park connects the major attractions in Queen Elizabeth Olympic Park, the unique heritage destinations at Three Mills, Trinity Buoy Wharf and East India Dock Basin, the nature reserve at Bow Ecology Park, the Royal Docks and onwards via the Cable Car to North Greenwich and The O2. This linkage not only appeals to residents of the neighbouring communities but has a London-wide impact: in structuring a proper 'day out' the Lower Lea Valley presents a visitor offer that is substantially greater than the sum of its parts, and this is expected to further catalyse investment and the creation of jobs in the area.





THE LEAWAY & LEA RIVER PARK CONNECTIONS

The Lower Lea Valley has historically suffered from major physical severances: where accessible stretches of landscape and riverside paths have been delivered they are disconnected, limiting overall connectivity and the scope for the growth of user groups.

The delivery of the Leaway creates for the first time a continuous route between Queen Elizabeth Olympic Park, the Thames and the Royal Docks by opening up the edges of the River Lea to pedestrians and cyclists.

A process of analysis and discussion with the project team and other stakeholders resulted in a clear strategy for the early phase of investment in the park. A focused series of projects were planned to unlock a connective route down and across the valley, enabling a spine of places to enjoy, while anticipating future adoption of park spaces in later phases of the project. These tactical points of investment will have much greater effect: opening up existing riverside routes, enabling connections between existing transport infrastructure and access to the River Lea. These interventions aim to humanise and unlock the potential of their contexts, which are too often dominated by the scale of existing infrastructure.







2 BASELINE REVIEW

The following baseline review provides further detail on key areas of context for this study, including:

- · Development context.
- Housing Zone and other development sites.
- Connections Urban design principles.
- · Connections projects.
- Public Transport Accessibility (PTAL) baseline.



DEVELOPMENT CONTEXT

The drawing opposite and notes below summarise the main aspects of the development context for the Poplar Riverside Housing Zone and the connections projects. The following pages provide further detail on individual development sites.

Housing Zone Sites

The Housing Zone is comprised of a series of ten distinct sites. The sites that are central to this study are those that are adjacent or nearby to the River Lea, indicated in orange on the page opposite. Most of these sites are in some way affected by the major severances posed by the river or cross-valley infrastructure - severances that the connections projects have been targeted to address. As covered in more detail on pages that follow, development on each of the sites is at different stages, ranging from design stage to areas of fully delivered housing.

Non Housing Zone Development Sites

Also shown (indicated in red) are development sites within the Lower Lea Valley that are not within the Housing Zone designation - ranging from smaller scale sites to major development sites such as Stephenson Street at West Ham.

Employment Areas

A significant area of employment east of the river (areas shown as hatched) is currently cut-off from the largely residential areas to the west by the river.

A13 Working Wharves and Road Infrastructure

A series of major constraints converge to the A13 Lea Crossing - affecting the Blackwall Trading Estate and Moody Wharf on the west bank (within the Oban Street Housing Zone site), working wharves on the east bank, and the A13 road bridges themselves.

The potential replacement of the central 'Iron Bridge' portion of the A13 crossing by 2025 impacts on options for creating a link addressing the severance caused by the road bridges.

On the west bank, the Blackwall Trading Estate employment uses and designation of the Moody Wharf site (in TfL ownership) as a works site for any bridge replacement. On the east bank, the riverside site is occupied by a metal recycling firm (EMR). As EMR are a significant employer and important waste management operator, LB Newham would prefer to maintain their presence in the borough. As such, LB Newham are actively working with EMR to identify a viable relocation site this has proved difficult to date, and a site is unlikely to be identified in the immediate future.

Transport

Canning Town Station forms the major transport hub for the area. Although served by a a series of peripheral DLR stations, Canning Town remains the key interchange destination and point of access for the tube network for the riverside sites. The river forms a major obstacle to direct access to Canning Town for a number of the Housing Zone sites. The DLR stations on the east and west side of the river may also have a role to play in relieving potential capacity issues at Canning Town at peak times.

A new DLR station is proposed at Thames Wharf, in conjunction with significant development.

Background Constraints

At a finer grain, a series of background constraints affect many sites along the River Lea impacting on development and detailed design of new construction and public realm infrastructure. Most stem from the area's historical industrial uses and the Lea's role as a working river, including:

• Major utilities infrastructure, both in the form of above ground structures and below ground services running across the valley and along the river banks.

• Engineering constraints relating to the river / canal infrastructure, flooding and vessel traffic.

- · Site contamination.
- Riverine nature and ecological constraints.
- Constraints relating to protected wharves, areas of working riverside and river-borne freight, etc.
- Unexploded bombs / ordnance risk due to heavy bombing of the area during WWII.



1 - GILLENDER STREET

2 - FOUR MILLS

Status

Phase 1: Complete - 109 units + commercial Client: Criterion Two LLP / Peabody

Phase 2: Submitted for planning (live) - PA/14/03315/ A1 - 196 units Client: Westbrook / Peabody

Development has already been completed on the first phase of the development site at the junction of Gillender and Junction Road - 'Lock Keepers' and a planning permission is currently in on the second phase (Barratt Industrial Park).

In the completed phase, the natural point for linking into a continuous riverside route is currently a gated private garden.

Efforts should be made to ensure that the phase currently submitted for planning approval supports the creation of a publicly accessible riverside, creating a pedestrian and cycling friendly route parallel to the busy A12.

Key risks to realising network value

- Ensure a publicly accessible riverside is captured in the s106 agreement and landscaping plans

- Ensure design of riverside edge delivers a path in line which has utility and recreational value.

Status: Unknown

The Four Mills / Jam Factory site is currently occupied by Iron Mountain for secure document storage.

It is currently identified as Local Industrial Land (LIL) in the 2031 Draft Local Plan which would impact on its prospects for development in the short-term, however given the sites housing zone designation it would make sense to consider this as a development site in the longer term.

This site forms a barrier to movement along the river edge, as the building projects all the way to the river wall.

Future development of this site should provide the crucial link to create a continuous riverside route between Bow Locks and Leven Road - removing pedestrians and cyclists from the A12 environment.

Key risks to realising network value

- Ensure a publicly accessible riverside is captured in the s106 agreement and landscaping plans of future developments

- Ensure design of future riverside edge delivers a path in line which has utility and recreational value.



Extracts Design and access statement for Gillender st phase 2.



Four Mills currently has no riverside, blocking north-south movement on the west bank of the Lea

)RAFT

3 - ST LEONARDS WHARF

4 - AILSA WHARF

Status: Unknown

This site sits to the north of Ailsa Wharf. It is currently in operation as a waste transfer site and is identified as a safeguarded waste site in the Local Plan.

This area also forms part of the Ailsa Street site allocation supported by the Housing Zone.

Development here should support links along the river and also safeguard a future connection to the north along the Four Mills site and a potential river crossing.

Key risks to realising network value

- Ensure a publicly accessible riverside is captured in the s106 agreement and landscaping plans of future developments

- Ensure design of future riverside edge delivers a path in line which has utility and recreational value.

- safeguard land for a future river crossing at the northern end of this site at the boundary with Four Mills



Looking towards the St Leonards wharf site, currently in use as a scrapyard, with the listed Bromley Hall behind

Status: Live planning application - PA/16/02692 - 785 units + commercial Client: Ailsa Wharf Developments Ltd

This area forms part of the Ailsa Street site allocation. The submitted proposals for the site safeguard the provision of a bridge landing for a new crossing -Lochnagar bridge - connecting across the River Lea to the Leaway. The proposed bridge does not form part of the current planning application, which states that the bridge proposals will be addressed in a separate planning application in the near future.

Current proposals incorporate a riverside route, however landscape plans forming part of the planning application show a highly complicated river edge landscape. These proposals should be reviewed to identify a clear route across the site which has both utility and recreational value for cyclists and pedestrians - i.e. forming a legible route with min. clear width in line with London Cycling Design Standards.

Key risks to realising network value

- Ensure that the bridge landing and development is tied into the s106 agreement to prevent development on the land allocated for the crossing.

- Ensure a publicly accessible riverside is captured in the s106 agreement and landscaping plans

- Ensure design of riverside edge delivers a path in line which has utility and recreational value.

- Cycle and pedestrian routes west from the site should have legible routes which lead to safe crossing points of the A12 towards Langdon Park and adjacent communities, amenities.



Aerial overview of the proposed Ailsa Wharf development looking west



5 - ISLAY WHARF & TRAM DEPOT

6 - DEVONS WHARF & LEVEN WHARF

Status: Unknown

There is currently no planning applications for development on Islay Wharf, which is directly to the south of the Ailsa Wharf site and its bridge landing. Development on this site should consider how the necessary landing levels of the Lochnagar Bridge can be incorporated in urban terms.

The current buildings on Islay wharf are built very close to the river edge preventing continuation of a route south from Ailsa Wharf at present. Future development of this site should be set back from the riveredge to allow a riverside route to continue across it.

The Tram Depot site is currently occupied by Iron Mountain for secure document storage. It has a river edge formed of a yard which is currently inaccessible to the public. Plans for redeveloping this site are unknown at present. If Islay wharf is developed in the short term and this site is not, it would seem sensible to attempt tp negotiate an interim route across the river front.

Both these areas forms part of the Ailsa Street site allocation.

Key risks to realising network value

- Development is not forthcoming leading to a severance in the riverside route

- Ensure a publicly accessible riverside is captured in the s106 agreement and landscaping plans of future developments

- Ensure design of future riverside edge delivers a path in line which has utility and recreational value.



View along the river edge of the Tram depot

Status: Under Development

Devons Wharf (PA/09/00109) is a completed development site which has delivered 77 units and a new section of riverside path. Public access is guaranteed under the S106 for this site allowing 24hr access once adjacent sites are open.

Leven Wharf (PA/13/03053) is currently under development providing 160 units and delivering a publicly accessible river front.

Leven Wharf forms part of the Leven Road Gas Works site allocation.

Key risks to realising network value

- Ensure a publicly accessible riverside captured in the s106 agreements is enforced

- Ensure fences/walls between adjacent developments are removed once connection to neighbouring sites is possible.



Existing riverside delivered as part of Devons Wharf - Leven Wharf construction in background

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7 - LEVEN ROAD GAS WORKS

8 - OBAN STREET

Status: Masterplan in progress - 1000+ units Client: St William (National Grid + Berkeley)

This site is a key housing delivery site within the Poplar Riverside Housing Zone. This site is anticipated to deliver in excess of 1000 units. It is also anticipated to provide a new school, public park and the Poplar Reach bridge. Additionally this study identifies the network benefit which an additional bridge between the site and Mayer-Parry Wharf would bring.

The site is currently being remmediated, with the gas holders being demolished in preparation for development. It is also understood that the development is being masterplanned and that a planning application will be submitted shortly.

In order to achieve the greatest network potential consideration should be given in the masterplan to the need for connections both along the riverside but also through the development to create an urban grain which is permeable rather than an enclave.

Key risks to realising network value

- Ensure a publicly accessible riverside is captured in the s106 agreement and landscaping plans

- Ensure design of riverside edge delivers a path in line which has utility and recreational value.

- Ensure that the development does not prejudice the delivery of current or future crossing proposals at Poplar Reach and Mayer-Parry Wharf.

Status: Unknown

This site is currently identified (Blackwall Trading estate) as Local Industrial Land (LIL) in the 2031 Draft Local Plan which would impact on its prospects for development in the short-term, however given the sites housing zone designation it would make sense to consider this as a development site in the longer term. It is also identified as a site allocation within the Poplar Housing Zone as 'Oban street'.

The site is formed of 3 main sites, Blackwall Trading Estate, Creek Wharf have light industrial units operated by a range of businesses, whilst Moody Wharf is being used as a pallet storage yard.

Moody Wharf is in TfL ownership and is notable for being considered necessary as a works site for the replacement of thecentral 'Iron Bridge' span of the A13 in the next 10 years. This is considered a factor in preventing early delivery of housing on this site or the delivery of the A13 Connector in the short-term.

Key risks to realising network value

- Ensure a publicly accessible riverside is captured in the s106 agreement and landscaping plans of future developments

- Ensure design of future riverside edge delivers a path in line which has utility and recreational value.

- Ensure that the development does not prejudice the delivery of the A13 connector



Decommissioning of the site is ongoing with the gas holders currently being demolished



View over Moody Wharf from the A13 footways



9 - STEPHENSON STREET & BIDDER STREET

9 - LEAMOUTH NORTH

Status: Unknown

There is currently no planning applications for residential uses on these sites.

