MAKING THE MOST OF LONDON’S WATERWAYS
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CORE PARTNERS

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INTRODUCTION

For a public space covering just 2.5% of London, waterways have an outsize impact on the city and its residents. Rivers, canals, docks and other water bodies permeate every London borough; an estimated half of Londoners live within a five-minute walk of a waterway.

Waterways powered London’s growth from settlement through industrialisation, but post-industrial development often turned away from the water, cutting off access for generations of Londoners.

Today, waterways are once again at the centre of London’s development, flowing through most of the city’s largest Opportunity Areas. At the same time, interest in water-based recreation and living, ‘rewilding’ waterways, waterborne transport and the health benefits of water is on the rise.

This combination of circumstances brings unprecedented opportunity for regeneration to reconnect people and the built environment with waterways. The challenge is to work effectively across organisations and balance myriad uses and activities within a limited public space.

Making the Most of London’s Waterways showcases projects, policies and partnerships which are successfully coordinating activities on or near waterways and using development to stitch waterways back into the urban fabric.

Running throughout 2019, this project brought together more than 300 people from the public, private, and third sectors through seven field trips, a senior roundtable, a design workshop, and a full-day conference. Their expertise and experience, combined with desk-based research and interviews, forms the basis of this report. It includes:

- An overview of waterways covered in the research and how Londoners’ relationship with them is changing
- Challenges facing practitioners
- Case studies showing effective ways of delivering projects involving urban waterways
- Recommendations for policymakers and built environment practitioners
- Additional resources

Future of London is grateful to core project partners Arup, Avison Young, Hadley Property Group, and Pollard Thomas Edwards for their support and content contributions; to the Canal & River Trust for event and report support; and to the Port of London Authority for event and conference support.
OVERVIEW OF LONDON’S WATERWAYS

The waterways covered in this research – canals, rivers, docks, and other water bodies – are diverse, but have broadly similar histories within the London context. They are used as critical urban infrastructure, moulded to suit the needs of a growing, industrialising city. They are swept aside during times of technological change – making way for other uses, suffering dereliction and disuse, or disappearing altogether. And increasingly, they are being rediscovered.
RIVERS

From the first Roman settlers along the Thames, London has grown up around its rivers – and its rivers have since been culverted, taken underground, and/or merged into the sewer system to accommodate growth.

The Thames was critical for moving goods, especially from the 1800s through the 1960s, but its tributaries have also been important. Some form borough boundaries, such as the Roding, Lea, Colne, and Deptford Creek. All are important assets for biodiversity and flood risk management.

CANALS

London’s canals were built largely in the first half of the 19th century to accommodate demand for moving goods by water, as horse-drawn canal boats could shift around 50 times more cargo than carts. Commercial canal use decreased from the mid-19th century with the spread of railways and, later, road-based transport.

Today, 100km of canals stretch across north London, connecting Limehouse in the east to Uxbridge in the west. South London’s only remaining network is the 7km of canals in Thamesmead.

DOCKS

London’s docklands cover a swathe of east London, with connections to the Thames, Lea, and Regent’s Canal. In the 1980s, maritime activity gave way to office and residential space as Canary Wharf and Rotherhithe regenerated. The Royal Docks – the most recent and eastern of the docks – are currently undergoing their own transformation. There are also several basins along the canal network which behave like small docks.

WETLANDS

In the mid-1800s, London’s various water companies began constructing reservoirs to serve a growing population. Many have been transformed into wetlands (e.g. Woodberry Down, Barnes, Walthamstow) or leisure spaces (e.g. Hampstead Ponds, Welsh Harp).

OTHER BODIES OF WATER

Smaller bodies of water like lakes, active reservoirs, and ponds are dotted throughout London. This research didn’t cover most of these water bodies, except where they form a significant part of a regeneration scheme, such as Thamesmead’s lakes.
CHANGING WATERWAYS

As industrial and commercial uses of waterways have decreased, new activities and interests are emerging across the network, fed by (and leading to) changing perceptions. Waterways are becoming a focal point for development, living, leisure, environment, and climate change. They have potential to increase wellbeing and biodiversity; contribute to local economies; and address climate change. How waterways are valued is also evolving beyond land value uplift.

CHANGING USES

Development

Whereas much mid-20th century development turned its back to waterways, mixed-use and residential regeneration schemes over the last 30 years have increasingly provided access to and views of the water.

Extensive waterside development will take place in London in coming years, with many of the city’s biggest Opportunity Areas centred on or bordered by waterways – bringing enormous potential to reconnect neighbourhoods and local economies to water, manage flood risk, and enhance biodiversity.

London’s Opportunity Areas

Opportunity Areas are brownfield land with significant capacity for development, shown to the left in yellow (n.b. rivers and canals have been widened for visibility and are not to scale.)

Opportunity Areas along waterways: in numbers

10,700

HECTARES

254,000

JOBS

222,000

HOMES

Map © Mapbox © OpenStreetMap. Icons credit: Map, Accountant, Technician, Architect, Police, Fire Fighter by Eucalyp from the Noun Project; Buildings by Made by Made from the Noun Project
Making the Most of London’s Waterways

Living

Waterside living isn’t the only form of housing on the move in London: across the Canal & River Trust’s London network, the number of people living on boats as continuous cruisers has quadrupled since 2010, driven by its relative affordability compared to the traditional housing market.

Live-aboard (i.e. non-leisure) continuous cruisers own their vessels (whether outright or through personal loans) but do not have a permanent mooring, meaning they must relocate every 14 days.

In London, a permanent mooring (which could be within the Canal & River Trust’s network or a private dock or marina) can cost up to £20,000 per year, and supply hasn’t kept up with demand. By contrast, a cruising licence from the Trust in 2019/2020 costs up to £1,207.46 per year.

Nature and environment

Industrial pollution has left many water bodies contaminated or ecologically dead. Meanwhile, concrete channels for managing flood risk have fallen out of fashion in favour of sustainable urban drainage systems and natural floodplains. In response, projects to ‘rewild’ or renaturalise rivers have seen growing interest and implementation.

Canals and docks weren’t built as ecology corridors, but vegetation, bats, birds, and other wildlife have often moved in, bringing opportunities to enhance and connect habitats.

There is also growing interest in harnessing waterways as an alternative, natural energy source for heating and cooling buildings.

Leisure

London’s waterways have long been important for recreation. The Thames has hosted races and regattas for centuries and west London saw a river tourism boom in the late 1800s. Today, boating clubs and activities like stand-up paddleboarding are a common feature of London’s waterways.

Leisure boating on canals emerged in the mid-20th century and remains popular today, while activities like jogging, walking, and cycling are common along towpaths. London’s docklands also have a leisure industry, hosting events like the London triathlon and amenities like sailing and watersports centres, a small seasonal urban beach and a wakeboarding school.

One ‘conservative estimate’ placed the value of sports and recreation associated with the Thames at £132m.
Wellbeing

As public health has risen up the urban agenda, waterways are increasingly seen as assets for wellbeing. A handful of academic studies have found positive correlations between time spent near water and an individual’s health,7 but more work is needed to prove the link.

• A study from Hong Kong found that older people who had a view of harbours or coastlines, or regularly visited these areas, reported better health8

• An England-wide study found that living within 1km of the coast reduced likelihood of poor mental health among low-income residents9

• A study of users in a new park along Barcelona’s Besòs river suggested visitors’ increased physical activity could save €23m of public health spending per year10

The Canal & River Trust, having rebranded as a ‘waterways for wellbeing’ organisation and commissioned its own research into waterways and health, is especially keen to promote the wellbeing aspects of its network. The Canal & River Trust’s London network coincides with many of the city’s most deprived neighbourhoods who could benefit from waterways if access to and awareness of these spaces is improved.

Transport

For the Thames, freight remains an important part of the river economy, shifting more than five million tonnes of cargo each year11 – with potential for more, especially for construction materials, waste and consumer goods.

Public transport services, which operate between Putney and Woolwich, carry around 10m passengers per year, on par with journeys through TfL’s Cycle Hire scheme.12 New routes fill up fast, indicating strong demand for river travel.

Meanwhile, many of London’s cycling commuters have taken to towpaths as an alternative to congested, unsafe or indirect roads.

CHANGING VALUES

Alongside changing uses and perceptions come changes to how water is valued. Calculating impact on property prices is one way of understanding the value of water, but there’s strong appetite for new approaches that factor in broader social, economic, environmental and wellbeing outcomes – the problem is lack of guidance (see next chapter).

For example, what are the indirect impacts of improvements? What is the ‘proximity value’ for people who appreciate nearby waterways, even if they aren’t regular visitors? What is the value of community amenities and businesses on/near water? What role can qualitative data play in strategies and funding bids? And how can valuation approaches account for different types of waterways or characteristics (e.g. river vs dock; quiet section of canal vs busy canalside area)?

Left: Thames Clippers is licenced under TfL River Services to provide passenger transport between Putney and Woolwich. Other licenced operators run tourist and entertainment routes along the Thames. Right: an entertainment boat and other vessels docked in the Thames.
SHARING SPACE

London’s waterways support an incredible amount of activity, which will intensify in coming years. While uses can coexist, tensions do occur. For example:

- Boaters, cyclists, joggers, amblers, anglers and other users vying for limited waterfront space
- Safety and activation interventions, such as busy waterfront spaces and towpath lighting, conflicting with ‘tranquil’ parts of waterways and the need to offer darkness along wildlife corridors
- Disused wharves – which could provide much-needed space for moorings, boater facilities, or waterborne transport and freight – being earmarked for non-water uses
- Active wharves or high-security buildings preventing consistent riverside access/walkways; active wharves being perceived as incompatible with residential or other uses
- Waterside development casting shadows over boaters’ solar panels and/or wildlife corridors – or missing opportunities to add facilities for waterway users or to improve biodiversity

Uses and activities need balance. Getting it right requires an understanding of what is appropriate for an area; co-locating uses through innovative design; and coordinated execution across site boundaries and local authority borders. As ever, there are several challenges to achieving this (see next chapter).

GROWING PRESSURES

In addition to the increasing and diversifying use of London’s waterways, two other major changes are impacting London’s relationship with water.

Firstly, the GLA projects London’s population to reach 10 million by 2030, which will put pressure on the city’s water supply. Londoners already use around 13% more water than the national average; pipes leak 25% of their water before it reaches consumers; and the city faces a ‘water resource gap’ of more than 100 million litres per day by 2020. Improvements to infrastructure and behaviour change are critical.

