OVERCOMING LONDON'S BARRIERS
Future of London helps build better cities through knowledge, networks and leadership and across disciplines, organisations and sectors. We are the capital’s independent network for regeneration, housing, infrastructure and economic development practitioners, with 3,800+ professionals using FoL as a hub for sector intelligence, connection and professional development, and a mandate to prepare the next wave of cross-sector city leaders.

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Arup is an independent firm of designers, planners, engineers, consultants and technical specialists offering a broad range of professional services.

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Pollard Thomas Edwards specialises in the creation of new neighbourhoods and the revitalisation of old ones. Their projects embrace the whole spectrum of residential development and other essential ingredients which make our cities, towns and villages into thriving and sustainable places.
INTRODUCTION

London is one of the most fascinating and frustrating jigsaw puzzles ever built, and it grows more complex by the day. The capital’s overlapping administrative strata – government tiers, opportunity areas, development sites and more – are dissected by a Victorian engineer’s paradise of roads, railways, canals and other vital infrastructure which expands year on year. Each plays a role in London’s growth and success, but in many cases, they also sever communities and perpetuate sectoral or professional divides between built environment practitioners.

Every Londoner has experienced these physical or administrative barriers. But unlike headline-grabbing topics such as transport or housing, barriers are rarely acknowledged as a widespread urban issue. There are very few studies on physical or administrative barriers, and fewer still addressing the social, economic, and health impacts thereof.

Overcoming London’s Barriers set out to help clarify and mitigate the impact of visible and invisible barriers on London’s growth and people. These features aren’t going away any time soon: boundaries of one kind or another will continue to define space, assets and responsibility, and (good) physical infrastructure is critical for any fast-growing metropolis.

With so much of London’s remaining developable land isolated or dissected by barriers, it’s imperative to connect or re-connect sites for new homes with transport, jobs and services. Whether this work starts from the ground up, is driven by the market or guided by policy, London needs more cohesion for its places, people, and organisations to grow sustainably.

Future of London’s – and our partners’ – vision with this research was not to dismantle everything that might be considered a barrier. It has been to identify data gaps; to spotlight successful approaches to mitigation; and to share recommendations to (a) reduce the impact of existing barriers and (b) avoid creating new ones. Ultimately, the goal is to help create a more connected, inclusive and viable city.

Running throughout 2018, this research brought together more than 350 people from the public, private, and third sectors through senior roundtables, a full-day conference, and seven field trips to places tackling a range of barriers across London.

Their wealth of knowledge and experience, combined with FoL’s desk-based research, is distilled into this report, which includes:

• The definitions of barriers used throughout the research
• The challenges these barriers pose – and the challenges to overcoming them
• Case studies highlighting both tested and new ways of overcoming barriers, grouped into four themes:
  • Understanding barriers
  • Working across barriers
  • Reducing physical barriers
  • Reframing physical barriers
• Recommendations and calls to action for policymakers and built environment practitioners
• Additional resources and research in this area

Future of London is grateful to partners Countryside Properties, Arup, and Pollard Thomas Edwards for their support and content contributions.
DEFINITIONS OF BARRIERS

Physical barriers

Physical barriers are aspects of the public realm that divide places, particularly for pedestrians and cyclists. At the largest scale, major roads are the best-known and most-researched culprits, and their impacts are sometimes referred to as ‘severance’ or ‘community severance’. While less researched, at-grade or elevated rail infrastructure and waterways can also disrupt connectivity.

At street level, physical barriers include poor lighting, lack of wayfinding, large fenced-off areas like brownfield sites, impermeable buildings with big footprints, and substandard provision of accessibility features like step-free access, tactile paving, and uncluttered pavements.

Many of London’s physical barriers play a dual role of both connector and divider. Roads, railways, and waterways move people and goods across the city, but can make travelling through or accessing neighbourhoods difficult.

In some cases, the effect of physical barriers is dynamic. Roads that are busy during daytime peaks may be quiet and easy to cross in the evening; parks that are inviting during daytime may become no-go zones after dark (also limiting their use as commuting routes, especially in winter); walkways that are functional in good weather can become submerged and blocked after heavy rain; development sites are impassable until construction is finished.

Physical barriers often compound one another. For example, Canary Wharf and Poplar were initially separated by a major road in the ’60s; this division has since magnified by DLR tracks and a depot. In northwest London, the Midland Main Line/Thameslink railway barrier is exacerbated by a section of the North Circular.