In the Canning Town and Custom House Supplementary Planning Document (July 2008 current status unknown) they are identified as key development areas 10a & 10b.

In the latest local plan policies map this area is identified as a Local Mixed Use Area, with the exclusion of Mayer Parry which is a Strategic Industrial Location and safeguarded wharf site. The LMUA designation seeks to promote mixed use development which promotes and protects Class B1 uses and other employment on the site to create uses which are compatible with residential.

Development proposals here are likely though to find similar attrition from existing businesses to the withdrawn planning application for Crown Wharf (09/02062/LTGDC).

Key risks to realising network value

- Negotiating a temporary riverside route until a permanent route can be delivered.

- Promote masterplanning principles which reinforce a permeable urban grain.

- Ensure development does not prejudice the development of the bridge proposed at Mayer Parry

Status: Under Development - 1706 units + commercial + footbridge Client: Ballymore/ Clearstorm

This development is nearing completion and has already delivered a new bridge connection from the north of the Leamouth peninsula to Canning Town station.

Additional riverside routes are proposed in this development, principally along the eastern side of the site. However a connection to the Leaway along Silvocea Way has also been promised, and will provide a key continuation of the Leaway south to Trinity Buoy Wharf.

In previous strategic masterplans there had been indication of a bridge connecting from the middle of this development to the Limmo site, however this is not captured in the planning application (PA/10/01864/ P1) for the development of this site.

Key risks to realising network value

- Ensure a publicly accessible riverside captured in the s106 agreements is enforced

- Ensure fences/walls between adjacent developments are removed once connection to Silvocea Way is possible.



View towards the river from Wharfside road across Crown Wharf



Leamouth north development seen from Silvocea Way

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10 - LEAMOUTH SOUTH / HERCULES WHARF

11 - LIMMO PENINSULA

Status: Planning consented (PA/14/03594/A1) - 804 units + commercial Client: Ballymore

This site is due to start construction shortly and proposes creating new publicly accessible river fronts to both Bow Creek/River Lea and the Thames. This is captured in the s106 agreement including forming a riverside link to the Leamouth north development.

The planning application drawings also indicate a safeguarded area for a bridge landing for the Hercules Wharf bridge, however this is not part of this planning application and illustrates an alternative landing arrangement to the consented scheme for this bridge.

Key risks to realising network value

- Ensure a publicly accessible riverside captured in the s106 agreements is enforced

- Ensure fences/walls between adjacent developments are removed once connection to Trinity Buoy wharf and Leamouth north is possible.

- Ensure development does not prejudice the development of the Hercules Wharf bridge

Status: Unknown

This site is about to be handed back by Crossrail following its use as a key tunnel work site. This site is designated as a strategic development site S18 within LB Newham's Core Strategy - Spatial Policies delivering:

"Open space forming appropriate connections and terminus to Lea River Park, with enabling residential use should access and environmental constraints be overcome. Connections need to be made to Canning Town station/town centre and neighbourhoods, and to the Leamouth peninsula."

Key risks to realising network value

- Ensure a publicly accessible riverside parkland is captured in the s106 agreement and landscaping plans

- Ensure design of riverside edge delivers a path in line which has utility and recreational value.

- Ensure development does not prejudice the development of the bridge proposed on an alignment with Hallsville road over the DLR and Jubilee line tracks from the Silvertown Way West development site.



Extract from Design and Access statement showing the proposed Thames riverside - architect:Allies & Morrison



View of the Limmo Peninsula looking south towards the Thames (©Buoyges)



CONNECTIONS - URBAN DESIGN PRINCIPLES

Regents Canal, London



The Regents canal between Angel and Victoria Park forms a barrier to north-south movement. However crossings at an interval of ~300m continue the street grain across the canal integrating the different neighbourhoods. In several locations historic wharfside sites have prevented the creation of a finer network of pedestrian routes.





Hafencity, Hamburg



Hafencity is the regeneration of Hamburg's former docks, and demonstrates the creation of a new urban quarter fully integrated into the existing grain of the city. A comprehensive masterplan has created a fine route of pedestrian connections at regular intervals of ~200m, stitching this area into the existing urban fabric of the historic city centre.

> Average distance between crossing: ~ 200m for pedestrians ~ 450m for vehicles



Queen Elizabeth Olympic Park

Average distance between crossing:

~ 200m for pedestrians ~ 700m for vehicles*

* it has been observed and noted in discussion with LLDC representatives that the reliance upon one cross-valley connection for vehicles across the site at White post lane has an impact on the perceived connectivity of the site.

Now in Legacy mode additional vehicular bridges are in development, which it has been admitted would of been much easier to establish pre-games as the site is now considered much more sensitive in terms of community consultation/planning.

Poplar Riverside

Existing connectivity is very poor and prevents the creation of a wider urban environment which can overcome the historical severance that the river has formed.

A13 - pedestrian environment is very poor and crossing is poorly integrated into its context

Lower Lea Crossing - pedestrian environment is very poor and crossing is poorly integrated into its context

All measurements taken along center of waterways





CONNECTION PROJECTS

A suite of proposals exist for new walking and cycling connections in the Lower Lea Valley. The projects aim to address the signifcant severance issues that affect the area. The main body of these projects relate to the Lea River Park and Leaway, although other initiatives also have the potential to deliver new links.

The projects are at various levels of design resolution and delivery planning - ranging from notional links to detailed design proposals. A number of these projects were identified in Poplar Riverside Housing Zone bid as being key in supporting delivery of new homes: Lochnagar bridge, Poplar Reach Bridge, the A13 connector and the A13 Ramp. Some of these connections have received investment as part of the successful bid.

The drawing on the opposite page provides an overview of the proposed connections that are reviewed in this study. These new links have the capacity to deliver both local and strategic benefits creating a network of pedestrian and cycling routes serving the Poplar Riverside sites and meeting the aims of the Leaway / Lea River Park. This study assesses the scope for the connections projects to achieve these aims.

The following pages provide further detail on the connections projects, summarising the nature of each set of proposals, delivery context and current status.



View of Poplar Reach Bridge towards Cody Dock. The bridge will provide a connection from the first phase of the Leaway to a new 6ha active park landscape, providing much needed open space to Poplar's surrounding estates and creating a moment of expansiveness on the Leaway.



A - LOCHNAGAR BRIDGE

B - POPLAR REACH BRIDGE

Lochnagar Bridge (or Ailsa Wharf Bridge) is a proposed crossing over the tidal River Lea linking the Ailsa Wharf development site with the riverside of Twelvetrees Business Park - known as the Cody Wilds section of the Leaway.

This bridge has been designed by Knight Architects and it is understood through conversations with LB Tower Hamlets that the developer of the Ailsa Wharf site is responsible for delivering the technical design and obtaining planning permission.

It is recommended that the current western landing is adjusted to allow a connection at the river-edge to a future southern riverside route along Islay wharf.

Identified risks include:

- Proximity of the eastern bridge footings to HV cables.

- Proposed low air draught beneath the bridge deck, which is significantly lower than the bridges up and down stream and might raise objections from the Port of London or Canal and Rivers Trust for impacting on the navigational capacity of the river.

- Lack of integration with anticipated development to the south at Islay Wharf - i.e. proposals not futureproofed to allow continuous riverside route. The detailed designs for the Poplar Reach Bridge were developed as part of the pre 2012 Fatwalk scheme. Its location was sited to avoid the eastern section of the river bank between Cody Dock and the A13, which could not be opened up in time for the 2012 project deadline.

However it was designed anticipating the Cody Dock site opening up in the future, aligning with the publicly accessible route through Cody Dock. When the bridge is delivered it will provide a connection through from Leven Road to Star Lane.

The detailed design of the bridge was taken forward to RIBA Stage E. This included surveys to ascertain the positions of HV cables, which the bridge footings avoid. Planning consent was achieved in 2011 (11/00491/LTGDC) but has since lapsed.

Identified risks include:

- Land and rights of construction were secured via CPO on the north landing, however the legal status of who these have been transferred to and if they are still valid needs to be assessed.

- Identification of delivery route and future adoption partner.

- Requires delivery of routes through development, providing 24hr public access to the surrounding neighbourhoods.





Extracts from Knight Architects Ailsa Wharf Bridge briefing document.



5th Studio - Lea River Park: Fatwalk Scheme, reiterated in Lea River Park: Design Manual & Primer

5th studio

C - MAYER PARRY WHARF BRIDGE

D - A13 CONNECTOR

Previous studies for connections across the River Lea as part of the Lea River Park identified a connection on an alignment with Oban St. However the complex land ownership and issues surrounding the safeguarded status of Mayer Parry wharf made this an unworkable solution to provide a link in time for 2012.

A connection here is dependent on a landing point and ongoing connections being identified on the eastern river bank - this site is currently operated by European Metal Recycling (EMR) though the freehold belongs to LB Newham.

On the western river bank it is likely that the landing would fall within the Leven Road Gas Works development site. The masterplan for this site would need to be adjusted to ensure that the necessary approaches to the bridge were incorporated.

Identified risks include:

- Acquiring land and construction rights on both river banks

- Ensuring that the bridge is carefully incorporated into surrounding developments.

- Given the assumption that the bridge would span diagonally across the site from the Leven Road Gas Works to Mayer Parry Wharf this would require a longer span than other crossings - alternatively the bridge could be supported from piers within the river.

- Requires full design, scoping of constraints, surveys and detailed consultation with stakeholders including CRT and EA. The A13 Connector was originally proposed as part of the pre 2012 Fatwalk scheme as a solution to provide a continuous north-south route along the western bank of the River Lea which avoided the difficulties on the eastern river bank. Planning consent was achieved in 2011 (PA/11/00607) but has since lapsed.

Several studies have been undertaken since, investigating issues around the deliverability of this connection. The original proposal was for a walkway passing through the truss of the ironbridge at the centre of the A13. However the central 'Iron Bridge' span is due to be replaced in the coming 10 years, putting delivery of the original proposals into doubt. Alternatives have been investigated for forming a subway through the approach viaducts to create a connection but have been discounted by TfL in favour for a solution which is built out over the river.

The replacement of the current bridge includes the requirement that the site to the north of the A13 is safeguarded as a worksite. As development will not come forward on this site till the works are completed, there might be scope for this connection to be brought forward with the bridge replacement providing a connection along the river-edge.

Identified risks include:

- Identifying a realistic delivery timetable which prevents abortive or short-lived investments.

- Ensuring proposals provide for connections back to Lanrick Road and safeguard a future riverbank connection northwards to the Leven Road Gas Works site.



Aerial view of the proposed connection looking west



Extract from TfL Surface Transport - A13 Connection, June 2017



E - NEWHAM RIVERSIDE

The current Leaway proposals aim to create a continuous walking and cycling route along the eastern bank of the River Lea between Cody Dock and the underpass on Wharfside Road.

An existing section of riverside along Electra business park has an agreement in place for public access across the river front - entering at A and leaving from B (or vice-versa) - but not through the interior of its site. This agreement (shown on the drawing below) is not for 24hr access. In order to unlock this access, works were carried under the first phase of the Leaway project to create access beneath the cable bridge to provide access from the north of the site (A) through to Cody Dock.

To the provide access from the south of Electra (B), a route has been identified which would pass across the river fronts of Mayer Parry, Worlands and Crown Wharves. When this southern route is opened across the wharves access can be completed along the whole Newham Riverside.

Cable bridge works Cable bridge Cable bridge Cable bridge works Cable bridge works Cable bridge Cable bridge

Overview of the route - looking north - between Cody Dock and Wharfside Road

These wharves are currently operated by EMR, with some freeholds belonging to LB Newham. Work previously stalled on creating an interim link here while options for relocating EMR's operations elsewhere in the LB Newham were investigated. Alternatives along this stretch including concepts of piled or floating towpaths are unlikely to be viable due to the high costs of creating structures in the river and its high tidal range. Mayer Parry wharf is also a safeguarded wharf location identified in the London Plan.

An current planning application for a fence along the river edge of the business park (17/03299/FUL) is seen by Electra as necessary to the opening up of their river front to the public, and its installation should be seen as an opportunity to agree 24hr access along the river front.

Identified risks include:

- Electra prevent 24hr access, or don't observe current agreement.

- EMR do not allow construction of an interim route if they do not relocate.

- EMR relocation becomes prolonged, hampering delivery of a route with no interim route in place.



View of the proposed interim Mayer-Parry riverside route illustrating a scenario for fencing off the adjacent scrapyard

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F - TOWER HAMLETS RIVERSIDE

Creating a continuous route along the LB Tower Hamlets river edge is made more difficult through the fragmented ownership and development status of the riverside plots, with no existing river side routes to tie into.