Secondly, the climate crisis is bringing higher risk of river and surface water flooding. For most of London, the Thames Barrier offers flood protection from the Thames, but neighbourhoods in the marshy lowlands beyond the barrier and along the Thames’ tributaries need alternative protection, as do those at risk of surface water flooding throughout the city.

Both issues need urgent attention, but are touched on only briefly in this report as they are not part of its core remit. For more information, refer to Future of London’s Managing London’s Exposure to Climate Change report.
CHALLENGES

During this research, practitioners across London revealed barriers preventing effective approaches to delivering successful development and activity around water. Broadly, these comprise strategic, London-wide issues like working across boroughs and with multiple stakeholders; technical complexities of working on or near water; and funding arrangements.

STRATEGIC STRUGGLES

Organisations

Research and event participants often lamented the difficulty of knowing which organisations to engage on matters relating to waterways – let alone finding the right department or person.

For practitioners and the general public, ownership and management responsibility of waterways is unclear. The organisations responsible for a riverbed, infrastructure such as wharves or locks, moorings and marinas, and adjacent footpaths might all be different. Some are easier to engage than others.

The consequences are that effective strategies may take a long time to develop (if at all); that they don’t link up; or that waterways, especially those acting as borders, are ignored altogether.

The Environment Agency, Canal & River Trust, and Port of London Authority are recurring owners, but others come into play throughout the city. Within organisations like boroughs, the GLA, and TfL, responsibility for waterways-related issues could fall under planning, environment, transport, regeneration, or a combination of these – if it’s assigned at all.

The Inland Waterways Association maintains a list of canal and river owners and the PLA maintains a helpful public map of its own assets (see Thames Vision, p. 38) but there is no single comprehensive pan-London resource.

To start filling this knowledge gap, a list of key organisations is provided in Appendix B (p. 44). A comprehensive list linked to an interactive map would be a more effective, long-term resource.

Policy


The policies and forum skew towards areas where the GLA has influence and oversight, such as freight and passenger traffic, water quality, and flood risk, with a focus on rivers – especially the Thames.

It falls to local authorities to determine policies for housing, recreation, accessibility and individual development sites around waterways. Policies may fall under Local Plans, Supplementary Planning Documents (see Ravensbourne River, p. 36; Old Oak, p. 19), Conservation Areas (see Camden, p. 20) and masterplans (see Meridian Water, p. 28) – but dedicated waterways strategies are uncommon.

Organisations responsible for waterways such as the Canal & River Trust and Port of London Authority publish visions, strategies and plans focused specifically on waterways within their remit, but the link between these and borough or Mayoral policies isn’t always clear.

Argent and the Canal & River Trust manage multiple ownership of waterways at King’s Cross through an Umbrella Agreement and a Maintenance Agreement, which specify aspects such as access rights, operation and maintenance details, and Argent’s Canal Fund Contribution towards canal improvements.
With such complexity, there’s a risk of misaligned policies and siloed working. A cross-sector forum and/or strategy for London’s waterways could help (see New York City, p. 17), as could tapping into or creating regional organisations like the Lee Valley Regional Park Authority or Catchment Partnerships (see Thames Estuary, p. 16; Ravensbourne River, p. 36).

At a local level, dedicated staff could coordinate waterways strategies. For example, Oxford City Council employs a Waterways Coordinator. In London, LB Tower Hamlets and LB Newham, which share the River Lea as a border, jointly employ a manager to oversee funding and regeneration of the river.

**TECHNICAL DIFFICULTIES**

**Environment**

In any waterways system, pollution is easy to spread, hard to remove, and devastating for the environment. From plumbing misconnections to oil spills to road runoff, pollution regularly makes its way into London’s water bodies. Only one of London’s water bodies is classed as ‘good’ quality under the EU’s Water Framework Directive.16

Cleaning requires patience and a coordinated network-wide approach. For example, Copenhagen’s city-wide strategy to make its formerly polluted harbour swimmable took around 15 years to complete (see also Meridian Water, p. 28).

Adaptations to manage surface water and river flooding are increasingly important in a time of climate crisis. Those involved in new development need to understand the flow of water during a flood and design the built environment to retain and discharge water appropriately. Better use of sustainable urban drainage systems would help. Glasgow’s Smart Canal offers inspiration for another approach: using technology to monitor flood risk and unlock canalside land for development17 (see also Ravensbourne River, p. 36; Meridian Water, p. 28; Bristol, p. 26).

**Access and awareness**

**Severance, disconnection and accessibility**

Like roads and railways, waterways can both link and sever neighbourhoods. Tackling severance through measures like bridges and new footpaths requires funding and a joined-up approach (see Royal Docks, p. 31; Paddington, p. 33).

When it comes to transport, river passenger services are somewhat disconnected from TfL’s network. They are on a separate fare structure (see Royal Wharf Pier, p. 37) and suffer from unclear or far interchanges with other modes. Piers managed by TfL tend to have consistent branding, but others – even where they form part of the TfL River Services passenger network – may not. TfL recognises room for improvement, having published a Passenger Pier Strategy to address such issues (see Appendix A, p. 44).
Access to and across waterways is improving in London as waterside development creates new links and improves paths, but there is some way to go. Parts of the Thames path are blocked; neighbourhoods adjacent to water lack access routes; narrow or cobbled towpaths are inaccessible for some users, with limited space for expansion; wayfinding is lacking in some areas; and multiple ownership adds complexity.

For conflicts among towpath users, it falls to behaviour change campaigns to encourage users to share space (see Paddington, p. 33). The Canal & River Trust offers a planning and design toolkit for its network (see Appendix A); other waterways could benefit from something similar.

Of course, context matters. Access isn’t necessary or desirable across the board. Retaining tranquil areas is important to safeguard biodiversity and the character of waterways (see Old Oak, p. 19; Camden, p. 20).

Finally, the complex and ambiguous ownership mentioned above is particularly impactful along rivers, where right of public access for on-water recreation isn’t written into law in England and Wales, meaning disputes can arise between landowners and recreational users.

LB Tower Hamlets’ Water Spaces Study offers one example of addressing severance. It found that the borough’s water bodies (the Lea and Thames, canals, docks, and basins) were often located in areas otherwise lacking parks or green space; with better accessibility, waterways could provide valuable open space for local people. The study’s recommendations for improvements are being incorporated in the borough’s forthcoming Local Plan.

Top left: the ‘Share the space, drop your pace’ campaign reminds towpath users to be courteous, © Canal & River Trust. Top right: private moorings block public towpath access.

Bottom: bridges provide important links across waterways, but need to avoid dark undercrofts with poor sightlines (left) in favour of well-lit, well-maintained tunnels with unobstructed sightlines (right). Photos © Canal & River Trust.
General awareness

For all the increasing use of London’s waterways, research participants reported many Londoners still aren’t aware of these valuable assets – even when they live nearby. The consequence is people missing out on wellbeing benefits and connections to place and local history.

In addition to improving physical accessibility, initiatives such as outreach programmes, community-led river restorations, the National Park City project, and highlighting local heritage aspects of waterways could help (see Thamesmead, p. 25; Meridian Water, p. 28; Cody Dock, p. 30).

Safety

Although safety around water has improved, crime does remain a problem. Standard ‘secure by design’ interventions for traditional streets – things like lighting, bushes in front of windows and restricted access – can’t be applied to some waterside spaces because they will impede wildlife or boater access.

A 2017 survey involving 400 boaters found that around 25% had been victim of an attempted or actual break-in.19 The police log reported incidents, but public maps only give approximate locations of crimes by road, not towpaths.

The Canal & River Trust maintains its own database of incidents and works with police to identify crime hotspots. Live-aboard boaters and their neighbours have also taken steps such as keeping a community database of towpath incidents and organising Canal Watch London, which arranges regular nighttime towpath walks to deter anti-social behaviour. New development or small-scale placemaking projects can also improve feelings of safety (see Brentford, p. 21; Harrow Road, p. 34; Ravensbourne, p. 36).

Lack of facilities

London’s exploding continuous cruiser numbers haven’t been matched by an increase in amenities like waste disposal and water supply points. Despite the fact that many are London residents, cruisers’ mobile nature and lack of permanent address means they’re not residents of any given borough and lack access to many council tax-funded services. However, under the Housing & Planning Act 2016, local authorities are required to undertake a housing needs assessment for boaters in their areas.

In 2019, the Canal & River Trust published a Mooring Strategy for London, identifying opportunities to add amenities alongside waterside development (see Appendix A, p. 44). Engaging with the Canal & River Trust, live-aboard boaters (see Brentford, p. 21) or representative organisations like the National Bargee Travellers Association or London Boaters would also help identify issues and opportunities.
FINANCIAL CHALLENGES

Value of waterways

Development in the last few decades has often treated water as a decorative asset, its value associated with the opportunity to increase sale prices. Today, practitioners know water creates value beyond this, but guidance to prove it is limited.

Waterways and property values

Academic research has attempted to quantify the effect of waterways on property values. One literature review found a 2% to 5% value uplift near waterways in Europe, while another UK-specific study suggested London’s canalside price premium is 2.8% and generally only applies within 100m of the water. Anecdotally, some developers reported being advised to add a 10% premium onto asking prices for residential units with water views.

Organisations with a remit over waterways have also carried out research beyond property values (see sidebar), but more work is needed to corroborate findings.

Valuation guidance

Treasury guidance for valuation and other national standards don’t always account for local context or ambitions. For example, Housing Infrastructure Fund bids are appraised based on land value uplift. In one major regeneration scheme, the bidders knew naturalising waterways would bring wider benefits for wellbeing, biodiversity, and climate change adaptation, but because central government doesn’t factor these things into assessments they were left out of the bid.

Natural Capital Accounting (or the ‘ecosystem services approach’) has been used to value aspects like biodiversity, oxygen production, and health benefits and has been applied to major UK waterways. An Arup study using this approach on Liverpool’s Mersey found the river’s value to be £348m to £400m per year across the city-region. Greater Manchester’s study of the Irwell indicated a value of £418m per year – including £157m per year in ‘avoided costs’ associated with poor mental and physical health.

Funding

Without better understanding of the value and wider benefits of water, there’s a risk that waterways won’t receive suitable funding, especially for the ongoing management and maintenance necessary to ensure waterways are seen as assets rather than liabilities.

Landowner service charges, mooring fees, Section 106 contributions, corporate sponsorship and volunteer programmes can help, but come with limitations and are insufficient on their own. Overloaded service charges and mooring fees will get pushback or put off buyers/occupiers. Section 106 money isn’t always used and tends to be earmarked for interventions seen as higher priority like schools, public realm works, or community centres.