Even where crossings are provided, infrastructure like the A4/M4 flyover in Hounslow remains hostile due to high traffic volumes, pollution, poor lighting, long waits to cross, and insufficient crossing times.
Waterways lack the visual brutality of other types of barriers, but without bridges, space to manoeuvre, good lighting and sightlines they become impassable and separate people from amenities.

Crossrail’s route through Newham brings greater connectivity to the rest of London – as well as the Newham Trackside Wall, a mile-long concrete wall intended as a noise, flood and trespassing barrier. To reduce its impact, Crossrail has commissioned local artists to design murals with residents, ‘reframing’ the wall as a public art canvas and bringing people together in the process. Photo from Crossrail.

Canary Wharf and Poplar are separated by a large development site, high-volume Aspen Way, and multiple DLR tracks servicing the depot and operating lines. Aside from the Aspen Way footbridge, where this photo was taken, the nearest pedestrian crossings are 600m to the west and 1km to the east.

Green spaces like Burgess Park in Southwark are beloved assets, well-used by local people and commuters alike during daylight – but with no internal lighting, travelling through the park may be off-putting at night or in winter. Detours around the park involve travelling along high-traffic roads.
Administrative barriers

London is divided by a multi-layered network of organisations and development areas including the GLA, local authorities, development corporations, Opportunity Areas, wards, conservation areas, red-line boundaries around development sites, neighbourhood plans and more. Administrative barriers can arise when trying to work across these structures. Each has different, and sometimes opposing priorities, working practices and service delivery.

Organisations like the Metropolitan Police, NHS and sub-regional partnerships similarly span multiple levels. Postcode districts add another layer, albeit one outside the jurisdiction of London’s various levels of government and elected officials. In many cases these administrative areas overlap, as illustrated below.

Administrative barriers often align with physical barriers. The Thames is a classic example, bisecting London (with centuries-deep allegiances for ‘north’ or ‘south’ still prevalent) and acting as a border for every London borough that touches it. The Rivers Lea and Roding and Deptford Creek also serve as borders, as do sections of roads like the A5, M25, and North Circular.

Administrative boundaries aren’t usually visible, but their influence on policies, politics, and service provision leaves its mark on how neighbourhoods evolve and respond to change.

Administrative Boundaries

The graphic below offers examples of administrative boundaries of different levels and types.

Pan-London

Greater London borders 17 other authorities and there are dozens more within the city’s commuter belt.

At the regional level, the Greater London Authority boundary aligns with that of Transport for London and the London Economic Action Partnership (local enterprise partnership). The NHS England London region, Metropolitan Police, and London Fire Brigade operate within this boundary.

These boundaries affect areas like city-wide policy, transport, investment, emergency services, health strategies, housing benefit and devolution.

Sub-London/Cross-Borough

Large Opportunity Areas such as the Lea Valley OA often span boroughs. The proposed Ultra-Low Emissions Zone will also traverse borders, aligning with the north and south circulars.

While not statutory, many bodies like WestTrans work across boroughs, while the Metropolitan Police’s Borough Command Units span neighbouring local authorities, such as the Barking & Dagenham, Redbridge and Havering unit.

These sub-regional actors have influence over economic development, housing, policing, growth, environment, and inward investment.
Research remit

While there are countless barriers in London, this work focuses on physical and administrative barriers that Future of London’s 3,800-strong network comes across often and has the power to influence.

For physical barriers, the report covers large-scale issues such as severance from major roads and railways as well as street-level concerns that prevent people from making the most of their neighbourhoods. Accessibility is a huge issue in its own right; while this research touches on it, more in-depth resources can be found in the appendix.

For administrative barriers, the report largely focuses on working across borough boundaries; co-ordinating approaches to development sites, particularly where multiple boroughs, the GLA, and/or different delivery partners are involved; and spreading development benefits beyond red-line boundaries.

Arising from both sets, and the research and responses gathered through 2018, are socio-cultural divides. These range from professional jargon and organisational culture to broken community trust or mismanaged communication.

Future of London’s own remit is to tackle this last set of barriers head-on, in every aspect of its projects, courses and networks. Virtually every cross-sector conversation about London turns up similar goals – a sustainable, viable, equitable world city. Putting these conversations into action is the key to achieving them.