It is assumed in this study that the forthcoming development of the Leven Road Gas Works site will deliver a publicly accessible riverside, and importantly one which can allow future connections to adjacent sites along the river edge.

Blackwall Trading Estate, Creek Wharf and Moody Wharf are collectively named 'Oban Street site' in the Housing Zone proposals. These sites are currently occupied by various industrial and commercial tenants. The existing buildings on Creek Wharf, along with the operations on Moody Wharf prevent the creation of an interim route. Opening up this section will provide a legible route connecting the potential Poplar Reach, Mayer Parry Wharf and A13 crossings/connections.

The creation of a continuous riverside route along the LB Tower Hamlets bank of the River Lea should be supported at a strategic planning level to ensure that this is not lost through the different plans for these fragmented sites.

Identified risks include:

- Fragmented developments of sites does not lead to a continuous riverside route being created.

- Delayed delivery of A13 connector prevents useful network benefits of the connection.

- In agreeing delivery of riverside routes through development, 24hr public access across the river edge should be sought from developers.



Overview of the route - looking north - between Leven Road Gas Works and the A13



View looking north from the A13 along the western river edge



G - A13 RAMP

H - REUBENS BRIDGE

The current connection between Bow Creek Ecology Park towards Canning Town station and town centre is via a set of stairs, or an extended and illegible accessible route through the underpass and via Bidder Street.

Early designs were developed to replace the stairs with a ramp which would provide a stronger accessible connection. These were developed by LB Newham with surveys carried out to ensure that the ramps foundations avoided below ground services.

A planning application (16/01057/LA3) was lodged for a ramp here, but was subsequently withdrawn before planning was granted in 2016.

Identified risks include:

- Confirmation of status of project from LB Newham required - costs, delivery timetable.

- If ramped solution is not delivered then there will be an impact on the wider accessible network benefits. This bridge was delivered in the 1990's alongside the construction of the DLR. It has since remained padlocked preventing its use.

Until 2016 this posed little problems, as the riverside it connected to on the south side of the DLR was a dead-end and inaccessible. However with the completion of the Leamouth North bridge linking the London City Island development to a newly opened Bow Creek entrance to Canning Town Station - the 'Rotunda'.

This bridge has remained closed despite the riverside becoming publicly accessible and would provide a direct link from LB Tower Hamlets to Canning Town station avoiding the narrow footways along the A13 road bridge.

There has been discussions that the bridge remains shut because of adoption issues around its structural stability. It should also be noted that its ramps are non-standard and do not provide an accessible connection and the structure could benefit from a study to investigate how it might be adapted potentially keeping the central span but replacing the ramps with lifts and steps.

Identified risks include:

- Confirmation of structural stability of the bridge.

- Bridge isn't opened up because of adoption issues between LB Newham and DLR, decreasing the network benefits in combination with the A13 connector.

- Unknown costs of preparing the bridge for public use.



View of the existing staircase and the adjacent site for the ramp to the right



Internal view of Reubens bridge taken on a site visit with DLR representatives in 2014

RAFT
I - LEAMOUTH / HERCULES WHARF CROSSING

J - THAMES WHARF BRIDGE

A crossing here was first proposed in 2004 linking Hercules Wharf to the Limmo Peninsula - where a new parkland and riverside route would provide a link to Canning Town station. It would also offer an option to continue a Thames path eastwards into the Royal Docks as it also proposes connecting into the Lower Lea Crossing.

Originally scheduled for completion in 2007 the bridge still awaits delivery, which was previously been led by Leaside Regeneration with support from Trinity Buoy Wharf Trust. Planning permission was granted by LB Newham in 2005, and subsequently renewed in 2010 (10/00245/LTGDC). This planning application would seem to of lapsed, though there have been discussions previously that the foundations for the bridge were begun, though whether a Lawful development certificate to confirm the commencement of works exists is unclear.

Since 2011 the northern landing site has been in the possession of Crossrail - preventing development of the bridge and riverside route. Through the detailed design development of the head house structures for Crossrail, space has been maintained for the riverside to be opened up. Now that this possession is nearing an end the opportunity to create the intended connection should not be missed.

Identified risks include:

- Unknown delivery timetable

- Detailed design of the bridge needs to be confirmed given the changed context of the southern bridge landing.

- Delivery/adoption partners to be confirmed

This bridge potential is tied into the continuing regeneration of Trinity Buoy Wharf and the future development of Thames Wharf. A potential crossing over Bow Creek for pedestrians and cyclists formed part of the consented masterplan for Trinity Buoy Wharf granted in 1997 (PA/97/01061/L).

A bridge here has been identified repeatedly since as an opportunity to create a key link in a highly useful and legible route between the Isle of Dogs and Royal Docks opportunity areas.

This bridge is currently not designed, but will probably need to meet similar physical parameters as the completed Leamouth North crossing - requiring a high air draught - which makes it likely that this will need to be a bridge which can be raised or open.

Continuing development on Trinity Buoy Wharf should be monitored to ensure a suitable landing is maintained, and future masterplanning of the Thames Wharf site should ensure that a crossing can be well integrated in terms of urban design.

Identified risks include:

-Requires full detailed design, survey, planning consents to be achieved.

- No current development/adoption partner or funding stream identified.



Elevation of the bridge in its closed position - extract from planning application 04/1171 (LB Newham)



Extract from ARUP's Royal Docks Infrastructure Investment Plan, Feb 2016



PTAL BASELINE / METHODOLOGY

The Public Transport Accessibility Level (PTAL) is a measure of the connectivity of a given location to public transport services - ranging from 1A to 6B (from low to high).

PTAL - is a measure of a sites public transport connectivity is derived by a methodology adopted by Transport for London. The range of values for PTAL across the study area forms a key piece of baseline information for this review. As will be discussed, London Plan policy links a site's PTAL to a suggested appropriate density for development. In doing so, it establishes a key relationship that will be important in assessing the potential for the improved connectivity that may delivered by the connections project to support development of the Housing Zone sites.

A note provided in the Appendix to this study provides further detail on PTAL and the methodology underpinning it.

A reference case for the projected PTAL levels across the study area has been produced to form a baseline for this review (below right, opposite page). This has been based on a site review and as shown differs in some respects to the equivalent 2021 PTAL values provided by TfL. Please see the study Appendix for further detail.





TfL Calculated PTAL Levels Webcat (2021)



Alan Baxter Calculated PTAL Levels Reference Case (2021)



PTAL BASELINE / METHODOLOGY

The notes below provide further information on some detailed assumptions that have informed the PTAL baseline and scenario testing.

A13 Road Bridge Canning Town Connection

The PTAL baseline and scenario testing excludes an existing stepped route over A13 road bridges to Canning Town.

The impact of excluding this route is illustrated in comparative PTAL plots below and a rationale provided in the notes below.

• The route may be short (due to the stepped link between Lanrick Road and the northern slip bridge), however it is of poor environmental quality, accessibility and legibility (see right).

• Our view is that this route should not be considered an adequate primary walking and cycling link to Canning Town from the Poplar Riverside Housing Zone sites.

• PTAL assessment methodology does not factor in route quality, level of accessibility or legibility.

• Inclusion of this route in PTAL assessment would distort findings as the existing connection would mask benefits of higher quality, more legible routes provided by the new connections.

• The PTAL assessments that form part of this study therefore exclude this route from the 2012 PTAL reference case shown on the preceding page.

• Only assessing step free routes is also consistent with our team's understanding of how TfL's WebCAT Planning Tool calculates walking distances/time distances for this location.





Above: Poor / hostile environment of existing walking and cycling Stepped route to Canning Town Station via the A13 Road northern slip bridge.



2021 reference case excluding stepped road bridge route to Canning Town



2021 reference case including stepped road bridge route to Canning Town

Leven Road 'Red Ramp' Connection to Oban Street

• The PTAL assessments assume eastern connectivity between the Leven Road site and the Oban Street site, as well as access to Oban Street from the Leven Road site.

• It is assumed that the latter could be achieved in a similar way to the Red Ramp proposals that formed part of the Leaway / Fatwalk Poplar Reach park area proposals (see below).

• We have not been able to review current developer proposals for the Leven Road site so cannot confirm whether this link forms part of the emerging design for the site, but would recommend that some from of connection is provided in this location to deliver improved access to the eastern portion of the site.





01 SECTION 1:50@A1 / 1:100@A3



CONNECTIONS & SCENARIO TESTING

The scenario testing that follows illustrates the relative benefits that the connections projects could provide - as individual interventions and in series of potential combinations. The findings are intended to assist in the identification of key priority projects and the production of a coordinated delivery plan for the new connections - in tandem with the development of the Housing Zone sites and delivery of new park areas.

The scenarios are split into two categories. The baseline scenarios deal with a single major connection project (along with any secondary links required to form an effective new route - e.g. the A13 Connector is tested in conjunction with the re-opened Reubens bridge, and the Mayer Parry Wharf Bridge in conjunction with the Newham Riverside links). The combined scenarios test a series of new connections in concert - exploring issues such as broader network benefits and options for delivering alternative Leaway routes.

We have assessed the scenarios against a combination of guantitative and gualitative criteria, covering local benefits - that will primarily benefit the Housing Zone sites - and strategic benefits - that reflect improvements to the broader connections across and along the valley.

The three criteria are outlined below:

· Connectivity / network contribution - a review of the new connections' contribution to the local and strategic walking and cycling network, in terms of key links, access, capacity, legibility, choice and resilience.

 Public Transport Accessibility Level (PTAL) assessment & indicative housing capacity - a measure of the PTAL uplift that the connections would provide compared against the baseline PTAL, with an indication of the notional uplift in housing capacity that the improved access could support.

· Route quality - an assessment of the quality of new walking and cycling routes enabled by the connections, compared with existing routes to key destinations / locations - assessed with reference to TfL's Healthy Streets criteria.

See below and the page opposite for a summary of the scenarios. The pages that follow provide further detail and information on the assessment criteria. The testing section is followed by a scenarios matrix summarising findings of the scenario testing and key delivery constraints / comments from the baseline review.



Key

А	Lochnagar Bridge
В	Poplar Reach Bridge
С	Mayer Parry Wharf Bridge
D	A13 Connector
E	Newham Riverside
F	Tower Hamlets Riverside
G	A13 Ramp
Н	Reubens Bridge
I	Leamouth / Hercules Wharf Bridge
J	Thames Wharf Bridge

Thames Wharf Bridge

SCENARIOS OVERVIEW

Baseline scenarios

1	Lochnagar Bridge
2	Poplar Reach Bridge
3	Mayer Parry Wharf / EMR Bridge & Newham Riverside
4A	A13 Connector & Reubens Bridge
6	Leamouth / Hercules Wharf Bridge & Thames Wharf Bridge

Combined scenarios

8	Poplar Reach Bridge Mayer Parry Wharf / EMR Bridge
9	Lochnagar Bridge Poplar Reach Bridge Mayer Parry Wharf / EMR Bridge A13 Connector Newham Riverside Tower Hamlets Riverside
10	Lochnagar Bridge Mayer Parry Wharf / EMR Bridge Newham Riverside
11	Lochnagar Bridge Poplar Reach Bridge A13 Connector Tower Hamlets Riverside
12	Lochnagar Bridge Poplar Reach Bridge Mayer Parry Wharf / EMR Bridge Newham Riverside



CONNECTIVITY / NETWORK CONTRIBUTION

The London Plan Housing SPG recognises encouraging walking and cycling to and from adjacent communities, transport, retail, communities and other facilities as being of particular importance for large scale development (paras 1.3.39 - 40). A high level of permeability and connectivity will be delivered through a well integrated and comprehensive walking and cycling network. In making walking and cycling safer and more attractive, creating a high quality network at Poplar Riverside will align with TfL's Healthy Streets objectives, and will help realise the broader health and environmental benefits of greater adoption of active transport.

The Housing Zone sites lining the river are affected by a series of major severances; caused by the waterway itself, historic plot divisions and pieces of infrastructure crossing the valley. A new effective and integrated walking and cycling network will be critical in ensuring that the separate Housing Zone sites become set of well connected places; a series of neighbourhoods, knitted together and well connected to destinations both east and west of the River Lea.

Key strategic principles of forming both north-south continuous routes and cross valley connections are embedded within the strategy for Lea River Park - continuing the approach demonstrated in Queen Elisabeth Olympic Park of transforming the Lea Valley from an inaccessible backwater, to a well-connected and vibrant piece of city, with the river at its heart. A good network will:

• Provide for key desire lines within the development sites and to surrounding destinations.