Existing policy is inadequate to help fill the gap. For example, projects like floating homes and lidos, which could raise income, aren’t covered by planning guidance. Short-term initiatives or pilot projects – with before and after monitoring to measure impact – can help make the case for policy change or permanent interventions (see Harrow Road, p. 34).
THE TRUE VALUE OF LONDON’S WATERWAYS

Contributed by Martyn Saunders
Director – Planning, Development & Regeneration, Avison Young

London’s waterways have traditionally been key arteries for trade, recreation and enjoyment. Since the 1999 Urban Task Force they have been a focus for development with high-end waterfront homes revitalising many forgotten backwaters into exclusive places to live. Despite this renaissance, major questions remain about whether the true value of London’s waterways is being realised.

At the base level, water is certainly valuable in development terms, with residential values achieving up to a 30% premium, although this impact is highly sensitive to location both between and within developments, where even one block back the value benefit is significantly diminished or erased.

Value is less easy to understand in commercial property schemes but the likes of More London, Paddington and Canary Wharf utilise water to create new destinations and attract occupiers, often setting new headline rental levels.

Interestingly, the ‘quality’ of the water is a key factor in the value impact, with a 15% rise in value achievable if the water itself is ‘improved’ – meaning existing property owners benefit if we clear up our rivers. Canals often have a lower impact than ‘naturalised’ watercourses, suggesting we only really value the aesthetics of our waterways.

This value is certainly needed if we are to successfully develop by water, as projects are complex and therefore expensive. Upfront capital costs are high, reflecting a need for major structural work as well as significant ‘risk’ in terms of often difficult negotiations with those that manage the water – both of which have to be borne before value can be realised.

Beyond these upfront costs, those delivering, managing and occupying waterside developments face a series of ongoing maintenance and stewardship costs linked to the presence of water – from cleaning and clearing through to maintenance of flood protection. At present, the usual way to cover these costs is through an (often high) service charge – which clearly creates issues for those seeking to occupy space.

Sometimes, therefore, it can feel like the extra value may not be worth it, is lost in the extra cost and time it takes to deliver, or the price we pay to inhabit these spaces. But what if rather than thinking solely about financial value we factor in the economic, community and health and well-being benefits proximity to water is known to create?

If we turn our thinking from the view of water to the use of water, we could create a different sense of value that could create different ways of addressing the cost issue and ensuring value accrues to a wider group of stakeholders.

Across London, innovative thinking is being done around the economic proposition to turn the conversation from liability to opportunity. The commercialisation of moorings and activity is a key theme, creating rent opportunities. In the Royal Docks the creation of ‘water leases’ shares the cost across all users to reflect the wider value the waterside location can create. However, they still create a financial burden to an ‘individual’ which inevitably comes under pressure when there are other asks of development.

In the future we need to go further, encouraging greater community and leisure use in our waterfront developments with wider community and well-being benefits. This can translate into wider senses of value creation that can be captured and used as a case for investment by a wider group of stakeholders.

This broadens the investment opportunity beyond traditional ‘development’ sources. From decarbonisation funds through to public health investments, the demonstrable benefits of enhancing access to and use of London’s waterways can provide a focal point for this cocktail of funding to be brought to bear to support improvements to the water itself.
**SOLUTIONS**

Examples from London and other cities illustrate solutions to many of the challenges identified in the previous chapter. Case studies in this section are grouped by their major theme – strategy and policy; design and access; engagement; activation; environment; and transport – but all case studies address several themes and challenges, especially around development and managing tensions arising from different uses. The index below outlines themes and spatial scales of each case study.

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STRATEGY AND POLICY

Strategies to guide activities and development on waterways exist across all scales. The Thames Estuary Growth Commission offers an example of regional working with reach into central government. New York City shows how a major multi-borough urban area can execute a cross-stakeholder, city-wide waterways strategy.

At the cross-borough scale, Old Oak & Park Royal Development Corporation and Canal & River Trust’s canal placemaking strategy offers inspiration. LB Camden’s use of conservation area status for Regent’s canal is also replicable at the borough level, and a waterways strategy for Brentford town centre shows how to guide local development.

Thames Estuary Growth Commission

Many organisations have different managerial roles on the Thames, including the PLA, Environment Agency, Crown Estate, and Natural England. Fragmented governance has led to difficulties addressing ecology, water and air quality, and flood defence, as well as understanding the value of the landscape.

In 2016, central government convened the Thames Estuary Growth Commission to develop a vision and delivery plan for the estuary from North Kent and South Essex into London. The Commission appointed Arup to produce the vision.

Arup assessed and proposed infrastructure and development, and, along with the Commission, identified potential for growth across the corridor. Arup’s stakeholder engagement also included a public call for ideas, thematic workshops and study tours with local authorities and local enterprise partnerships in the study area.

The resulting vision recommends three priority projects to the Commission:

- Great Thames Park: a new national park with a dedicated park authority to improve access to and value of the landscape
- Thames East Line: a multi-modal, multi-functional bridge/flood barrier which would also provide a crossing between Essex and Kent
- Celebrate the Thames: a programme of cultural events along the Thames to promote the heritage of the area

The vision also suggests joint spatial plans for Kent and Essex and development corporations to drive growth in key opportunity areas.

Central government via MHCLG has offered support, hiring a dedicated Estuary Envoy to forge partnerships across the region and chair the new Thames Estuary Growth Board, which will receive £1m towards economic growth plans.
New York City

Regulation: the Waterfront Revitalization Program

Located where the Atlantic Ocean meets the Hudson River, New York is a city of islands surrounded by 837km of coastline – roughly the same length as the entire county of Devon.

Since 1982, New York City has had a local Waterfront Revitalization Program which sets broad policies for balancing waterfront economic development, natural resources protection and public access. The Program aligns with state and federal coastal management tools, ensuring a coordinated approach across jurisdictions. Proposed discretionary projects along the city’s coastline are evaluated through the Program’s 10 policy areas before they can be approved. The Program is a regulatory tool which helps shape and improve coastal projects by requiring that they reflect and are consistent with the city’s long-term policies for waterfront planning, preservation and development.

Strategy: the Comprehensive Waterfront Plan

The city also has a Comprehensive Waterfront Plan, mandated through the city charter since the 2000s and delivered by the NYC Department of City Planning (DCP). It sits alongside the Waterfront Revitalization Program as a strategic document which guides improvements along the city’s shore and within its water bodies.

The first Comprehensive Waterfront Plan, published in 1992, emerged as New York rediscovered its waterways; like London, development had historically turned its back to the water. The plan introduced waterfront zoning to guide development and recreate links to the water (e.g. requiring wide waterside esplanades with certain development types).

The 2011 update evolved to encourage people ‘into’ and ‘onto’ the water, promoting water-based transport, recreation and biodiversity in addition to waterside parks, housing, economic development, and climate change resilience. In addition to citywide planning and policy, the plan also made recommendations for more targeted improvements along more than 20 distinct stretches of the city’s waterfront.

As New York’s waterways are being reintegrated into the city fabric, a challenge for the new edition of the Comprehensive Waterfront Plan, currently being prepared, is to balance the wide range of interests and activities.

For example, NYC is the country’s largest east coast port; amid growing demand for development and recreational uses near water, freight links need to be maintained. The NYC Economic Development Corporation (EDC) – a quasi-governmental organisation which manages the city’s maritime infrastructure and
port operations – works closely with DCP on the comprehensive waterfront plan and helps bolster the role of the maritime industry in the city’s economy.

Another major challenge is to address the equity of public access to the waterfront: areas with investment in waterside parks and rapid growth have good access, but neighbourhoods with slower growth and lower investment often don’t, leaving many residents disconnected from the water. Climate change resilience and updated flood plain zoning will also feature in the upcoming plan.

**Delivery and funding**

To help develop the plan, the city charter mandates a waterfront management advisory board comprising 18 cross-sector representatives (e.g. council members, officers from each of the five boroughs, real estate professionals, environmental specialists). The board meets quarterly. DCP also engages other stakeholders like not for profits, community groups, local people and development corporations to shape the plan’s priorities and recommendations.

The 2011 Comprehensive Waterfront Plan was supported by a four-year capital programme setting short- and long-term funding commitments. Funding sources are diverse and vary across individual projects; past sources have included city bonded capital, public-private partnerships, state or federal grants, and private grants.
Old Oak & Park Royal

This major west London Opportunity Area anticipates 65,000 jobs and 25,000 homes linked to High Speed 2, and the Old Oak & Park Royal Development Corporation (OPDC) is creating strategies to guide development.

The Grand Union Canal cuts through the site. Recognising the importance of the canal to local people and opportunities to integrate the canal into regeneration, the OPDC received GLA funding for a Canal Placemaking Study. The study, developed in partnership with the Canal & River Trust, sets out the OPDC’s vision for the canal; it will inform a supplementary planning document for the area and guide future projects.

Consultation & engagement

In early 2019, the OPDC carried out several canal-specific consultation events to inform the study, inviting boaters, cyclists, joggers, residents, workers and more to participate. The engagement programme involved:

- A narrowboat mooring at five sites to act as a community hub
- Brief towpath tours to encourage participants to reflect on what they like about the canal, what needs to change, and what should happen in each area
- A large area map for participants to annotate in response to the above
- Interviews

People spoke fondly of the canal and appreciated its quiet, wild and industrial character – but they lamented problems like litter, pollution, feeling unsafe, and unconscientious cycling which would benefit from behaviour change. Consultation outcomes were incorporated into the Study’s strategic aims and published online.30

Balancing act

The strategy is structured across three themes which align with the area’s Local Plan: civic and leisure; transport and movement; and ecology and heritage. The OPDC had to strike a balance between different needs such as stimulating activity while retaining calm areas; improving ecology while allowing space for canal transport in the future; and maintaining a cycling link while encouraging a broader range of users.

Furthermore, the Grand Union Canal’s journey through Old Oak & Park Royal passes an extensive strategic industrial estate and brownfield land scheduled for mixed use – two distinct areas with different challenges and opportunities.
In industrial areas, there’s little space for big interventions. Instead, the OPDC will support smaller, tactical improvements. For example, landowners will be encouraged to create access routes, canalside space for employees to use during breaks, and small ecological corridors in spaces between sheds and the canal, potentially funded by a micro-grants scheme. The study proposes a multi-stakeholder Towpath Charter, which among other things would encourage business owners to supply and empty bins on the towpath.

Long-term moorings could be also be installed, giving the quieter industrial areas more passive surveillance.

In brownfield areas, it’s expected that the canal will be woven into the public realm, with activity areas clustered around bridges and other locations where the canal intersects with pedestrian or road networks. Bringing more activity to the canal will require initiatives to safeguard quieter areas, such as design techniques for reducing cycling speeds and preventing towpath overcrowding.

Camden

**The Regent’s Canal Conservation Area**

In LB Camden, Regent’s Canal is covered by a single Conservation Area designation, linking the busy areas of Camden Town and King’s Cross by a quiet canal corridor. Having a single Conservation Area for the canal simplifies engagement with developers and assessment of proposed canalside schemes.

Instead of focusing on physical details – things like materials, building heights, and architectural styles – the Conservation Area’s wording focuses on the experience of being near the canal to establish a sense of place. These values have been incorporated in recent projects at both ends of the canal.

**King’s Cross**

At King’s Cross, a two-tier canalside path between Granary Square and Gasholder Park (two major public spaces at the south and northwest of the site) ensures appropriate amounts of visitors along the waterfront. The towpath connecting the two public spaces is narrow; an alternative, wider path one storey up retains views of the canals and offers access to retail and commercial areas.

**The canal corridor**

The towpath linking King’s Cross and Camden Town is relatively narrow and calm, and LB Camden encourages development along the canal corridor to follow suit.

For example, at the Urbanest student housing and incubator space on Camley Street, the development team initially wanted two courtyards opening directly
onto the towpath. Consultations with LB Camden, the GLA, and local residents revealed a preference to retain the tranquillity of the towpath. The final scheme, completed in 2014, has the courtyards but uses small gates to carefully restrict access. The incubator space’s gate is closed to anyone without a fob and the public gate is closed outside daylight hours.

**Camden Lock**

Anticipating growing numbers of visitors in coming years, the landowner behind Camden Lock, market, and other nearby sites has developed Hawley Wharf, which faces the canal. The development team worked with LB Camden and the Canal & River Trust to manage towpath footfall through design.

For example, the scheme’s market and retail areas face the canal, but they are located a storey above the towpath with a separate entrance and walkway. This limits direct canal access and reduces market litter along the towpath, a concern identified by the Canal & River Trust, which is due to receive ongoing Section 106 contributions for canal cleaning for the best part of a decade after the market opens. Ground floor public spaces are located towards the centre of the scheme rather than the canalside, with limited views towards the canal to prevent crowds from overwhelming the towpath.

The landowner has also been involved in a pilot scheme to recycle food waste by barge, with 17.5 tonnes per week taken from Camden Market to Park Royal for processing.32

**Brentford**

**Waterspace Strategy**

Located at the confluence of the Rivers Thames and Brent (which is partly canalised), Brentford town centre is undergoing regeneration. One of its major sites, Brentford Lock West, covers more than six hectares of ex-industrial waterside land.

Waterside Places, a joint venture between the Canal & River Trust and Muse Developments, is developing the site with 750 homes and commercial space. Development is guided by a Waterspace Strategy, created in 2010 by Canal & River Trust precursor British Waterways at the request of LB Hounslow. The strategy included:

- Engagement events with residents and other stakeholders
- A review of boater facilities, walking and cycling routes (e.g. quality of paths, signage, towpath accessibility), heritage assets, local ecology, flood risk, and potential for freight
• Waterway character areas to help ‘inform and balance the range of compatible uses both on and beside the water’

• Recommendations for development, such as places to add short-term moorings; improve visual and physical links between the high street and canal; add greening or wetlands; and improve towpath access

Overall, the strategy recognises the canal’s ability to create a sense of place for living, recreation, or developing a business.

**Towpath improvements**

The site is susceptible to flooding and a high flood defence wall was a major obstacle between the waterway and wider neighbourhood. The first two phases of development addressed this by moving the defence wall to create a wider towpath robust enough to cope with flood water.

Along with natural surveillance from new residents and businesses overlooking the canal, as well as improved boater facilities, the generous towpath space provides a better experience for boaters, pedestrians, cyclists and other visitors.

**Connecting to amenities and local history**

Historical curios line the canal. Some of Brentford’s warehouses were built to ‘overhang’ the canal and towpath, allowing boats to load/unload in a sheltered space. Many are disused and/or in disrepair and cannot be refurbished without significant cost and aesthetic change, but local industrial history is reflected in buildings across the site, such as by using sawtooth and pitched roofs.

In the third and final phase of development, Waterside Places will also carefully recreate the frame of the westernmost warehouse, providing a backdrop for a new public square. The square will act as a landing point for a new pedestrian and cycle bridge across the canal, improving links to Brentford Station and communities to the north and east. Within the warehouse frame, a new community facility will provide a home for a local canoe club, enhancing Brentford’s recreational offer.
In 1994, architects Pollard Thomas Edwards (PTE) moved to Diespeker Wharf, a former timber mill enjoying one of London’s best riverside locations, where the Regent’s Canal meets City Road Basin. In this case study, Senior Partner Andrew Beharrell reflects on some of their completed developments in the area and how they illustrate different approaches to building next to water.

City Road Basin

In the 1960s, British Waterways filled in the southern end of City Road Basin and put forward plans to build over the remainder of this majestic urban water-space. Local resident and activist Crystal Hale led a successful local campaign to save the basin, and in 1970 she founded the Islington Boat Club, filling the waterway instead with young people in kayaks.

The Greater London Council eventually rejected the infill, and in the 1980s LB Islington constructed the Wharf Road estate along the basin – one of many schemes to come.

Canals traditionally have a towpath side and an ‘off-side’ where warehouses and factories rise directly out of the water. In new developments, PTE tries to reinstate this contrast, rather than aiming for public access on both sides. Containment by buildings is part of the character of urban canals.

Crystal Wharf, built in 2003, rises directly out of the water, curving around the site boundary. It is cantilevered over a weir so that water gushes beneath it. Its commercial studios are set two feet below the water line; sitting on the windowsill is like being in a boat. The building is north-facing, and instead of having balconies PTE created large flats (15% bigger than London Plan standards) with wide-frontage, fully-glazed living rooms enjoying one of the best water views in London.

Angel Waterside, by contrast, is set back from the canal to create a new public park in an area otherwise lacking public open space. By giving up almost half the site area, PTE was able to negotiate a taller building to frame the park, with 80% of the apartments having direct views of the water.
More recently, Wharf Road for Peabody – south of LB Islington’s Wharf Road estate – displays a third way of addressing the water. Three fingers of accommodation stretch back at right angles to the canal edge to create pair of U-shaped courtyards. Nearly all the flats get an oblique view of the water.

At seven storeys, these three developments were right on the limit of acceptable height and density at the time, and PTE worked hard at the modelling to get them sitting comfortably in their surroundings and to win public support.

By the time PTE completed Angel Waterside in 2008, the council had introduced policies enabling a cluster of tall towers to erupt at the head of the basin.

Waterside view and access are now highly valued, and they add a commercial premium. When marketing Crystal Wharf and Angel Waterside PTE was advised to add around 10% for the view. By contrast, PTE’s regeneration of the Packington Estate, five minutes’ paddle away, challenged the assumption that the most valuable waterside properties would be for sale: they were reserved for replacement affordable housing.

These changes at City Road Basin, the adjoining canal and Wenlock Basin are indicative of many of the changes to London’s wider inland waterways in the last 50 years – and the pressures of conflicting uses:

- Redevelopment of former industrial land and buildings, mainly for residential and at increasingly stratospheric heights and densities
- Restoration of older industrial heritage buildings and other structures
- Recreation on, in and alongside the water
- Growing populations of boat-dwellers, birds, fish – and rodents
- Improved water quality, but worsening litter – and seasonal toxic algae
- Intensive towpath use by cyclists, dog-walkers, anglers and latte-sippers
Thamesmead

A brief history

Constructed on low-lying marshland criss-crossed by decommissioned military canals, Thamesmead was designed around water. The Greater London Council, recognising the flood risk from the Thames and the benefits of waterways for wellbeing, masterplanned Thamesmead in the late 1960s to co-exist with water through a system of lakes and additional canals.

With declining public funding and rising development costs throughout the 1970s, later phases diverged from the Greater London Council’s vision and faced away from the canal network, which remained largely inaccessible.

Turning the tide in Thamesmead

Today, the estate’s 7km of canals and 32 hectares of lakes are an anchor for Thamesmead’s regeneration, led by estate owner Peabody. At Southmere Lake, the Lakeside Centre is being refurbished as a focal point for the community, with artist studios, a crèche, and a training kitchen among its new amenities. A new boat store next to the centre will bring boating and watersports back to the lake.

In the Thameside area of North Thamesmead – now known as Thamesmead Waterfront – Peabody plans to build 11,000 new homes and intensify activity in the town centre, with a DLR extension improving connectivity. Like the GLC in the 1960s, Peabody sees an opportunity to use the waterways for wellbeing, recreation, and connectivity – as well as for supporting biodiversity.

Maintenance and access

Peabody has an in-house team to manage Thamesmead’s waterways, funded by a service charge levied on residents. A dedicated canals team works full-time to maintain waterways and improve use of the canals, which are inaccessible or unknown to many local people. For example, the Arnott Close shopping parade along the Harrow canal faces the water, but a pedestrian guard rail prevented canalside access. In September 2018, Peabody removed the barricade, opening up stepped access to the canal.

Outreach and engagement

To raise awareness of local waterways, part of Peabody’s communications strategy is to share before and after photos so residents can see the new public spaces.

Linking with schools is also important. For example, Thamesmead has a series of ‘tumps’, Victorian-era ammunition storage facilities surrounded by moats. Tump 53 was locked and neglected for years, until the London Wildlife Trust’s ‘Wild About Thamesmead’ campaign secured £50,000 of Big Lottery Funding in 2013 to establish the site as a publicly accessible nature reserve and historical site of interest. The site is especially popular for school visits.
Thames21, a charity that works to improve waterways, also runs outdoor school programmes throughout the estate, as well as projects to tidy waterways, install reedbeds, and undertake routine waterways maintenance with volunteers.

Measuring value and success

For Peabody, it’s important that measuring the impact of waterways isn’t just about economic value, but about wider wellbeing and placemaking. A simple measure of successful regeneration in Thamesmead will be: are more people using public spaces? To analyse this and other aspects of how local people have experienced regeneration, Arup is leading a team with partners from the Social Innovation Partnership and University of Greenwich to evaluate changes to the area. The evaluation includes feedback from focus groups, surveys, social media posts, and in-person interviews.

Totterdown Reach, Bristol

Like London’s Thames, Bristol’s Avon is a river with a high tidal range. In addition to dealing with the tide and issues around flood risk, riverside development in Bristol is subject to a Local Plan policy on habitat preservation, enhancement, and creation along waterways.