• Establish a clear hierarchy of routes to aid legibility and support placemaking.

• Ensure connectivity is established across the whole site, with options for continuing journeys to avoid the creation of 'enclaves' or poorly connected areas.

• Routes should have a high utility value - following London Cycling Design Standards and other relevant best practice to ensure routes are useful for both travel focussed and recreational use.

These principles form a bridge between the qualitative concerns such as placemaking and more quantitative concerns such as route capacity and utility. They also acknowledge that - within reason - extensity and a high network density (i.e. multiple routes) can be positive attributes for a network - increasing capacity, resilience, providing choice and an over all greater sense of connectedness.

The analysis on the opposite page illustrates an set of 'ideal network' connections across the Lea, with connections provided at a frequency based on case case study's of existing successful sites (e.g. QEOP, the Islington stretch of Regent's Canal, and HafenCity, Hamburg). The 'ideal network' is then used assess the proposed network, showing how the proposed links map onto the ideal set of links and allowing gap analysis of where additional links would be beneficial.

The scenarios' connectivity and network contribution will be assessed against the principles above.



Network analysis

From analysis of succesful networks (see case studies, p28-29) it can be seen that pedestrian crossings 200-300m apart appears to be an ideal condition. Owing to the contorted curves of the river in the Lower Lea Valley, it is not as simple as a crossing every 200m along the river; instead a series of crossing points are shown on the right which respond to the direction of movement and orientation of the river.

With this in mind, the proposed connections reviewed in this study can be anticipated to leave most of the area well served by a future network of crossings.

However, there are three locations which in the long term could benefit from safeguarding crossings:

1. Four Mills - with potential to create a link from the Teviot Estate through to West Ham/Stephenson Street, overcoming a 700m+ break in connections north of the Lochnager bridge. This bridge would be best delivered alongside any redvelopment of the Four Mills/Gillender Street sites.

2. A13 North - If the A13 connector is not delivered a new bridge to the north of the A13, or a significant improvement of the northern slip roads pedestrian environment should be considered.

3. A Link between the Limmo and Canning Town across the underground/ DLR tracks is safeguarded in the development of the Silvertown West site - a similar safeguarding should be considered for a crossing between the Leamouth peninsula and the Limmo. This would provide a useful connection across the valley between the A13 and the Lower Lea Crossing.

Network routes Existing crossing Additional crossing opportunity Proposed crossing	
Lochnagar Bridge Poplar Reach Bridge Mayer-Parry Wharf Bridge A13 Connector	
A13 Ramp Reubens Bridge Leamouth / Hercules Wharf Bridge Thames Wharf Bridge	SP INS





Key

ABCD-GHIJ

PTAL ASSESSMENT & INDICATIVE HOUSING CAPACITY

London Plan policy reflects the principle that locations with higher access to public transport should be able to support higher densities of residential development. This is reflected in policy that links a site's appropriate density to its Public Transport Accessibility Level (for further detail on PTAL, see the relevant section in the baseline review and Appendix A).

The scenario assessments use this principle as a means of arriving at a *notional* indication of the additional housing capacity that the new connections could support on the Housing Zone sites.

The indication is only notional as a genuinely appropriate proposed density for a site would depend on a series of interrelated factors in addition to PTAL. These include:

• Site specific design considerations (such as local context and character, access, orientation, daylighting, overshadowing and other site constraints).

• Design quality of buildings, dwellings and public spaces

· Social infrastructure and amenities.

• Considerations that would support delivery of higher densities (see below).

However, with the above in mind, the PTAL uplift and corresponding notional capacity increase provide a useful measure for gauging the relative scope for the connections to support additional development on the Housing Zone sites.

Methodology & Assumptions

The uplift in PTAL across the Housing Zone sites that would be delivered by the proposed connections has been calculated and plotted for each of the scenarios. This uplift has then been used to calculate a corresponding increase in the notional number of residential units that could be supported on this site at policy compliant densities.

A number of assumptions underpin these calculations:

• Given the site locations the area is designated as 'urban' for the purposes of reading off the London Plan density matrix.

• Based on the proposed housing mix figures provided by LB Tower Hamlets, the habitable rooms per unit for the sites falls into the 2.7-3.0 hr/u band.

• Based on the ranges within the density matrix, we have then assumed that PTAL increments map onto the density values shown on the right.

We have then calculated a site wide average density for the baseline and projected PTAL figures for each site and with this derived a notional number of units from the site area. As noted above, it should be borne in mind that this approach is relatively crude, but does provide a sense of the relative benefit of the various proposals in terms of housing delivery.

octang	Public Transport Acce	ssibility Level (PTAL)	
	0 to 1	2 to 3	4 to 6
Suburban	150–200 hr/ha	150–250 hr/ha	200–350 hr/ha
3.8–4.6 hr/unit	35–55 u/ha	35–65 u/ha	45–90 u/ha
3.1–3.7 hr/unit	40–65 u/ha	40–80 u/ha	55–115 u/ha
2.7–3.0 hr/unit	50–75 u/ha	50–95 u/ha	70–130 u/ha
Urban	150–250 hr/ha	200–450 hr/ha	200–700 hr/ha
3.8 –4.6 hr/unit	35–65 u/ha	45–120 u/ha	45–185 u/ha
3 1–3 7 hr/unit	40–80 u/ba	55–145 u/ba	55–225 u/ha
2.7–3.0 hr/unit	50–95 u/ha	70–170 u/ha	70–260 u/ha
Central	150-300 hr/ha	300–650 hr/ha	650–1100 hr/ha
3.8–4.6 hr/unit	35–80 u/ha	65–170 u/ha	140–290 u/ha
3.1–3.7 hr/unit	40–100 u/ha	80–210 u/ha	175–355 u/ha
2.7–3.0 hr/unit	50–110 u/hr	100–240 u/ha	215–405 u/ha
Notes to Table 3.2 Appropriate density ranges are related to setting in terms of location, existing building form and massing, and the index of public transport accessibility (PTAL). The setting can be defined as: Central – areas with very dense development, a mix of different uses, large building footprints and typically buildings of four to six storeys, located within 800 metres walking distance of an International, Metropolitan or Major town centre.			
International, Metropol	itan or Major town centre.		aiking distance of an
International, Metropol Urban – areas with pree mansion blocks, a mix o two to four storeys, loc main arterial routes	itan or Major town centre. dominantly dense develop of different uses, medium ated within 800 metres wa	oment such as, for exam building footprints and t alking distance of a Distr	ple, terraced houses, ypically buildings of ict centre or, along

Above: London Plan density matrix showing the assumptions for the scenario assessments.

DENSITY <u>35 dph</u> <u>70 dph</u> dph qap <u>50 dph.</u> <u>75 dph</u> <u>95 dph</u> 220 200 240 ΡΤΔΙ 0 to 1B 2 to 3 4 to 6B 0 50 Ę θ 80 <u>S</u> o ا م ന് 4 N PTAL

Above: Diagram showing the PTAL values and corresponding densities used in the notional housing capacity calculations.

5th studio

Reality Check - Broader Context and Higher Density Considerations

The notes below provide some context for the density and site capacity figures that follow in the scenario assessments. In general, it will be seen that these appear low compared to the housing delivery targets for the Housing Zone sites. As noted, the density matrix is one of a series of factors that need to be considered when assessing appropriateness of development on a specific site - another in particular being the London Plan's overarching housing objective (and that of the Housing Zones initiative) of addressing London's pressing current need for housing and delivering 'good growth' through meeting future demand.

Over 50% of completed development in London between 2008 and 2015 has been at densities above the upper range of the London Plan density matrix levels - as shown on the graph below (the density matrix range is shown in green). This is also evident in local benchmarking, with a number of recent developments in the study area having densities that are significantly higher than 'compliant' matrix densities.

The London Plan and Housing SPG provide policy context for supporting higher densities on large sites, opportunity & intensification areas (see section 1.3 Housing SPG, March 2016). Including scope for large sites to define their own setting and in doing so accommodate higher densities, highlighting the role large brownfield sites can play in this regard, and that opportunity areas could be considered for higher densities - all of which are relevant to the Housing Zone sites. The Housing SPG also notes that developments above the density ranges can be considered (1.3.50 - 52), but that they should:

• Be of high design quality, address considerations of local context, transport capacity / PTAL, deliver high quality liveability, amenity and space standards

Offer good overall contribution to placemaking / placeshielding.

• Have potential to define own setting to support higher densities.

· Have an appropriate size and mix of dwelling types.

• Have good services management - waste, parking and access.

• Be on a site applicable for higher densities - e.g. an opportunity area.



Above: Selection of recent nearby developments percentage comparison of development densities with 'compliant' matrix densities.

Left: Completed development 2008-2015 - frequency distribution of standardised bedroom densities (relative to the norm of the London Plan's density matrix).

Source: Defining, Measuring And Implementing Density Standards In London, London Plan Density Research Project 1, Ian Gordon, Alan Mace And Christine Whitehead, London School of Economics.



ROUTE QUALITY

The connections projects will enable a series of new and adjusted routes from the Housing Zone sites to key strategic and local destinations. We have assessed the quality of these new routes compared with existing connections, using TfL's Healthy Streets indicators as a key reference (see right). In tandem with network quality, route quality will be critical in encouraging broader uptake of walking and cycling - aligning with the Healthy Streets objectives and helping achieve the broader environmental, health and economic benefits that increased adoption of active transport will deliver (see opposite page).

Stretches of routes have been assigned the categories below and illustrated in terms of time / distance in the scenario assessments. The categories cover on-highway, off-highway and public transport. The on-highway routes are split into busy roads, moderately busy streets and 'home zones' / residential streets - increasing in Healthy Streets characteristics toward the latter.

The off-highway parkland / riverside routes offer the most potential to deliver on a number of the Healthy Streets criteria - providing walking and cycling routes with better air quality, fewer interactions with vehicles, natural shade, public realm facilities and access to open space and park activities. However it should be noted that depending on the nature of adjacent development and uses, not all of these off-highway routes will be suitable as all-day commuter routes due to lighting provision, etc. - although in many cases subsequent nearby development will address these issues. See below for the categories and a key to the diagrams that follow in the scenario assessments.



Ten Healthy Streets Indicators

Source: Healthy Streets for London Prioritising walking, cycling and public transport to create a healthy city, February 2017, TfL.



Route Quality Categories

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£1.7bn	A person who is active every		Car ownership ² Car owners in London are 2 - 3 liess
25 years and would contribute to fewer of the following ⁵ :	day reduces their risk of ":	likely to do half an hour of activity in a day than those who don't own cars	
hip fractures	Type 2 diabetes	Depression	Nearly
85,000 V dementia 19,200 V	35-50% 🔻	20-30% -	I/Z trips made by London residents could be cycled in around 10 minutes
depression	Coronary heart disease	Alzheimer's disease	More than
cardiovascular disease 16,400 V	20-35% 🔻	20-35% 🔻	1/3 trips made by Londoners as a driver or passenger could be walked in under 25 minutes
stroke 6 700 V	Hip fracture	Breast cancer	2/3 of car
type 2 diabetes 4,800	36-68% 🔻	20% -	made by London residents could be cycled in under 20 minutes
colorectal cancer	Death	Colon cancer	I/3 of car
breast cancer	20-35% 🔻	30-50% 🔻	are longer than 5km. Some of these could be cycled in around 20 minutes



for children to get the activity they need through travel and play.

8 in 10

4 in 10

children in London are already overweight or obese ⁸

3

Children burn most

energy playing outdoors, walking and cycling 7

children in London do not get the One hour a day of physical activity that is the minimum they need to stay healthy⁸



Older **children** build their **independence** by being able to travel unaccompanied, but unpleasant street environments often prevent this in London⁹













Potential for health benefits, car travel reduction and childhood obesity reduction through greater adoption of walking and cycling.

Source: Healthy Streets for London Prioritising walking, cycling and public transport to create a healthy city, February 2017, TfL.





3 BASELINE SCENARIOS

Baseline scenarios intro

1	Lochnagar Bridge
2	Poplar Reach Bridge
3	Mayer Parry Wharf / EMR Bridge & Newham Riverside
4A	A13 Connector & Reubens Bridge
6	Leamouth / Hercules Wharf Bridge & Thames Wharf Bridge



SCENARIO 1: LOCHNAGAR BRIDGE

Related Housing Zone sites: Ailsa Street

The new eastern connection enabled by the bridge would realise benefits for the Ailsa Wharf development - in terms of improved connectivity to local education facilities and access to strategic links across and along the valley.