Totterdown Reach, a narrow 0.5 hectare brownfield site along the river, contends with both challenges as well as a steep gradient between the site’s north and south borders: from Bath Road (a major artery for the city) to the Avon, the level changes by 7m, with no access currently provided to the river. To work through
the constraints and realise the site’s potential, developer Hadley Property Group consulted with the Environment Agency, Bristol City Council, engineers and other experts.

**Future-proof design**

Hadley’s development comprises 152 units across three blocks, with car parking and non-residential uses on lower floors. Although not required in council policy, the scheme includes a continuous, publicly accessible riverside walkway which in the future can connect to the mixed-use Paintworks scheme to the east and future projects to the west – something Hadley was keen to use to add as much value as possible to existing and future residents.

Stairs, ramps, and a lift connect Bath Road to the riverside walkway for full accessibility. The development includes an option to establish a community barge at a disused jetty, linking to the site’s historical use as a barge repair facility.

As the development is adjacent to the River Avon, the Environment Agency required the buildings to be set back from the river to allow access for maintenance of the river edge as well as demonstration that the development would not increase flood risk downstream.

In response, Hadley and the design team set one of the blocks back from the river edge and raised balconies and cantilevered storeys high enough to accommodate maintenance and emergency machinery (e.g. enough clearance to lift materials onto the river by crane). Furthermore, the design team undertook hydraulic modelling and satisfied the EA that the development has no impact in terms of flooding.

Constructing along the muddy bank of the river edge could compromise the stability of the bank and nearby structures. The scheme addressed these issues by mapping the foundations of nearby Totterdown Bridge to ensure development won’t affect its stability, as well as proposing a cantilevered walkway to avoid piling on the river edge.

In terms of preservation and enhancement, council conservation officers and Natural England suggested measures like a riverside lighting plan to ensure nocturnal species are protected, particularly as the river is a bat corridor.

**Applying lessons learned**

Having recently begun work on a Thameside site on Blackwall Yard in Tower Hamlets, Hadley is continuing its approach of early and comprehensive stakeholder engagement.

Although still in the early design stages, initial plans include potential for a jetty, which could be used for public transport, inbound/outbound freight during the construction process, and leisure uses for visitors and residents. The site also contains a Grade II-Listed graving dock which has been out of use for more than fifty years, which will be reinvigorated as publicly accessible space. The river will play a much more integral role in the development than in neighbouring buildings which reduce access to the Thames.
ENGAGEMENT AND COMMUNITIES

Waterways are much-loved assets, giving built environment practitioners have a huge pool of enthusiasm to tap into: many waterways have well-established local groups acting as caretakers and advocating for improvements. In north London, LB Enfield and the community-led Pymmes BrookERS show how councils and local groups can achieve common goals together, while lower down the Lea community-led activity at Cody Dock offers inspiration for London and beyond.

Meridian Water

A new waterside neighbourhood

Meridian Water is one of the Lea Valley’s biggest regeneration schemes. Covering around 82 hectares, the 20-year project is delivering a mixed-use neighbourhood which includes 10,000 homes. The Lee Navigation (the canalised part of the River Lea) runs through the site, which also includes the confluence of the Pymmes and Salmons Brooks. The River Lea and Banbury reservoir are just outside the regeneration boundary.

All are major assets for an area otherwise lacking in open public space, but they don’t currently integrate with the public realm. Pymmes Brook is sequestered into a low-lying concrete flood relief channel and routes to the Lea Valley are unclear. Residents of and visitors to the area are often unaware of the rivers.

As masterplanner for the site and owner of around two-thirds of the developable area, LB Enfield intends to make its waterways a core part of the new neighbourhood.

The Pymmes BrookERS

Both the Pymmes and Salmons Brooks are heavily polluted from agricultural runoff, road runoff, and sewage misconnections across their combined 42km length; along with the Lea, they’re among the UK’s dirtiest watercourses. Properly remediating the rivers requires intervention beyond Meridian Water.

The Pymmes and Salmons Brook Restorers (or Pymmes BrookERS) is a community group formed in 2017 as part of an innovative ‘community modelling’ project run by Thames21: using software developed by Oxford University, the group and Thames21 modelled the improvements to water quality that constructing wetlands in the river catchments would bring.

Meridian Water offers an unparalleled opportunity to start transforming the rivers. In Autumn 2018 the Pymmes BrookERS met with LB Enfield to explain their vision for the catchment and ask the council to take the once-in-a-lifetime opportunity to naturalise the rivers through the site. The vision set specific targets and timescales, covering aspects like ecological health (e.g. fish reintroduced and spawning by 2028); public education (e.g. raising awareness of misconnections, with serious misconnections addressed by 2024); and water quality (e.g. achieving overall ‘good’ Water Framework Directive standard by 2028).
As LB Enfield and the BrookERS have a shared ambition for ecologically thriving, naturalised rivers – with opportunities for public access – the organisations are now working together to deliver improvements. For example, LB Enfield has given seed funding to the group to create an evidence base to attract funding for 29 wetlands throughout the catchment. The wetlands will improve the rivers’ ecological health, create tranquil places for wildlife, and provide public open space for new and existing residents.

Site-wide strategies

LB Enfield commissioned Arup to advise on planning, transport, flood risk and infrastructure for Meridian Water. To address flood risk, Meridian Water contains undulating green spaces to hold excess water away from buildings. Brooks Park, a new major green space, will be centred around the renaturalised Pymmes and Salmons brooks. Designed to soak up excess water, the park will also be an accessible part of the urban fabric. Residential buildings will interface with parks and waterways, and will be raised one metre above ground to avoid flooding. Arup’s flood risk strategy also intends to enhance protection for neighbouring LBs Waltham Forest and Haringey.

To improve connectivity, Meridian Water station has a public concourse with a 24/7 route over the railway tracks. New parks will include pedestrian and cycling paths. Arup also recommended five new bridges over the Lee Navigation. These measures will improve east-west movement across and beyond the site, and allow more people to easily access the waterways. As a longer-term goal, the council would like to open up access to Banbury reservoir.

When developing strategies, Arup consulted with organisations like the Canal & River Trust (on bridge design and treatment of Lee Navigation edges), the Environment Agency (flood risk modelling and to demonstrate feasibility of Brooks Park), and the Lee Valley Regional Park Authority (on east-west connectivity).

For LB Enfield, working with stakeholders and landowners is also necessary. For example, Meridian Water borders LB Haringey to the south and LB Waltham Forest to the east, both of which connect to the Lea Valley; the Canal & River Trust manages the Lee Navigation; and Thames Water manages Banbury reservoir, which is within LB Waltham Forest’s borders. The EA is also involved in issues relating to the various rivers.

The strategies helped LB Enfield successfully bid for £156m of Housing Infrastructure Funding, which will lay the groundwork for future development by providing basic infrastructure, remediation and flood risk mitigation.
Cody Dock

The dock and deindustrialisation

LB Newham’s population grew largely in response to the early industrial revolution’s reliance on the River Lea. With deindustrialisation, many of the river’s docks and wharves were abandoned, with the Lea – and connections to local history – becoming hidden from view. Today, residents of LB Newham are among London’s most transient and deprived.

In the early 2000s, Simon Myers, a boater visiting the Lea, discovered Cody Dock. A finger dock facing Canning Town, neglect had turned it into a fly-tipping hotspot. Myers saw potential to use the dock – and the wider River Lea – to create a community space for local people to establish a longer-term connection to the area and its history, particularly in light of extensive regeneration planned throughout Canning Town, Poplar, and the Olympic Park.

Making connections

In 2009, Myers set up the Gasworks Dock Partnership to oversee community-led regeneration of the dock. The Partnership sought grants for community outreach programmes to engage school groups and local people through wildlife surveys, river walks and history tours. It also forged relationships with organisations such as LB Newham, the Canal & River Trust, and dock owner Thames Water, who in 2013 gave the Partnership a 999-year lease at £1 per year.

With long-term certainty, the Partnership and volunteers established a wide range of community spaces around the dock, including a café, workspace, exhibition space, volunteer-operated community boat and outdoor classroom (built with help from local young people). A new pontoon provides access to the water, and plaques around the site pay homage to local historical events and figures.

Cody Dock’s volunteers are numerous – there’s a waiting list of more than 500 people – and highly active. In addition to the above, volunteers carry out water quality audits, site maintenance, landscaping and other activities. Over a three-year period, 90% of surveyed volunteers reported learning new skills, 99% felt they had more ownership over the local area, and all felt a stronger link to the community.36

Community masterplan

In April 2018, LB Newham granted planning permission for Cody Dock’s ‘creative industries quarter’ masterplan, designed to be executed by volunteers and stakeholders. The masterplan includes additional work and exhibition space, live/work moorings, visitor moorings, a dry dock for boat maintenance and a heritage archive.

The Partnership has extensively expanded its corporate and charitable supporter base, which will help fund many of the masterplan projects, along with revenue from moorings, workspace, and exhibition space.

Wharves on the Lea

There are well over 40 wharves on the Lea between the Olympic Park and the Thames. Most are disused as Cody Dock once was, but many retain assets like ladders, unloading areas, mooring bollards, and ‘campsheds’ (structures that allow barges to sit level during low tide).

East London organisation Surge Co-op has documented each wharf, its amenities, and its place in local policy,37 calculating that together they could provide moorings for more than 200 vessels – a huge opportunity alongside new development.

In 2020, Surge Co-op will publish a report on opportunities for waterside community space and affordable, cooperatively organised live/work moorings for larger boats, with a view to unlocking community ownership along the tidal Lea.
ACTIVATION

Activating waterside spaces can be led by any number of actors and occur at all scales. The previous section highlighted Cody Dock’s local, community-led approach; below features a large-scale, partnership-led example at the Royal Docks, developer-led programming in Paddington, and a small-scale, borough-led scheme near Harrow Road, Westminster.

Royal Docks

Comprising around 12% of space in LB Newham and designated for 15,000 homes and 40,000 jobs in coming years, the Royal Docks is one of London’s biggest opportunity areas. Its three docks – Royal Victoria (1855), Royal Albert (1880), and King George V (1921) – form the world’s largest enclosed/inland dock, with around 100 hectares of water area and a dock edge of 18.4km.

Partnership and funding

In 2017 the Royal Docks Team – a joint initiative between the GLA and LB Newham – emerged to guide regeneration across the site’s three major development sites. The Team reports to the London Economic Action Partnership (LEAP) and is complemented by an advisory board comprising public and private stakeholders. The Royal Docks Management Authority, originally set up in 1990 to oversee maintenance and long-term management of the water and related infrastructure at the docks, works closely with the Team and operates a water users group who give feedback on proposed strategies.