1 - Network / Connectivity

 The new bridge would provide a new east-west connection across the Lea, addressing the severance formed by the river and providing access to the Leaway - the latter offering walking and cycling connections to Bromley-by-Bow (including access to Bow School), Stratford and Queen Elizabeth Olympic Park.

· East-west access would enable a new station connection from Ailsa Street to Star Lane DLR and beyond to the eductaion cluster east of the station (Eastlea Community School, Newham College for Further Education and Star Primary School).

· Further to the education cluster, east-west access would provide more direct connections to areas of employment east of the river and better links to local services and other facilities east of the Lea in Canning Town, West Ham and Plaistow

2 - PTAL / Indicative Housing Capacity
The Ailsa Street site has a PTAL ranging from 1B to 4 although the majority of the site is PTAL 2. The bridge would provide new access to bus connections and Star Lane DLR, improving the access index in the eastern edge of the site.

3 - Route Quality

· Access to the Leaway would open up an alternative parkland / riverside walking and cycling route to Bromley-by-Bow (including access to Bow School), Threemills Green and Stratford High Street and Queen Elizabeth Olympic Park. As illustrated below using a journey to Bromley-by-bow as a case study, this would offer a major improvement in route quality compared to the current route alongside the A12 road providing access to the river, park areas and heritage assets of Bow Locks and Twelvetrees Crescent.

· As illustrated below, the new route to the education cluster east of Star Lane DLR via the Leaway, Cody Dock, South Crescent and Cody Road would provide a significant improvement over existing routes via Canning Town Station providing an experience of the river, associated park spaces and less hostile road environments than current routes across and along the A13. Recent public realm improvements along South Crescent and Cody Road have anticipated this future use, providing improved pedestrian and cycling facilities, traffic calming and junction safety measures.

Delivery

· Outline design proposals have been developed for the bridge, however technical feasibility / scoping information is not available, without which a number of design / delivery risks remain - e.g. air draught / clearance over river, below ground services, ramps footprints, etc. (see Baseline Review for further details).







Scenario 1 - PTAL Change Compared to Reference Case



(2



SCENARIO 2: POPLAR REACH BRIDGE

Related Housing Zone sites: Leven Road Gas Works

A new bridge link to Cody Dock would deliver significant benefits for the Leven Road site - mainly in terms of connectivity and sense of place, but also through a small uplift in housing capacity. Combined with new routes provided via development at Leven Road, the new link would also benefit the Oban Street and the Aberfeldy Village sites in terms of the overall movement network.

1 - Network / Connectivity

• The bridge would open up a new east-west connection across the Lea, addressing the severance formed by the river and providing access to the Leaway - the latter offering walking and cycling connections to Bromley-by-Bow, Stratford and Queen Elizabeth Olympic Park.

• East-west access would enable a new station connection between the Leven Road site and Star Lane DLR.

• The east-west link would also provide a more direct connection to areas of employment east of the river, and provide more direct links to local services, schools and other facilities east of the Lea in Canning Town, West Ham and Plaistow.

2 - PTAL / Indicative Housing Capacity

• New access to bus connections and Star Lane DLR would increase PTAL from 1B to 2 in the north-western portion of the Leven Road site, providing an uplift in indicative housing capacity. Although relatively small, its significant that this

uplift would be in the part of the site that is currently most isolated / poorly connected.

3 - Route Quality

• Access to the Leaway would open up a parkland / riverside walking and cycling route to Bromley-by-Bow, Threemills Green and Stratford High Street and Queen Elizabeth Olympic Park. As illustrated below using a journey to Bromley-by-Bow as a case study, this will offer a major improvement in route quality compared to the current route alongside the A12 road - providing access to the river, park areas and heritage assets of Bow Locks and Twelvetrees Crescent.

• The new route to Star Lane DLR via the Leaway, Cody Dock, South Crescent and Cody Road would also provide a significant improvement over existing routes to Canning Town Station and Langdon Park DLR - via the river crossing, the Leaway and less hostile road environments than current routes across and along the A12 and A13. Recent public realm improvements along South Crescent and Cody Road have anticipated this future use, providing improved pedestrian and cycling facilities, traffic calming and junction safety measures.

Delivery

• Design proposals for the bridge have been progressed to the equivalent of RIBA Stage 3/4, supported by extensive technical / stakeholder consultation and site investigations (see Baseline Review for further details).







SCENARIO 3: MAYER PARRY WHARF BRIDGE

Related Housing Zone sites:

Leven Road Gas Works Oban Street

A new bridge between the Leven Road site and Mayer Parry Wharf (and associated riverside links) would deliver major benefits, supporting additional housing delivery across multiple housing zone sites and establishing significant local and strategic network benefits.

1 - Network / Connectivity

• The bridge and riverside connections would establish a new highly direct and legible link between the Leven Road site and Canning Town.

• The associated riverside links would also unlock the completion of the Leaway - providing the final stretch of a walking and cycling route linking the Queen Elizabeth Olympic Park and the Thames.

• The new east-west connection across the Lea would have significant placemaking / quality benefits for the Leven Road and Oban Street sites, addressing the severance formed by the river and providing access to the Leaway from west of the river.

• The new east-west link would also provide a more direct connection to areas of employment east of the river. The east-west connection also provides more direct links to local services, schools and other facilities east of the Lea in Canning Town, West Ham and Plaistow.

2 - PTAL / Indicative Housing Capacity

• The improved access to Canning town would provide a major uplift in PTAL across the Leven Road and Oban Street sites, with a corresponding uplift in indicative housing capacity by circa one-third.

3 - Route Quality

• New mainly riverside route to Canning Town would be of higher quality than the current on-carriage way route, engaging with areas of improved public realm at Wharfside Road and Essex Wharf.

• Access to and completion of the Leaway would open up an alternative parkland / riverside walking and cycling route north to Bromley-by-Bow, Threemills Green and Stratford High Street and Queen Elizabeth Olympic Park, and south to the Thames.

Delivery

 Proposals for this crossing are currently aspirational - no outline design or feasibility work has been done for an actual bridge structure. However, the high level constraints and options for riverside routes have been scoped historically during design work relating to the Leaway

• Delivery would require pubic walking and cycling links across the Mayer Parry Wharf / EMR site on the east bank of the river, for which there are currently no firm design proposals or agreements with land owners.

· See Baseline Review for further details.







SCENARIO 4A: A13 CONNECTOR & REUBENS BRIDGE

Related Housing Zone sites:

Leven Road Gas Works Oban Street

The A13 Connector, in conjunction with a reopened Reubens Bridge, would deliver major benefits, supporting additional housing delivery across multiple housing zone sites and establishing significant local and strategic network benefits.

1 - Network / Connectivity

• Delivery of the A13 Connector and reopening of Reubens Bridge would establish a new riverside / parkland link between the Leven Road site and Canning Town. Although broadly comparable in length with the existing stepped route over the A13 road bridge, the new route would offer a significant improvement in environmental quality and would also be step free.

• The A13 Connector would also enable a north-south riverside route, addressing the major severance posed by the A13 road bridges and anticipating riverside connections to be delivered by development on the Leven Road and Oban Street sites, which would form a major part of am alternative west bank Leaway route.

• The new east-west connection across the Lea would have significant placemaking / quality benefits for the Oban Street site, addressing the severance formed by the river.

• The new east-west link would also provide an improved connection to areas of employment east of the river. The east-west connection also provides an improved link to local services, schools and other facilities east of the Lea in Canning Town.

2 - PTAL / Indicative Housing Capacity

• The improved access to Canning town would provide a major uplift in PTAL across the Oban Street and Leven Road sites, with a corresponding uplift in indicative housing capacity of c.40% at Oban Street and c.30% at Leven Road (see PTAL baseline section for discussion of how these findings relate

3 - Route Quality

• As illustrated below, the new mainly riverside route to Canning Town would be of higher quality than the current on-carriage way route, engaging with areas of improved public realm at Wharfside Road and Essex Wharf.

• The alternative west bank Leaway route would provide a direct parkland / riverside walking and cycling route south to the Thames.

Delivery

• Alternative detailed proposals for the Connector project have been developed exploring a number of options for forming the link - including a walkway through the existing bridges, subway through the existing bridge abutment and a walkway within the river channel.

• Significant delivery challenges and risks remain, mostly related to the ongoing operation of the A13 road and bridges, and the potential replacement of the existing central 'Iron Bridge' by 2025.

· See Baseline Review for further details.







SCENARIO 6: LEAMOUTH / HERCULES WHARF BRIDGE **& THAMES WHARF BRIDGE**

Related Housing Zone sites: Leamouth Peninsula South

Although offering some improvement in local public transport accessibility, the main benefits of this pair of crossings relate to their place in the broader strategic movement network linking the Royal Docks and Canary Wharf.

1 - Network / Connectivity

· The proposed crossings at Leamouth / Hercules Wharf and Thames Wharf will provide key links in an emerging Thameside movement network linking the Royal Docks and Canary Wharf.

2 - PTAL / Indicative Housing Capacity
Construction at Leamouth Peninsula North is approaching completion, with new housing benifiting from a direct connection to Canning Town Station via the recently delivered Learnouth North Bridge - as such the new connections will not provide a marked uplift in public transport access to this site.

 The proposed bridge at Leamouth / Hercules Wharf will provide an improvement in PTAL for Leamouth Peninsula delivering an uplift from PTAL 2 to 3 in the eastern portion of the site (see right). Planning has already been secured for 804 units and commercial space on this site.

Delivery

See Baseline Review for further details.



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Key







COMBINED SCENARIOS

Combined scenarios intro

8	В	Poplar Reach Bridge
	С	Mayer Parry Wharf / EMR Bridge
9	А	Lochnagar Bridge
	В	Poplar Reach Bridge
	С	Mayer Parry Wharf / EMR Bridge
	D	A13 Connector
	E	Newham Riverside
	F	Tower Hamlets Riverside
10	А	Lochnagar Bridge
	С	Mayer Parry Wharf / EMR Bridge
	E	Newham Riverside
11	А	Lochnagar Bridge
	В	Poplar Reach Bridge
	D	A13 Connector
	F	Tower Hamlets Riverside
12	A	Lochnagar Bridge
	В	Poplar Reach Bridge
	С	Mayer Parry Wharf / EMR Bridge
	E	Newham Riverside

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SCENARIO 8: LEVEN ROAD BRIDGES

Related Housing Zone sites:

Leven Road Gas Works Oban Street

This scenario demonstrates the combined strategic and local benefits that would be realised through the delivery of both the Poplar Reach bridge and a crossing between the Leven Road site and Mayer Parry Wharf.

1 - Network / Connectivity

• The new connections would deliver the significant strategic network benefits of the improved link to Canning Town detailed in scenario 3 and the completion of the northsouth Leaway route along the eastern bank of the river.

• The Poplar Reach bridge would deliver local connections to employment areas, Star Lane DLR and destinations in West Ham and Plaistow.

• The combination of bridge links and riverside routes would start to establish a grain to the network, creating a series of connected neighbourhoods, linked by a movement network with additional capacity and resilience.

2 - PTAL / Indicative Housing Capacity

• The combination of new connections would deliver the major uplift in PTAL across the Oban Street and Leven Road sites from scenario 3, combined with the uplift the isolated north-western portion of the Leven Road site provided by the Poplar Reach bridge in scenario 2.

3 - Route Quality

• The new parkland / riverside routes to south to Canning Town and north to Bromley-by-Bow would offer major environmental benefits over the existing on-highway way routes along the A12 and A13 roads, providing improved access to green space along significant stretches of car free walking and cycling links.

Delivery

• Although the bridge links form a logical pair, the proposals for Poplar Reach are well developed while the proposal for a bridge link to Mayer Parry Wharf is aspirational at present.

• With development at Leven Road likely to proceed imminently, design, stakeholder consultation and agreements relating to the Mayer Parry Wharf bridge will need to proceed quickly in order to successfully bring its delivery into step with the broader development context.

• It's likely that areas of the Leven Road site will be required for access and construction of the main bridge spans, so the sequencing of their construction will need to be considered in conjunction with the phasing for development of the Leven Road site.







SCENARIO 9: MAXIMUM NETWORK

Ailsa Street

Related Housing Zone sites:

Leven Road Gas Works Oban Street

Scenarios 9 and 10 explore how the combined benefit of new bridge links and connections could deliver a comprehensive walking and cycling network serving the Housing Zone sites north of the A13 and integrating housing, employment and transport on ether side of the River Lea.