The Mayor has approved the initial 2018–2022 delivery plan for the site, alongside £314m funding to kick-start public realm, transport, and other improvements. For longer-term funding, the Royal Docks operates as an Enterprise Zone, with income coming from business rates. LEAP will collect and reallocate income throughout the Zone for 25 years. Some of the income will be used to repay loans given by the GLA to forward-fund development.

Addressing severance and activation

While the DLR and imminent Crossrail mean the docks are well-connected to the rest of London, internal connectivity is poor. The docks are the city’s largest public open space, but their size – combined with the ribbons of roads and DLR infrastructure on either side – creates north-south severance.

The water spaces themselves are underused, largely surrounded by expansive blank facades and brownfield land. The Royal Docks Team intends to improve connectivity and activate spaces on and beside the water.
For example, the ExCeL centre’s enormous dockside façade is unused, and engagement with the docks from its waterside plaza is blocked by the Sunborn London yacht hotel. ExCeL hosts some four million visitors per year, and with more events likely post-Crossrail, numbers will only increase – but most visitors travel from Custom House to ExCeL without seeing the docks. The Royal Docks Team hopes to work with ExCeL’s owners to enliven the dockside walkway and reposition the ship hotel to open up views across the docks.

By contrast, views from the towering Royal Victoria Dock bridge are unobstructed – but the lifts are regularly broken and the climb up stairs on either end is prohibitive for people with mobility impairments, pushchairs, or other heavy objects. As the only north-south route for half a kilometer, a well-maintained bridge is critical for addressing severance. The development partner for Silvertown Quays plans to build a new step-free bridge.

Of the three docks, Royal Victoria is currently the busiest in terms of public-facing activities. WakeUp Docklands gets people on the water with wakeboarding and stand-up paddleboarding. Nearby, a seasonal urban beach managed by the Royal Docks Team aims to attract local residents and families by offering a sandy shore, a paddling pool, and an enclosed and swimmable section of the docks. Open-water swimming is an option year-round, and features as part of the annual London Triathlon.

The Royal Docks Team wants to support these uses and more at Royal Victoria, but they aren’t suitable for other parts of the docks. For example, Albert Dock is set to become a ship repair hub; its maritime infrastructure restricts on-water leisure, but ecological uses could be suitable.
Paddington Basin

Developer-led activation

Over the last 20 years (and across some 45 separate schemes), developers across Westminster’s Paddington Opportunity Area have treated the Grand Union Canal as a key asset, improving access and the canalside public realm. They have created more than 1km of new towpath, installed four new bridges, and established a wide-ranging roster of activities to activate canalside areas.

For example, European Land’s Merchant Square, at the easternmost end of the basin, hosts a year-round events programme, a permanent outdoor big screen, a family-friendly water feature and food markets. A floating garden attracts everything from yoga classes to business meetings to children’s birthday parties. The developer has created its canalside public realm and activities in part by observing how people use the space and in part by surveying users for feedback.

Towards Little Venice, developer British Land has spent £10m on public realm improvements since 2013. They also operate commercial/restaurant moorings: two opposite Paddington station's canalside exit to give a sense of arrival and two en route to Little Venice. Public art installed around otherwise uninviting underpasses also creates a more inviting feeling.

The Paddington Partnership – an organisation set up and funded by the site’s developers to coordinate site-wide programming and stakeholder engagement – is also helping people get on the water. They have brought in Copenhagen-based GoBoat, which runs a free electric water taxi between Paddington station and Merchant Square and offers boat hire to people who want to explore the canal between Paddington and Camden.

Connectivity

Paddington basin’s transformation isn’t immediately obvious from surrounding streets. It’s physically severed on nearly all sides, whether from the station and railway tracks to the southwest or the Westway along the north. Views into the site from nearby streets are limited. Network Rail’s parts of Paddington station don’t refer to the canal, and TfL’s Legible London maps don’t show towpaths.

The Paddington Partnership is keen to address this. Following an open submission call, they recently appointed a design team to create linked public artworks highlighting local nature, heritage, and personal stories from local people, providing a ‘narrative trail’ to draw visitors through the site.

For pedestrians and cyclists, the Paddington Arm is a pleasant and popular route, so messaging about appropriate behaviour is important. The Canal & River Trust has towpath rangers to explain their ‘share the space, drop your pace’ campaign to cyclists and joggers and encourages other stakeholders, like the developers around Paddington, to promote the same consistent message.
Proof of concept: a canalside pilot project

The City of Westminster’s Harrow Road neighbourhood has a busy high street near a section of the Grand Union Canal. As a relatively deprived area otherwise lacking open public space, the canal is an important public amenity – but it traditionally hasn’t been a social space of choice for local people. It’s overshadowed by the Westway, enclosed by a Network Rail boundary wall, lacks access, suffers from fly-tipping and is used predominantly as a cycling commuter route. The Canal & River Trust owns the canal, but complex land ownership in surrounding areas makes change difficult.

Over the past two years, the council has been working with residents and stakeholders to produce the Harrow Road Place Plan and create realistic projects to deliver immediate and long-term improvement, including for the canal.

In early 2019, the council ran a design competition to enliven the canalside public space. Throughout June 2019, the winning team delivered its ‘co-mooring’ pilot, a one-month scheme which allowed boaters to moor for an extended period in exchange for providing community use or programmes. The Canal & River Trust, one of the project partners, agreed to extend the mooring period to enable the trial.

In addition to the moorings, a colourful, winding path and seating area helped slow cycling speeds through the space and provide a place for people to linger. A 28-day programme of activities engaged stakeholders – mainly residents – within the new space.

Measuring impact

The council recorded data before and during the intervention to show impact. For quantitative data, they counted the number of people moving through the site (cycling, jogging, walking, etc) and using the space across three separate week and weekend days. For qualitative data, they surveyed 110 users and passers-by on their feelings about the public space generally, how safe they feel, and words they would use to describe the space. Interviews before the intervention also asked what people wanted to change about the canalside, while interviews during the intervention questioned what they liked or felt was still missing.

The feedback showed a marked change: positive perceptions of the space increased tenfold; the number of people feeling unsafe reduced by 91%; and positive words used to describe the space increased by 150%. There was also a shift of ambition in the responses: while ‘before’ respondents focused on litter or missed potential of the canal, later respondents desired specific amenities such as a café/bar or more seating areas.

For the council, the project and its findings have bolstered the case for permanent improvements and helped build the stakeholder relationships to make it happen. The findings will be incorporated in a canalside strategy for the Harrow Road district.
London has numerous examples of schemes that have improved water environments and increased biodiversity. This section focuses firstly on Walthamstow Wetlands for its large-scale, partnership-led approach to establishing a new nature reserve, and on the Ravensbourne River, widely cited as best practice for river restoration through catchment partnership working and borough strategies.

**Walthamstow Wetlands**

**Funding and delivering a new nature reserve**

The Lea Valley’s wetlands are at the heart of the Lea Valley regeneration area, comprising 10 reservoirs which service 3.5m Thames Water customers – just under half the city’s population. Given the importance of the reservoirs for London’s water supply, opening them to the public as Walthamstow Wetlands required a sensitive approach with multiple stakeholders.

The Walthamstow Wetlands reserve was delivered through a partnership of Thames Water (the landowner), LB Waltham Forest (the lead organisation), and the London Wildlife Trust, with major funding from the GLA, Heritage Lottery Fund, Thames Water, and LB Waltham Forest, plus contributions from neighbouring councils and landowners.

The design concept for the Wetlands was to create a central 1.7km spine with multiple entrances, giving people from several neighbouring areas access to the extensive green space.

Keeping the Wetlands free to visit is critical for LB Waltham Forest. For ongoing maintenance and staffing, the council seeks Section 106 contributions from nearby development and is working with LB Haringey to secure contributions from regeneration around Tottenham Hale. Some income comes from venue hire at the refurbished Engine House.

**Balancing people and nature**

When the Wetlands opened in October 2017, the council expected around 180,000 visitors in the first four years; around 400,000 came in the first year alone. Visitors initially treated the nature reserve like a park, bringing dogs, barbecues, or trying to swim. The Wetlands team responded by adding guidance to the website, signs at entrances, and foot patrols to remind visitors about appropriate behaviour in a nature reserve.
A diverse roster of activities aims to attract a broad range of visitors. The Wetlands host numerous activities including mini-beast hunts and birdwatching sessions, while photography lessons and arts programmes tie in with Waltham Forest’s Borough of Culture programme.

With several rare nesting birds on site, the team is careful to manage footfall. The main path through the Wetlands is always accessible during opening hours, but other paths alternate opening days to give seclusion to wildlife.

Ravensbourne River

At 66km long, the Ravensbourne and its tributaries flow through LBs Bromley, Lewisham, Croydon and RB Greenwich, discharging into the Thames in Deptford.

In 1968, two days of heavy rain caused the catchment to overflow and severely flood parts of southeast London, including Lewisham and Catford town centres. In response, the catchment’s rivers were widely culverted to carry water to the Thames faster and reduce flood risk. An estimated 50% of the catchment remains culverted.

Renaturalisation

At the centre of LB Lewisham, the river meets Ladywell Fields, a major green space which is a key amenity for several neighbourhoods including Ladywell, Honor Oak, and Catford.

In the mid-2000s, LB Lewisham received EU funding to improve wildlife habitats and increase use of the park, then a poorly-lit space in which only 44% of visitors felt safe. At a cost of £1.8m, LB Lewisham re-landscaped the park with new pathways and entrances; improvements to lighting and sightlines; and a re-naturalised, meandering river with small side channels.

Before and after assessments indicated dramatic improvements. Ecological surveys in 2008 found a near 100% increase in species, particularly fishing birds. Surveys with visitors found 78% now reported feeling safe, and visitors increased 2.5 times over. Many returned: 51% reported visiting more often.

Ravensbourne Improvement and Catchment Plans

In September 2015, LB Lewisham and the Environment Agency published a Supplementary Planning Document to guide development and design around the Ravensbourne. Priorities include increasing access to the river, reducing flood risk through naturalisation where possible, and improving water quality.

The SPD identifies three character areas and several development sites, with specific policies for each. Options for funding river improvements include Community Infrastructure Levy, Section 106, and the Environment Agency, with additional options through Heritage Lottery Funding and other sources.
Since 2012, LB Lewisham and the EA have also been part of a Catchment Partnership: the Ravensbourne Catchment Improvement Group (RCIG), alongside neighbouring boroughs, Thames21, London Wildlife Trust and community groups.

Catchment Partnerships are mandated by central government. Each river catchment in England falls under a cross-sector, multi-stakeholder partnership which works to protect water environments.