The effect of a broader network is that it would spread strategic benefits at a local level - the network of routes tying the new residential developments into a series of well connected places, providing greater capacity, resilience and choice, and supporting active travel to local and more distant destinations.

Scenario 9 illustrates a 'maximum network' where all four structures and related riverside links are delivered. Scenario 10 illustrates a 'reduced network', where only Lochnagar and the Mayer Parry Wharf bridge are delivered.

1 - Network / Connectivity

• The combination of bridge links and riverside routes would create a series of connected neighbourhoods, linked by a movement network providing additional capacity and resilience.

• Both east and west bank Leaway routes are delivered, providing continuity along the riverside.

· All riverside Housing Zone sites would benefit from east-

west across the river and providing access to the Leaway - with Leven Road and Oban Street sites benefiting from a choice of northern or southern connections.

2 - PTAL / Indicative Housing Capacity

• The maximum network scenario illustrates the maximum PTAL uplift for sites north of the A13 - a combination of scenarios 1, 2 and 4A.

3 - Route Quality

• The maximum network would deliver the full suite of route quality improvements described in the baseline scenarios - providing a range of improved parkland / riverside walking and cycling routes to local and strategic destinations (see below and relevant baseline scenarios).

Delivery

• Achieving the comprehensive network will involve the coordinated delivery of a series of projects over an extended time frame - all coordinated with development of the related Housing Zone sites.

• An indicative '15 year vision' is described in the findings and recommendations section of this report to illustrate the main delivery and coordination issues, in the short, medium and long term.







SCENARIO 10: REDUCED NETWORK

Related Housing Zone sites:

Ailsa Street Leven Road Gas Works Oban Street

Scenario 10 illustrates a 'reduced network', where only Lochnagar and the Mayer Parry Wharf bridge are delivered. In this scenario, the major east-west and north-south strategic links are established and network connections are made to each riverside Housing Zone site - however, the broader tissue of potential network links are not delivered, resulting in a lack of connectivity to parts of the Leven Road and Oban Street sites

1 - Network / Connectivity

• The east bank Leaway route would be delivered, Ailsa Wharf would have an east-west connection and Leaway access via the Lochnagar Bridge, while Leven Road and Oban Street would have a similar connection and direct link to Canning Town via the Mayer Parry Wharf Bridge.

2 - PTAL / Indicative Housing Capacity

• The PTAL uplift would be limited to a combination of that provided by scenarios 1 and 3.

3 - Route Quality

• The reduced network would deliver the a suite of route quality improvements - providing a range of improved parkland / riverside walking and cycling routes to local and strategic destinations (see below and relevant baseline scenarios).

Delivery

• Delivery risks / comments relating to scenarios 1 and 3 would apply.





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SCENARIO 11: WEST BANK

Related Housing Zone sites:

Leven Road Gas Works Oban Street

Ailsa Street

Scenarios 11 and 12 explore combinations of connections that would form alternative Leaway routes on the west and east banks of the river.

Completion of the Leaway route is a key strategic objective in the Lower Lea Valley. The collection of delivery challenges around the A13 road bridges, Oban Street and Mayer Parry Wharf mean this route could ultimately be delivered on either the east or west bank of the Lea. Scenarios 11 and 12 show alternative ways in which this could be achieved and illustrate the relative local benefits provided to the Housing Zone sites in each alongside the major strategic gain provided by the Leaway.

Scenario 11 would deliver a Leaway route along the west bank of the Lea, via Poplar Reach Bridge, Tower Hamlets Riverside and the A13 Connector. Options exist for providing a temporary Leaway Connection between the Leven Road site and the A13 Connector along Lanrick Road and Oban Street if the A13 Connector were to be delivered in advance of development of the Oban Street site and delivery of the associated riverside connection.

1 - Network / Connectivity

• Delivers the north-south Leaway route along the west bank of the Lea.

• The A13 Connector provides improves access to Canning Town for the Leven Road and Oban Street sites, while Poplar Reach Bridge provides a new east-west connection to Star Lane DLR and destinations in West Ham and Plaistow.

• Riverside routes delivered through development of the housing zone sites would play a key role in establishing the network - good connectivity into and between sites, and along the riverside would ensure that the benefits of the new bridge links are maximised.

2 - PTAL / Indicative Housing Capacity

• The combination of crossings provides the maximum PTAL uplift for sites north of the A13 - a combination of scenarios 1, 2 and 4A.

3 - Route Quality

• Would deliver the a suite of route quality improvements providing a range of improved parkland / riverside walking and cycling routes to local and strategic destinations (see below and relevant baseline scenarios).

Delivery

• This scenario tests the results of delivering the A13 Connector, rather than the Mayer Parry Wharf Bridge, assuming that the delivery challenges facing the former are addressed.





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SCENARIO 12: EAST BANK

Related Housing Zone sites:

Leven Road Gas Works Oban Street

Ailsa Street

Scenario 12 would deliver a Leaway route along the east bank of the Lea, with the Mayer Parry Wharf Bridge riverside route linking with existing connections north from Electra Wharf to Cody Dock and south from Wharfside Road to Canning Town and Silvocea Way.

The Poplar Reach and Mayer Parry Wharf bridges provide access to the Leaway and east-west connections for riverside Housing Zone sites.

1 - Network / Connectivity

• Delivers the north-south Leaway route along the east bank of the Lea. The key element in achieving this is the riverside link across Mayer Parry Wharf to Wharfside Road.

• The Mayer Parry Wharf Bridge provides improved access to Canning Town for the Leven Road and Oban Street sites, while Poplar Reach Bridge provides a new east-west connection to Star Lane DLR and destinations in West Ham and Plaistow.

• Riverside routes delivered through development of the housing zone sites would play a key role in establishing the network - good connectivity into and between sites, and along the riverside would ensure that the benefits of the new bridge links are maximised.

2 - PTAL / Indicative Housing Capacity

• The PTAL uplift would be limited to a combination of that provided by scenarios 1 and 3.

3 - Route Quality

 Would deliver the a suite of route quality improvements providing a range of improved parkland / riverside walking and cycling routes to local and strategic destinations (see below and relevant baseline scenarios).

Delivery

• This scenario tests the results of delivering the Mayer Parry Wharf Bridge and riverside link, rather than the A13 Connector. This assumes that the delivery challenges affecting the former are successfully addressed - including those related to the existing uses on Mayer Parry Wharf.








4 SCENARIOS MATRIX / ASSESSMENT

The following pages provide a matrix summarising findings of the scenario testing and key delivery constraints / comments from the baseline review.



BASELINE SCENARIOS

	Conne	ections	Descripton / PTAL Scoping		
				Network Connectivity	PTAL Uplift
Baseline					
	А	Lochnagar Bridge		- Creates cross vallev link -	-Small uplift in access index
1				Landon Park to Star Lane DLR and Eastlea schools cluster. - Provides access to Leaway routes north.	does not register on PTAL scale.
0	В	Poplar Reach Bridge		- Creates cross valley link -	- PTAL uplift in north-west of
2				Landon Park to Star Lane DLR and Eastlea schools cluster. - Unlocks network connections to multiple housing sites.	Leven Road site - improvement in most isolated part of site.
3	С	Mayer Parry Wharf / EMR Bridge	Bridge link from Leven Road Gas Works Site to EMR Site - assumes Newham Riverside route and connection to Bidder Street delivered alongside bridge.	 Riverside connection completes the Leaway, providing routes to north and south along the River Lea. Creates cross valley link to Canning Town. Unlocks network connections to multiple housing sites. 	- Delivers significant uplift to both Leven Road and Oban Street sites.
4	D	A13 Connector	A13 Connector with links to Canning Town (via Reubens Bridge) and to Leven Road Gasworks (via ramp connection)	 Creates cross valley link to Canning Town and access to Leaway routes south. Unlocks network connections to multiple housing sites. 	- Delivers significant uplift to both Leven Road and Oban Street sites.
	E	Newham Riverside	No impact PTAL impact as standalone connection - remote from housing zone sites		
	F	Tower Hamlets Riverside	Minimal impact PTAL impact as standalone connection - largely duplicates existing links		
	G	A13 Ramp	Minimal impact PTAL impact as standalone connection - duplicates existing link		
5	Н	Reubens Bridge	No impact PTAL impact as standalone connection - remote from housing zone sites - integral to A13 Connector benefit		
6	I	Leamouth South	Bridge link with connection along	Major strategic network	Provides some additional
0		Bridge	western edge of Limmo site.	penetits in tying the Limmo site into the broader Thamesside movement network.	support to capacity on the Lemouth Peninsula South site, although proposals for this site have already been consented.
7	J	Trinity Buoy Wharf / Thames Wharf Bridge	Bridge link with approach links to highways/	Major strategic network benefits in tying in terms of the broader Thamesside movement network.	n/a - long term timescale for delivery means Housing Zone sites will have already been delivered / developed. However, likely to provide major uplift in public transport accessibility to Leamouth Peninsula South in conjunction with new Thames Wharf DLR station.

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Assessment			PRIORITY / COMMENTS
Route Quality	Delivery Status	Order of Cost - unless otherwise stated figures refer to construction cost and exclude VAT	
- Enables alternative riverside / parkland routes to Bromley-by- Bow and DLR Canning Town branch.	Design risks / technicial feasibility issues not addresed in material available - including: - CRT air draught requirements - Below ground services - Potential need for extended approaches / ramps / lift access relating to the above.	 - c.£5m (June 2017) - Note significant design risks / technical feasibility queries that may render this cost estimate uncertain. 	High priority The bridge will link new homes at Ailsa Wharf to areas of employment east of the Lea, Star Lane DLR, and the Eastlea schools cluster. This project should be treated as high priority given the imminent timescale for delivery and the tangible benefits it offers.
- Enables alternative riverside /	- Design complete to RIBA	- c.£3.25m (September 2017)	High priority
parkland routes to Bromley-by- Bow and DLR Canning Town branch.	Stage 3-4 - Proposals based on thorough site investigations / consultations - Supported CPO and third- party agreements - Developer has duty to deliver - Some agreements time limited, so action required - Stakeholder consultation requires refresh given previous consultations date from 2011/2012.		Benefits for Leven Road and broader series of sites - proposals are well progressed and supported. Project should be progressed in the short term in conjunction with Leven Road development.
- Delivers direct and legible riverside route to Canning	- Reaching agreement for riverside routes or realocation	 No cost information available. Indicative order of cost for 	High priority Major strategic benefits and
Town - significant improvement over current on- highway routes.	with EMR poses significant challenge. - Notional proposal - i.e. no design proposals have been developed / costed.	bridge structure - based on comparison with other crossings may be c.£5-10m - Costs will be assiciated with establishing connecting routes across the EMR site.	support for additional capacity on both Leven Road and Oban Street. Project should be progressed in short term with focus on feasibility / design development and securing viable riverside connections across EMR site.
 Delivers riverside route to Canning Town - significant improvement over current on- highway routes. Less legible and direct than other scenarios. 	- High cost / design risk in relation to Iron Bridge / A13 procurement and design requirements. - Oban St site longer term development prospect	TfL project cost estimate £16- 37.25m (July 2017)	Low priority Longer term project with scope for major benefits - however, timescale impacted by A13 road bridge replacement and policy status of Blackwall Trading estate and Moody Wharf.
Enchlos sories of a	Dolivery tights days		Madium antestes
connection / route continuity between Canning Town, the Limmo site and the River Thames	Limmo site following departure of Crossrail. Initial marketing and development of proposals for site to proceed in 2019.	ING INIGINIATION AVAIIADIE	Project would deliver strategic network benefits but no capacity uplift to housing zone sites that are yet to be developed. Tied to timescale for the Limmo site development.
Enables series of new connections / route continuity along the River Thames	Delivery tied to arrival of new Thames Wharf DLR station and associated development. Likely to proceed following confirmation of infrastructure and land assembly (c.2020).	No information available	Low priority Project would deliver strategic network benefits but no capacity uplift to housing zone sites that are yet to be developed / consented. Tied to timescale for the Thames Wharf station delivery and associated development.