RCIG drives the Catchment Plan for the area, which sets goals for the catchment and a detailed project list showing objectives, measures, and lead partners. The Plan explains which organisations are involved and their remit and responsibilities. Restoring waterways within the catchment to a natural state is a priority for the group.

**TRANSPORT**

The GLA, TfL, and Port of London Authority support using waterways – the Thames in particular – to move people and goods. The docklands’ Royal Wharf Pier is an example of how to fund and design a new piece of passenger transport infrastructure. For moving cargo, the PLA’s Thames Vision and TfL’s River Freight Plan contain resources to help practitioners identify wharves, with a goal of incorporating working wharves into new development.

**Royal Wharf Pier**

**Moving people on the river**

River passenger services are in demand. Thames Clippers’ RB6 route between Putney and Blackfriars, which opened in 2013, proved so popular that additional vessels were added to the fleet after 18 months and the route was later extended to Canary Wharf.

Although they sit under TfL, River Services aren’t on the same fare or funding structure as other public transport – they are expected to be self-financing. Keeping fares reasonable requires low operating costs, but to ramp up services, the busiest central London piers need funding for expansion, better connections and wayfinding to other public transport, and ongoing maintenance. London’s significant riverside development could contribute, as at Royal Wharf.

**A new pier for London**

New and improved transport links are critical to support residents in the 3,385 new homes arriving in Royal Wharf. The £5.5m Royal Wharf Pier, paid for by Royal Wharf’s developer, is the newest link in the Thames passenger service network.

The 130m pier includes a fixed promenade, a viewing platform, and a pontoon which moves with the tide. The architecture team behind the pier approached the pier as both transport infrastructure and public space: the promenade is 4.5m wide to to accommodate both lingering visitors and hurried commuters, while the 16m² central pier and pontoon offer views to the Thames Barrier and Canary Wharf. A café provides income for ongoing management and maintenance.
Thames Vision & River Freight Plan

Moving goods on the river

The Thames is the country’s busiest inland waterway for freight, and there’s capacity to move more. The PLA’s Thames Vision and TfL’s River Freight Plan strongly support using the river to transport construction material and waste associated with London’s extensive riverside development.

TfL, the PLA, and the Port of Tilbury also note the potential benefits for air quality. Transporting construction materials by barge can replace anywhere from 36 to 50 road-based vehicles, reducing CO₂ and congestion and creating a safer space for vulnerable road users. One challenge is to address NOx emissions from vessels. Regulating vessel engines is beyond the Mayor’s remit, requiring change within the industry – which is coming, as manufacturers respond to growing demands for cleaner energy.

Working with wharves

Another challenge is to make the best use of safeguarded wharves, of which there are around 50 along the Thames (and parts of the Roding and Lea). Some, like Cringle Dock in Battersea, transfer high volumes of cargo. Others, like Convoys Wharf, are no longer in use but could be reactivated, even as part of mixed-use schemes, with the right approach.

Planning permission for safeguarded wharves rests with the Mayor, but boroughs and the PLA are also key consultees.

Mapping for movement

To help, the Freight Infrastructure in London Toolkit, the PLA’s Thames Vision map, and TfL’s Delivering Goods by Water map (see Appendix A, p. 44) are online resources showing maritime infrastructure that can support waterborne transport, which could be incorporated into Construction Logistics Plans. This could apply not just to construction materials but things like food, beverage, and online shopping orders.

Major riverside projects like Battersea/Nine Elms, Tideway, and Greenwich Peninsula are using waterborne freight to transport construction materials and waste to and from sites. Photo © Port of London Authority.
**RECOMMENDATIONS**

The report recommendations bring together findings from project events and case studies above. The case studies are organised by themes which broadly mirror those in the chapters on Challenges and Solutions: strategy and policy; access, activation, and environment; engagement and stewardship; and transport. They are aimed largely at local authorities, the Greater London Authority (GLA), developers, urban designers and architects, central government, and organisations that own and manage waterways.

### STRATEGY AND POLICY

<table>
<thead>
<tr>
<th>Central government</th>
<th>Develop land use classes and guidance for special uses like floating homes, floating lidos, and co-mooring.</th>
</tr>
</thead>
<tbody>
<tr>
<td>GLA</td>
<td>Maintain a public map of London's waterways with details of ownership and access points/walking routes, with a view to adding layers for features like boater amenities.</td>
</tr>
<tr>
<td>GLA</td>
<td>The London Plan should make a wider call for boroughs to work together on cross-borough water bodies beyond the Thames.</td>
</tr>
<tr>
<td>GLA</td>
<td>Any future update to the All-London Green Grid SPD should give more prominence to waterways, which feature widely throughout the current document but are missing from maps and aren’t acknowledged in the title or definition of ‘green infrastructure’. Alternatively, create a ‘Blue Ribbon Network’ SPD for London’s waterways.</td>
</tr>
<tr>
<td>GLA</td>
<td>Convene a cross-sector London waterways working group to share best practice and co-deliver projects.</td>
</tr>
<tr>
<td>GLA</td>
<td>In absence of centrally-defined land use classes, provide guidance on floating homes, floating lidos, co-mooring and other on-water uses outside current planning regulations.</td>
</tr>
<tr>
<td>Developers, local authorities, Canal &amp; River Trust, PLA</td>
<td>Ahead of development or other projects with water, determine funding mechanisms for long-term waterway management and maintenance. Look beyond traditional sources to reflect the wider economic, social, community and health benefits that improvements to water or access to waterways can create.</td>
</tr>
<tr>
<td>Local authorities, developers, designers</td>
<td>For untested ideas/policies or those outside of regular planning regulations, use pilot projects with before and after monitoring to test long-term feasibility.</td>
</tr>
<tr>
<td>Local authorities, developers</td>
<td>Engage with organisations responsible for waterways (e.g. Canal &amp; River Trust, Port of London Authority) early when developing new strategies, policies, or projects.</td>
</tr>
<tr>
<td>Local authorities</td>
<td>Carry out a borough-wide waterways study to identify opportunities that can be incorporated into local plans or SPDs, with neighbouring boroughs involved to ensure coordination across boundaries.</td>
</tr>
<tr>
<td>Local authorities</td>
<td>Use local plans, SPDs, Conservation Area designations and masterplans to identify waterway enhancements and funding options and to set out requirements for developing on/near water.</td>
</tr>
<tr>
<td>Local authorities</td>
<td>Partner with neighbouring boroughs to jointly hire staff to oversee shared waterways or, where possible, create a dedicated in-house ‘waterways coordinator’ post.</td>
</tr>
</tbody>
</table>
### DESIGN, ACCESS AND ENVIRONMENT

<table>
<thead>
<tr>
<th>All</th>
<th>Look for opportunities to improve wayfinding to waterways.</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>Understand, and where possible improve, the user experience beyond the boundary of the site.</td>
</tr>
<tr>
<td>Central government</td>
<td>Enshrine a right of recreational access to waterways through legislation (similar to Scotland’s Land Reform Act 2003).</td>
</tr>
<tr>
<td>GLA, PLA, TfL</td>
<td>Develop a design guide for the Thames path.</td>
</tr>
<tr>
<td>TfL</td>
<td>Add towpaths to Legible London maps, especially for maps along the towpaths themselves.</td>
</tr>
<tr>
<td>Developers, designers, local authorities</td>
<td>The context and characteristics of a waterway should drive any activation strategy and design principles. Some places will be suitable for more activity or certain types of uses; others are best left or returned to quiet, less intensive uses.</td>
</tr>
<tr>
<td>Developers, local authorities</td>
<td>Use new development as an opportunity to add, improve or connect waterside paths or to address severance caused by waterways, such as by building new bridges.</td>
</tr>
<tr>
<td>Developers, local authorities</td>
<td>Review the Canal &amp; River Trust’s mooring strategy to see where new or improved amenities for boaters can be incorporated into development, e.g. through Section 106 or CIL.</td>
</tr>
<tr>
<td>Developers, local authorities</td>
<td>For artificial watercourses like docks and canals, find opportunities to encourage or enhance biodiversity.</td>
</tr>
<tr>
<td>Developers, designers</td>
<td>For areas where direct access to the waterside isn’t possible, maximise views to the water with bridges or elevated walkways, where feasible.</td>
</tr>
<tr>
<td>Developers, designers</td>
<td>Discuss current and future flood risk with the local authority and Environment Agency; mitigate risk with robust sustainable urban drainage systems and innovative site design.</td>
</tr>
<tr>
<td>Designers, developers</td>
<td>Orientate buildings so windows face the waterway, and where suitable provide ground floor uses that encourage activity or passive surveillance.</td>
</tr>
<tr>
<td>Developers</td>
<td>Ensure new developments are connected to the correct drain to avoid misconnections and polluted waterways.</td>
</tr>
<tr>
<td>Designers</td>
<td>Design space under bridges to discourage anti-social behaviour.</td>
</tr>
<tr>
<td>Designers</td>
<td>Design and locate buildings to respond to the widthSCALE of the waterway corridor to avoid overshadowing, wind tunnelling or over-development.</td>
</tr>
</tbody>
</table>

### ENGAGEMENT AND STEWARDSHIP

<table>
<thead>
<tr>
<th>All</th>
<th>Londoners have a strong affinity for the city’s waterways. Tap into this as a starting point for discussions about development and on-water activities.</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>The worlds of planning and maritime transport/engineering are full of technical jargon – avoid this in any stakeholder communications, or be ready to clearly explain what various terms mean.</td>
</tr>
<tr>
<td>All</td>
<td>For sites with existing, nearby or potential moorings, engage live-aboard boaters and representative groups like the National Bargee Travellers Association and London Boaters ahead of new development.</td>
</tr>
<tr>
<td>All</td>
<td>Talk to a wide range of waterways users – boaters, anglers, joggers, cyclists, pedestrians – to understand their attitudes to and aspirations for an area.</td>
</tr>
<tr>
<td>All</td>
<td>Engage community groups with a focus on waterways (e.g. watersports and boating clubs, ‘friends of’ river groups, Canal &amp; River Trust canal adoption groups) to understand their aspirations for an area and where available support (financial or otherwise) could best be directed.</td>
</tr>
<tr>
<td>All</td>
<td>Link with regional bodies like the Wandle Valley and Lee Valley Trusts and Thames Estuary Partnership to understand opportunities for initiatives such as development, leisure, waterborne transport, water quality improvements, and increasing biodiversity across regional blue networks.</td>
</tr>
<tr>
<td>PLA, Marine Mgmt Org, Environment Agency, local authorities</td>
<td>Make it clear on websites which department or individual to contact about waterways and specific issues.</td>
</tr>
<tr>
<td>Developers, local authorities</td>
<td>For projects involving rivers, liaise with Catchment Partnerships to understand challenges and opportunities.</td>
</tr>
<tr>
<td>Developers, local authorities</td>
<td>Work with local groups and organisations like Thames21 to monitor water quality and biodiversity, and develop strategies for river improvements.</td>
</tr>
<tr>
<td>Developers, local authorities</td>
<td>Where waterways interact with strategic industrial land, talk to local businesses to learn how they can take on a stewardship role for things like cleaning or providing bins, which could contribute to corporate social responsibility efforts, or provide access to waterways, which staff could use (e.g. on breaks) as well as the general public.</td>
</tr>
<tr>
<td>Local authorities</td>
<td>Work with community safety officers, the Canal &amp; River Trust and boaters to address crime hotspots and develop a more accurate map of reported incidents.</td>
</tr>
</tbody>
</table>

## TRANSPORT

| TFL | Set guidance for pier design to give the river passenger transport network a cohesive look and ensure piers are visible. |
| TFL | Identify and publish suitable locations for future passenger transport piers, linking to other public transport options. |
| Developers, GLA, local authorities | In existing or planned high-density or industrial areas, review feasibility of options to create water freight consolidation centres. |
| Developers, local authorities | Use the Freight Logistics Toolkit (see Appendix A) and liaise with the PLA and TFL well in advance of development to incorporate river freight into construction plans and onward servicing of the completed development. |
| Developers, local authorities | Work with the PLA and TFL to understand options to incorporate working wharves and passenger piers into development. |
| Developers, local authorities | Consider how riverside development can support new river transport routes as well as connect to other public transport options. |
| Developers | When moving construction goods by river, commission organisations using the newest, cleanest technology to avoid air quality issues. |
CONCLUSION

London’s waterways support an incredible amount of activity: living, leisure, and wellbeing; freight and transport; ecology and biodiversity. This activity will only intensify in coming years, with hundreds of thousands of homes and jobs planned along London’s rivers, canals, docks and waterfronts.

Making the Most of London’s Waterways set out to understand and recommend how built environment practitioners can work together to maximise the social, economic and environmental benefits of London’s waterways – and strike a balance among myriad uses.

The torrent of waterside regeneration coming at London offers an unprecedented opportunity to avoid – and where possible, rectify – the mistakes of the past, when water was neglected or treated solely as a visual amenity. Well-designed projects can also reconnect Londoners to waterways, create jobs, improve water quality and biodiversity, realise the proven wellbeing benefits of blue spaces, and establish a wider sense of value beyond traditional land value uplift, helping to make the case for further investment.

Given the complexity of ownership and management across these resources, projects require coordinated approaches, and Future of London’s cross-sector network is well placed to take the helm. This research uncovered partnerships across sectors and scales that are already transforming waterways and unlocking their potential. The case studies show what can be accomplished, offering recurring and replicable lessons to forge strong partnerships, understand different users and uses and the value they bring, and develop a clear vision for maximising wider benefits.

So much more can be done. By highlighting this topic, Future of London hopes to inspire all parties – especially councils, developers, designers, the GLA, and relevant agencies – to work collaboratively to ensure all Londoners can benefit from one of the city’s most valuable assets, now and in the future.
APPENDIX A: KEY RESOURCES

Greater London Authority
London Plan (2016), Particularly Chapter 7, Subchapters ‘Blue Ribbon Network’ (Policies 7.24 to 7.30) and ‘Royal Docks’: bit.ly/35F55E8
All-London Green Grid (2015): bit.ly/2L0cGFi

Transport for London
Delivering goods by water map: bit.ly/35lIgj4

Canal & River Trust
e-Planning toolkit: bit.ly/37MsHZx

Port of London Authority
PLA e-handbook: portoflondonhandbook.com
Thames Vision interactive map: bit.ly/2XWfkRU
Freight Infrastructure in London Toolkit: wft.wspdigital.co.uk

Inland Waterways Association
Directory of inland waterways and navigation authorities: bit.ly/2Do2mTF

Other
Open Canal Map: opencanalmap.uk
River Access For All / River Access Map: access.canoedaysout.com

APPENDIX B: DIRECTORY

The following page contains a list of key organisations involved in managing, maintaining, using, or campaigning for London’s waterways. It is not exhaustive; particularly at the local level or for individual waterways there will likely be several relevant community and recreation groups. Rather, it is intended as a starting point for built environment practitioners to map who may need to be engaged.
<table>
<thead>
<tr>
<th>Organisation</th>
<th>Waterway(s) of interest</th>
<th>Other info</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greater London Authority</td>
<td>All</td>
<td>Relevant teams include environment and regeneration</td>
</tr>
<tr>
<td>Transport for London</td>
<td>Thames</td>
<td>River Services team is a first point of contact. TfL owns/manages eight piers in central London.</td>
</tr>
<tr>
<td>Port of London Authority</td>
<td>Thames (Teddington eastwards), tidal Lea (Bow Creek) &amp; other tributaries</td>
<td>Manages and maintains Thames and infrastructure; licences river works; manages some moorings and marinas.</td>
</tr>
<tr>
<td>Canal &amp; River Trust</td>
<td>Canals; River Lea from Limehouse to Hereford; Bow Back rivers</td>
<td>Manages and maintains certain canals, rivers and infrastructure and many moorings. Statutory consultee.</td>
</tr>
<tr>
<td>Environment Agency</td>
<td>Rivers, lakes, Thames (Teddington westwards)</td>
<td>Responsible for monitoring/maintaining water quality and flood risk management; manages Thames Barrier. Statutory consultee.</td>
</tr>
<tr>
<td>Royal Docks team</td>
<td>Royal Docks</td>
<td>Joint project between GLA and LB Newham, responsible for regeneration across Royal Docks</td>
</tr>
<tr>
<td>Royal Docks Management Authority (RoDMA)</td>
<td>Royal Docks</td>
<td>Responsible for water and water infrastructure at Royal Docks</td>
</tr>
<tr>
<td>London Legacy Devt Corp</td>
<td>Lower River Lea</td>
<td>Oversees development, planning, policy across Olympic Park regeneration area</td>
</tr>
<tr>
<td>Old Oak &amp; Park Royal Devt Corp</td>
<td>Grand Union Canal</td>
<td>Oversees development, planning, policy across Old Oak and Park Royal regeneration area</td>
</tr>
<tr>
<td>Lee Valley Regional Park Authority</td>
<td>River Lea</td>
<td>Statutory body responsible for managing and developing the Lee Valley throughout London, Hertfordshire, and Essex</td>
</tr>
<tr>
<td>Wandle Valley Regional Park Trust</td>
<td>River Wandle</td>
<td>Charity coordinating subregional partnership and river improvements throughout Wandle Valley</td>
</tr>
<tr>
<td>Thames Estuary Partnership</td>
<td>Thames</td>
<td>Membership/network organisation promoting sustainable management of Thames</td>
</tr>
<tr>
<td>London Port Health Authority</td>
<td>Thames</td>
<td>Responsible for noise arising from the Thames and associated uses (e.g. party boats, piers, wharves, moorings), among other things.</td>
</tr>
<tr>
<td>Marine Management Organisation</td>
<td>Tidal Thames (see PLA) and seas around England</td>
<td>Responsible for licencing marine construction, deposits, and dredging, among other things. Has dedicated teams for its various marine activities.</td>
</tr>
<tr>
<td>Thames21</td>
<td>Rivers, canals</td>
<td>Delivers education and outreach around London's waterways</td>
</tr>
<tr>
<td>Catchment Partnerships</td>
<td>Rivers</td>
<td>Find local catchments and partnerships here catchmentbasedapproach.org/get-involved</td>
</tr>
<tr>
<td>Inland Waterways Association</td>
<td>Rivers, canals</td>
<td>Membership and campaigning charity with regional branches throughout London and UK</td>
</tr>
<tr>
<td>Local campaign and education groups (e.g. ‘friends of’, trusts)</td>
<td>All</td>
<td>e.g. Thames River Trust, Friends of River Crane; Quaggy Waterways Action Group; Pymmes BrookERS</td>
</tr>
<tr>
<td>Local sports and rec groups</td>
<td>All</td>
<td>e.g. boat/kayak clubs, angling clubs</td>
</tr>
<tr>
<td>Boaters’ organisations</td>
<td>Canals, rivers</td>
<td>e.g. London Boaters, National Bargee Travellers Association, Residential Boat Owners’ Association</td>
</tr>
</tbody>
</table>
1. National Park City, bit.ly/35iFHDX
2. Walking distance to surface water features was calculated for 250m intervals along the walkable road network. These distance bands were overlaid on Lower Super Output Areas (LSOA) and the population of all LSOAs within each band was calculated. Where LSOAs sit across bands, they were split and the population assigned to the relevant band proportionally by area. Data sources: OS VectorMap Local, OS BoundaryLine, ONS LSOA mid-2017 population estimates.
3. Figures calculated from the GLA’s Opportunity Areas map (bit.ly/331Q7Gl) and Royal Docks (bit.ly/2O38ZRa).
6. Port of London Authority, bit.ly/2rbXKNg
9. For a list of the literature to date, see J. Garrett et al. (2019), Coastal proximity and mental health among urban adults in England: The moderating effect of household income, Health & Place, bit.ly/37IxVQt.
17. Scottish Canals, bit.ly/2XunaIB
20. Based on a hedonic pricing model and the combined results of several individual studies, including S. Nicholls, J.L. Crompton (2017), The effect of rivers, streams, and canals on property values, River Research and Applications, bit.ly/35hQvSQ.
33. British Waterways, now Canal & River Trust (2010), Brentford Waterspace Strategy, bit.ly/2XtTO57
35. A. Markowitz (Nov 2017), The making, unmaking, and remaking of Thamesmead, bit.ly/2Dr9ZIK [PDF]
37. Gasworks Dock Partnership (2019), Cody’s Docks Inspiring Communities End of Project Evaluation (internal document, not available online)
38. Figures in this case study from City of Westminster, verified Sep/Nov 2019.
40. Ravensbourne Catchment Improvement Group, Ravensbourne Catchment Plan, bit.ly/37qztE0 [PDF]
42. Ravensbourne Catchment Plan, bit.ly/37qztE0 [PDF]
44. A representative of Port of Tilbury estimated 36 vehicles during a presentation for Future of London in June 2019; a representative of Tideway estimated 40-50 vehicles during a river boat tour of Tideway’s sites in May 2019.
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