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COMBINED SCENARIOS

	Conne	ections	Descripton / PTAL Scoping		
				Notwork Connectivity	DTAL Unlift
				Network Connectivity	
Combined					
•	В	Poplar Reach Bridge	Leven Road Bridges		
8	С	Mayer Parry Wharf /			
		EMR Bridge			
0	A	Lochnagar Bridge	Maximum Network		
Э	В	Poplar Reach Bridge			
	С	Mayer Parry Wharf /			
		A13 Connector			
	F	Tower Hamlets			
	ľ	Riverside			
	Δ	Lochnagar Bridge	Peduced Network		
10	A C	Maver Parry Wharf /	Reduced Network		
	Ŭ	EMR Bridge			
	E	Newham Riverside			
11	A	Lochnagar Bridge	West Bank		
	В	Poplar Reach Bridge			
	D	A13 Connector			
	F	Tower Hamlets			
		Riverside			
	A	Lochnagar Bridge	East Bank		
12	В	Poplar Reach Bridge			
	С	Mayer Parry Wharf /			
	E	Newham Riverside			

Relative benefits for combined scenarios - see scenario testing for details

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Assessment				
oute Quality	Delivery Status	Order of Cost - unless otherwise stated figures refer to construction		
	EMR site + design risk	-	High priority - short term focus Major strategic benefits and support for additional capacity on both Leven Road and Oban Street. Projects should be progressed in short term with focus on feasibility / design development and securing viable riverside connections across EMR site.	
	Bridge design risk EMR site + design risk A13 Interface EMR Site Oban St site longer term prospect		Long term objective Scope for 'maximum network' to be realised over long term phased delivery.	Network
	Bridge design risk EMR site + design risk EMR Site	-	Comparison study for 'maximum network'	Sooping
	Bridge design risk A13 Interface Oban St site longer term prospect		Fall back - but with major challenges Potential fall back option for Canning Town link and Leaway route if connections across EMR site cannot be delivered.	
	Bridge design risk EMR site + design risk EMR Site		Preferred Leaway route and most direct link to Canning Town Does not rely on resolving issues related to the A13 road bridge replacement and interfaces with Leaway improvements that have already been delivered. Lochnagar Bridge provides additionality rather than core benefits.	East vs. west Leaway route testing
	II			

Compiled delivery comments - see base scenario notes for details

DRAFT

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5 FINDINGS & RECOMMENDATIONS

The recommendations below provide a summary of the study findings and are followed by a '15 year vision' mapping out a narrative illustration of their application.

Establish the long term objective of creating a high quality movement network unifying development on both sides of the River Lea

The delivery of a high quality walking and cycling network unifying development on both side of the Lea should be a key objective.

With the area due to become a home to over 20,000 new residents in the next 15 years, success at Poplar Riverside relies on averting the threat of delivering a series of fragmented and disconnected neighbourhoods.

Avoiding this outcome depends on creating new routes and connections to provide the network density that is expected in a well-connected piece of active city (illustrated by the case studies presented in this study - see right). The network should follow the principles of legibility, high utility, extensity, resilience and high capacity.

Strategy and policy to date has focussed on the delivery of a series of valuable strategic connections (e.g. the Leaway and cross valley connections). A further layer of local network connections needs to be considered in order to maximise local benefits for Poplar Riverside and the surrounding areas.

In these terms, the core routes and connections established in the short term should be enhanced through delivery of additional connections in the longer term - providing additional capacity, greater density to the network and seeking to transform the Lower Lea Valley into a well integrated part of the city.

All of the currently proposed links would play a role in delivering this overarching objective - providing both the local and strategic benefits. Gap analysis suggests that the addition of further connections to achieve the recommended network density, with potential links identified at Four Mills, Gillender Street, and north of the A13 road bridges (see right).

Right: A diagram showing an 'ideal network' (top) - with connections provided at a frequency based on analysis of successful case study sites (e.g. QEOP, the Islington stretch of Regent's Canal, and HafenCity, Hamburg).

The 'ideal network' is then used assess the proposed network (bottom), showing how the proposed links map onto the ideal set of links and allowing gap analysis of where additional links would be beneficial.



Reubens Bridge Leamouth / Hercules Wharf Bridge Thames Wharf Bridge





Establish a high quality direct link from Poplar Riverside to Canning Town Station

The scenarios providing a new link between Poplar Riverside and Canning Town offered the most in terms of direct support for additional housing capacity on the Housing Zone sites. The improved access to pubic transport would offer support the deliver of additional new homes on the Leven Road and Oban Street sites, while also improving access to Canning Town town centre, employment and social infrastructure east of the Lea.

The two options for achieving this are either via delivery of the A13 Connector or the Mayer Parry Wharf Bridge. In the immediate term, delivery of the A13 Connector appears to be an unlikely prospect due to issues surrounding the potential replacement of the A13 road bridge. Development of the Oban Street site is also likely to be a longer term prospect due to the policy status of the Blackwall Trading Estate and Moody Wharf's designation as a works site for the A13 road bridge replacement. The best outcome would be for the link to be delivered in conjunction with the imminent development of the Leven Road site - with the Mayer Parry Wharf Bridge emerging as the lead option (see right).

This lead option is not without its challenges. Proposals for the bridge are currently notional feasibly and design work on a new crossing in this location has not been completed and will need to be progressed quickly to lock into step with the broader Leven Road delivery programme. Also, public routes connecting the eastern bridge landing to Canning Town will need to be delivered. It is unlikely that the suitable site for relocation of the current occupiers (EMR) will be found in the short term, so efforts will need to be redoubled to establish a workable solution for pro tems public access along the riverside (see right and below).





Above: Overview of the route - looking north - between Cody Dock and Wharfside Road (top) along with a view of the proposed interim Mayer-Parry riverside route.

Below: Plan of proposals for the interim Mayer-Parry riverside route.



Leven Road bridges - a high priority pairing

Mayer Parry Wharf Bridge and Poplar Reach Bridge work as an effective pairing, offering complementary local benefits for development at Leven Road, as well as delivering key strategic walking and cycling connections. Subject to addressing the challenges discussed above, they could also be delivered in the immediate term, offering a major step change in connectivity for Poplar Riverside.

A new bridge to Mayer Parry Wharf would deliver a new, direct and legible link to Canning Town, providing a significant improvement to public transport accessibility to a major eastern portion of the Leven Road site. Poplar Reach bridge would provide an additional uplift in public transport access to the isolated north-western part of the site. In addition to the local benefit of supporting delivery of additional homes on the site, the new connections would also create a well connected neighbourhood, addressing the severance posed by the river, linking new homes to areas of employment east of the Lea, Star Lane DLR, and the Eastlea schools cluster.

This integration would be served and supported by the delivery of a series of new strategic links.

Securing a riverside route across Mayer Parry, Worlands and Crown Wharves would complete the north-south Leaway route along the eastern bank of the Lea - delivering a major long term strategic objective for regeneration in the Lower Lea Valley.

Poplar Reach Bridge would deliver a key cross valley link, notionally running between Langdon Park and Star Lane DLR stations and beyond, while the Mayer Parry Wharf bridge would also aid eastwest connectivity. Both bridges would also serve as entrance points for the Leaway, joining a family of structures within the Lea River Park providing access and legibility to routes along the river.



Above: Network links that would be delivered by the Leven Road Bridges projects and associated development.

Below: Proposals for Poplar Reach Bridge - view from the bridge deck (top), and view of the east bank bridge landing (bottom).





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Lochnagar Bridge - support for new homes at Ailsa Wharf

The proposed bridge at Lochnagar Street will offer valuable support to proposed development at Ailsa Wharf - linking new homes to areas of employment east of the Lea, Star Lane DLR, and the Eastlea schools cluster.

This project should be treated as high priority given the imminent timescale for delivery and the tangible benefits it offers - with work focussed on addressing the potential design risks relating to river traffic and bankside constraints, and improving urban design integration with future riverside connections and development to the south.

Priority bridge projects - a shared delivery context

Poplar Reach, Mayer Parry Wharf and Lohnagar bridges form a set of priority bridge projects, with a shared delivery context in terms of key constraints, visual links, and long term oversight / operation. A coordinated delivery / design strategy could be established for this family of structures - covering material selection / design approach, accessibility standards and operational requirements. A key aspect would be to confirm the current design requirements for bridges along this stretch of the River Lea following the recent return of oversight to the Canal and River Trust.



Above: Network links that would be delivered by Lochnagar Bridge. Below: Proposals for Ailsa Wharf Footbridge / Lochnagar Bridge (Knight Architects (with COWI), 2012). Clockwise from top left plan, view on bridge deck, overview, section.









Maximise both the local and strategic benefits of the connections projects

The Leven Road bridges provide a clear example of how the new connections can deliver both local and strategic benefits - and the interplay between the two.

Seek delivery of riverside routes and access to the river through adjacent developments to support the network delivered via the Housing Zone Sites

In line with Local Plan policy, riverside developments that are outside of the Housing Zone sites should be required to deliver public riverside routes and access to the river. This incremental delivery will provide additional components to the network.

Ensure the development and infrastructure integrate with and strengthen the Thameside strategic links between the Royal Docks and Canary Wharf

The proposed crossings at Leamouth / Hercules Wharf and Thames Wharf will provide key links in an emerging Thameside movement network linking the Royal Docks and Canary Wharf. Although both crossings are closely linked to infrastructure and development adjacent to their respective sites, it's essential that their contribution to this broader network of routes and connections is considered in their design and delivery of associated public realm routes and spaces.

> Right: View of Crown Wharf, Worlands Wharf and Mayer Parry Wharf riverside in the foreground. Blackwall Trading Estate and the Leven Road Gasworks site can be seen on the opposite side of the river.





15 YEAR VISION

The following drawings map out a strategic vision for delivery of the new links, park areas and development across the short, medium and long term - based on the priorities, constraints and interdependencies of the individual interventions outlined in this study.



CURRENT Baseline network / development context

· Existing key walking, cycling and transport links and recent developments form the baseline for future change.





2

SHORT TERM / 0-5 YEARS Focus on delivery of priority bridge projects and completion of east bank Leaway route.

• Priority bridge projects delivered - Poplar Reach, Mayer Parry Wharf and Lochnagar bridges.

• Leven Road site developed and park area delivered. Links to Leven Road and Oban Street delivered through development.

• Temporary routes to be provided to Bidder Street and along Mayer Parry Wharf riverside to Wharfside Road. • Reubens Bridge reopened providing a link from Essex Wharf to the Canning Town Station rotunda entrance.





MEDIUM TERM / 5-10 YEARS Consolidation of east bank Leaway route & emergence of Limmo site

• Mayer Parry Wharf developed, permanent network connections delivered as part of new streets and spaces including riverside route and direct route from bridge landing to Canning Town Station.

· Limmo site developed and park area delivered.

• Leamouth / Hercules Wharf Bridge and route to Canning Town serving Limmo site development delivered.

• Potential for an additional link to be delivered at Four Mills / St Leonard's Wharf.







LONG TERM / 10-15 YEARS Complete west bank network enhancement and Thameside connections

• Oban Street site developed following resolution of the Iron Bridge replacement (i.e. Moody Wharf unlocked for development as no longer required as works site for bridge replacement).

• A13 Connector delivered - potentially in conjunction with Iron Bridge replacement.

 Oban Street site riverside route and link to Leven Road site delivered in conjunction with development of site - completing alternative west bank Leaway route, making the river fully accessible between Poplar Reach and the A13 road bridges.

• Scope for northward riverside continuity if riverside routes also delivered across the Devons Wharf and Iron Mountain sites.

• Thames Wharf Bridge delivered in conjunction with new station and development.





APPENDIX

Contents:

- PTAL Calculations Note Alan Baxter
- Scenario PTAL Assessments Alan Baxter



Leaway – Lea River Park connections review

PTAL Calculations Note

1.0 Introduction

Alan Baxter and Associates (ABA) have been commissioned to provide transport advice in relation to existing and future Public Transport Accessibility Levels (PTAL) at housing sites within the Lea River Park / Leaway Housing Zone.

2.0 Public Transport Accessibility Level (PTAL)

PTAL is a measure of connectivity by public transport for a particular point of interest. PTAL values range from zero to six, where the highest value represents the best connectivity.

3.0 PTAL Diagrams

ABA have produced a number of diagrams to illustrate the results of the PTAL assessment which includes the following:

- 2021 WebCAT PTAL levels. This diagram shows the PTALs as per the WebCAT Planning Tool.
- 2021 ABA PTAL Baseline position. This diagram shows the reviewed 2021 WebCAT PTAL levels and it will form a robust baseline position (reference case). Walking distances to public transport service access points (bus stops or train stations in this case) have been reviewed and updated to be more accurate.
- 2021 ABA PTAL Alternative Baseline. Assumed staircase route.
- Assessment of future PTALs for various new connections (scenarios 1-12). These diagrams show PTAL changes compared to the baseline position (reference case).

4.0 Methodology – Calculation of PTAL

4.1 Data

PTAL levels have been calculated using four sets of data:

- The list of places, such as houses, offices or shops that PTAL values are required for. These are referred to as the Point of Interest (POI).
- The location of all public transport stops and stations. These are referred to as Service Access Points (SAP).
- London's walking network, which is derived from Ordinance Survey's Integrated Transport Network data. This is used to calculate the distance from the POI to the SAPs.
- The public transport services that call at each SAP. This data might relate to current services or it could include proposed improvements to the network.

4.2 Assumptions

New calculations have been carried out following the TfL methodology. Although it is explained in detail in the *Assessing transport connectivity in London* guideline, it is worth mentioning some of the key assumptions made as follows:

- Walking distances / walking times to public transport service access points (SAPs) are the only variables in the assessment. They have been measured using google maps. A site visit was carried out to make sure all routes and paths were open.
- People walk up to 640 metres (approximately eight minutes) to a bus service and up to 960 metres (12 minutes) to a rail or Tube service. Services available at a longer distance do not affect the PTAL of a selected location.
- Walking distances to LUL stations are measured to the closest entrance.
- Scheduled waiting times (SWTs) and average waiting times (AWTs) remain unchanged from the 2021WebCAT baseline position.
- Only step-free routes assessed. This is consistent with our understanding of how the WebCAT Planning Tool calculates walking distances/time distances.
- The assessment is being undertaken on a 100mx100m grid of tiles.
- Walking distances have been measured from centres of each tile.

5 PTAL Baseline comparison analysis

When the WebCAT PTALs are compared with the reviewed PTALs, it can be seen that there are significant variations where the new values are always equal or greater than the WebCAT ones. This is because of the following:

- WebCAT calculations are based on walking access distances measured using software such as RouteFinder, an application of the MapInfo package which does not always include all shortcuts and footpaths. This can lead to anomalies where the commonly used shortcuts are missed, increasing the walking distance and depressing the PTAL score.
- New measured walking distances based on current site conditions (shortcuts, footpaths and other routes added) give greater PTAL values as more stops and stations are within a walkable distance.
- WebCAT assumes PTAL value of "0" for tiles with centres in the river (assumes that there is no connection to the land). ABA calculation has assumed that there is such connection.

<u>Alisa Street</u>

- WebCAT calculations do not include Bromley-by-Bow and Langdon Park stations for a number of points of interest. Reviewed calculations have included them as they are within the walkable distance.
- WebCAT assumes PTAL value of "0" for tiles with centres in the river.

Leven Road

- WebCAT has measured distances to Star Lane station which is on the wrong side of the river. ABA calculations have related the measurements to the area of study on the southwest side of the river.
- WebCAT calculations do not include some bus stops for a number of points of interest.

Leamouth Peninsula North and South

- WebCAT calculations have not taken into account the new masterplan layout and therefore Canning Town SAPs have not been considered for tiles in the proximity of the Lower Lea Crossing flyover.
- ABA calculations have assumed a street layout once the masterplan is complete and therefore the Leamouth Peninsula south would be connected to Canning Town SAPs via the Leamouth Peninsula. This increases the PTALs dramatically.
- WebCAT assumes PTAL value of "0" for tiles with centres in the river.

6 PTAL Alternative Baseline

Although WebCAT and ABA calculations have only assessed accessible routes and have therefore ignored staircases in the area of study, it might be beneficial to study the case of the staircase located on the north side of A13 at Lanrick Road.

We think this option is of particular interest as this route would connect Leven Road to Canning Town SAPs by a much shorter distance. This means that this area would not be connected if the staircase route was not included.

Anywhere else, although there are staircases, there is an alternative step-free route (either a ramp or a lift).

The produced diagram shows how the PTAL levels would change if this route was considered and it can be seen that the PTALs improve quite significantly.

7 Scenarios 1-12

These diagrams illustrate the PTAL change when a new connection is added. To establish a comparison between them and the ABA baseline (reference case), only tiles with new PTAL levels have been coloured.

In some instances, although new connections improve the Access Index, it is not enough to change the PTAL value.

Description of scenarios:

- Scenario 1: Lochnagar Bridge new connection.
- Scenario 2: Poplar Reach Bridge new connection.
- Scenario 3: Crossing north of A13 new connection (assumes Newham Riverside route and Bidder Street connection).
- Scenario 4: A13 connector. No PTAL impact standalone as there is no accessible route to get to Canning Town. No diagram for this scenario has been produced.
- Scenario 4A: A13 connector and Reubens Bridge reopening new connections.
- Scenario 5: No PTAL impact standalone. No diagram for this scenario has been produced.
- Scenario 6: Lemouth South Bridge minimal PTAL impact as Canning Town SAPs are already reachable via the Lemouth Peninsula.
- Scenario 7: Trinity Buoy Wharf Bridge new connection. No PTAL impact on Lemouth Peninsula South. Although this bridge would connect with Royal Victoria SAP, Canning Town SAPs are already reachable via Lemouth Peninsula. No diagram for this scenario has been produced.
- Scenario 8: Poplar Reach Bridge and Crossing north of A13 (assumes Newham Riverside route and Bidder Street connection).
- Scenario 9: Lochnagar Bridge, Poplar Reach Bridge, crossing north of A13 (assumes Newham Riverside route and Bidder Street connection), A13 connector, Reubens Bridge and Tower Hamlets Riverside new connections.
- Scenario 10: Lochnagar Bridge and crossing north of A13 (assumes Newham Riverside route and Bidder Street connection) new connections.
- Scenario 11: Lochnagar Bridge, Poplar Reach Bridge, A3 connector, Reubens Bridge and Tower Hamlets Riverside new connections.
- Scenario 12: Lochnagar Bridge, Poplar Reach Bridge, crossing north of A13 (assumes Newham Riverside route and Bidder Street connection) and Newham Riverside new connections.

7 The limitations of PTAL

It should be noted that although PTAL is firmly embedded in London in transport planning and planning policy the measure is relatively crude and, while it is a useful proxy for determining a site's connectivity to public transport, it does have several draw backs, which are outlined below:

- PTAL does not consider the utility of the services it rates. So, for example, a service that has a frequency of 10 buses an hour but terminates two stops from the site, will be given a higher weighting that a service to the city centre with a frequency of 9 buses per hour.
- PTAL only includes those SAPs that are within a reasonable walking distance of the POI. For bus stops this is 640m (an eight minute walk) with 960m for train stations (a 12 minute walk).
- PTAL does not consider whether or not there is any spare capacity on the services included.
- The WebCAT PTAL tool uses ITN data to establish walking routes, which does not always include all shortcuts and footpaths. This can lead to anomalies where the commonly used shortcuts are missed, increasing the walking distance and depressing the PTAL score.
- The WebCAT PTAL tool produces PTALs based on the frequency of services during the morning weekday peak. Although this is suitable for most applications, some developments, such as shopping centres for example, might generate greatest demand during other times, such as the weekend or evenings.
- The WebCAT PTAL tool generates a PTAL score for 100m squares. This means situations can occur whereby a square with a relatively high PTAL is adjacent to one that is much lower. In this instance the exact location of POI can make a significant difference to its score.

Full PTAL calculation method can be found in TfL, 2015, Assessing Transport Connectivity in London in the link below:

(http://content.tfl.gov.uk/connectivity-assessment-guide.pdf)



LEAWAY LEA RIVER PARI	<pre></pre>
TFL CALCULA WEBCAT (202	ATED PTAL LEVELS 1)
1610/150	
SEPT 2017	AlanBaxter





This diagram represents the new calculated PTAL levels for the area of study and will be used as the reference case.	
TfL travel distances reviewed and updated to be more accurate.	
Only step-free routes assessed.	
For tiles with centres in river it has been assumed that there is a connection to the land.	

LEARIVER PARK CONNECTIONS REVIEW LARIVER PARK CONNECTIONS REVIEW ABA CALCULATED PTAL LEVELS REFERENCE CASE (2021) (610/150 1610/150 Alan Baxter		
ABA CALCULATED PTAL LEVELS REFERENCE CASE (2021) 1610/150 SEPT 2017 Alan Baxter	LEAWAY LEA RIVER PARI	< CONNECTIONS REVIEW
1610/150 SEPT 2017 Alan Baxter	ABA CALCUL REFERENCE	ATED PTAL LEVELS CASE (2021)
SEPT 2017 Alan Baxter	1610/150	
	SEPT 2017	AlanBaxter





This diagram represents the new calculated PTAL levels for the area of study and will be used as the reference case B.	
TfL travel distances reviewed and updated to be more accurate.	
Assumed staircase route on the north side of the A13 at Lanrick Road.	
For tiles with centres in river it has been assumed that there is a connection to the land.	

LEAWAY LEA RIVER PARK	CONNECTIONS REVIEW
ABA CALCULA ALTERNATIVE	ATED PTAL LEVELS BASELINE (2021)
1610/150	
SEPT 2017	AlanBaxter





This diagram shows the PTAL change when a new connection is added. Only tiles with new PTAL levels compared to the reference case have been coloured.

Scenario 1: Lochnager Bridge new connection.

LEAWAY LEA RIVER PARM	CONNECTIONS REVIEW
SCENARIO 1 PTAL CHANG REFERENCE	E COMPARED TO CASE
1610/150	
SEPT 2017	AlanBaxter





This diagram shows the PTAL change when a new connection is added.
Only tiles with new PTAL levels compared to the reference case have been coloured.

Scenario 2: Poplar Reach Bridge new connection.

LEAWAY LEA RIVER PARK	CONNECTIONS REVIEW
SCENARIO 2 PTAL CHANG REFERENCE	E COMPARED TO CASE
1610/150	
SEPT 2017	AlanBaxter





This diagram shows the PTAL change when a new connection is added.
Only tiles with new PTAL levels compared to the reference case have been coloured.

Scenario 3: crossing north of A13 new connection.

LEAWAY LEA RIVER PARK	CONNECTIONS REVIEW
SCENARIO 3 PTAL CHANG REFERENCE	E COMPARED TO CASE
1610/150	
SEPT 2017	AlanBaxter




This diagram shows the PTAL change when a new connection is added.	
Only tiles with new PTAL levels compared to the reference case have been coloured.	

Scenario 4A: A13 connector and Reubens Bridge new connection.

LEAWAY LEA RIVER PARK	CONNECTIONS REVIEW
SCENARIO 4A PTAL CHANGI REFERENCE (E COMPARED TO CASE
1610/150	
SEPT 2017	AlanBaxter





Scenario 6: Leamouth South Bridge new connections.

LEAWAY LEA RIVER PARM	CONNECTIONS REVIEW
SCENARIO 6 PTAL CHANG REFERENCE	E COMPARED TO CASE
1610/150	
SEPT 2017	AlanBaxter





This diagram shows the PTAL change when a new connection is added.	
Only tiles with new PTAL levels compared to the reference case have been coloured.	

Scenario 8: Poplar Reach Bridge and crossing north of A13 new connections.

LEAWAY LEA RIVER PARK	CONNECTIONS REVIEW
SCENARIO 8 PTAL CHANG REFERENCE	E COMPARED TO CASE
1610/150	
SEPT 2017	AlanBaxter





Scenario 9: Lochnager Bridge, Poplar Reach Bridge, crossing north of A13, A13 connector, Reubens Bridge, Newham Riverside and Tower Hamlets Riverside new connections.

LEAWAY LEA RIVER PARM	CONNECTIONS REVIEW
SCENARIO 9 PTAL CHANG REFERENCE	E COMPARED TO CASE
1610/150	
SEPT 2017	AlanBaxter





Scenario 10: Lochnager Bridge, crossing north of A13 and Newham Riverside new connections.

LEAWAY LEA RIVER PARM	CONNECTIONS REVIEW
SCENARIO 10 PTAL CHANG REFERENCE	E COMPARED TO CASE
1610/150	
SEPT 2017	AlanBaxter





Scenario 11: Lochnager Bridge, Poplar Reach Bridge, A3 connector, Reubens Bridge and Tower Hamlets Riverside new connections.

LEAWAY LEA RIVER PARH	CONNECTIONS REVIEW
SCENARIO 11 PTAL CHANG REFERENCE	E COMPARED TO CASE
1610/150	
SEPT 2017	AlanBaxter







Scenario 12: Lochnager Bridge, Poplar Reach Bridge, crossing north of A13 and Newham Riverside new connections.

LEAWAY LEA RIVER PARH	K CONNECTIONS REVIEW
SCENARIO 12 PTAL CHANG REFERENCE	E COMPARED TO CASE
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