Local Planning Authority

Boroughs such as Ealing and Newham are responsible for planning strategies, planning permission, social housing provision, council tax, health, road maintenance and scores of other critical services. Overall political control may differ from one borough to the next. Each borough’s borders also align with a corresponding NHS Clinical Commissioning Group.

Mayoral Development Corporations Old Oak & Park Royal and the London Legacy Development Corporation fall across multiple local authorities, but have responsibility for planning and strategies within their borders.

Ward/Local

Few London boroughs are wholly under the control of a single political party; most comprise councillors from different parties. East Finchley is a Labour ward abutting a Conservative one, for example. Wards align with Metropolitan Police Safer Neighbourhoods Teams.

Neighbourhood Plans also operate at a local level, often spanning wards or even local authorities, as is the case with Highgate. Similarly, conservation areas like Muswell Hill, BIDs like Hampstead Village, and development sites like Brent Cross/Cricklewood may fall across borders, whether others within the ‘local’ category or those at borough level.

These borders influence development, planning, inward investment, and more.
**CHALLENGES**

Barriers – at least in terms of ‘fixing’ them – are as complex as the city itself. Future of London’s research identified several high-level problems linked to physical barriers, many especially affecting vulnerable people. Administrative boundaries, while not as immediately visible as physical barriers, bring their own challenges, and have as much influence on how the city functions. Both types have implications for planning, development, and growth.

**Physical barriers**

The impact of roads, railways and waterways can be felt in almost every London neighbourhood. The effects are complex and often magnify each other, but aren’t widely understood.

**Challenges arising from physical barriers**

**Limited movement**

Physical barriers can prevent easy access to employment, education, shops, services and social infrastructure. The combination of extended journeys to navigate around a barrier and substandard public realm can result in people using cars instead of walking or cycling to get from A to B. This adds to poor air quality and negative perceptions of safety and place.

**Limited growth**

For many towns across the country, post-war development brought large-footprint buildings and well-intentioned major roads which now limit movement and investment. Croydon is a classic example, with a complex system of subways threaded beneath its ring road and punctuated by large, impermeable commercial blocks. Until recently, its fragmented town centre was an unwelcoming environment for development and inward investment (see Craydon case study, p. 23).

**Difficult development**

To meet housing and employment demands in a city running out of space, the capital is increasingly resorting to sites previously thought too difficult to develop. Most of London’s Opportunity Areas – including the Lea Valley, Old Oak and Park Royal, Barking Riverside and Kings Cross – are ‘difficult’ sites bisected by major roads, railways, waterways and/or multiple political boundaries. They, as well as many other severed sites across the city, face development challenges such as funding new infrastructure to connect to surrounding neighbourhoods, addressing higher levels of deprivation often found in degraded landscapes, and working across multiple planning authorities (see case studies for LLDC, p. 17 and Beam Park, p. 18).

**Wasted space**

Elevated roads and railways create awkward undercrofts that are difficult to sew into the urban fabric and use productively. In cities where land is at a premium and public bodies face increased scrutiny about value for money of major new infrastructure, there’s no room for wasted space (see New York case study, p. 27).

**Compounded barriers**

When barriers compound one another (e.g. roads along railway tracks), they can expand to cover a sizeable area, making it even harder for people on foot or bike to navigate. With additional stakeholders and landowners involved, tackling compounded barriers is even trickier than standalone ones.
Safety perceptions

Croydon’s ring road can be crossed by at-grade crossings or subways, but the subways don’t always align to pedestrian desire lines. They’ve also fallen out of favour due to safety concerns.

Subways are a traditional solution to crossing busy roads but are susceptible to flooding and concerns about safety. While instances of crime are usually lower than perceived, fear of using subways is common and people will often risk crossing busy roads at street level to avoid them. Similarly, undercrofts and other public places with poor lighting and wayfinding may deter travel. This is especially likely for vulnerable groups.

Social impacts

Appleyard and Lintell’s oft-cited 1972 study of three residential streets in San Francisco showed how increased traffic volume correlated with residents having fewer social connections on their road, especially along the opposite side. Similar studies have replicated these conclusions, which affect people of all ages – for example, children prevented from playing on streets because of safety concerns have reduced opportunities for social interaction. By contrast, streets with slow-moving or low-volume traffic tend to have more social integration. Less is known about the impacts of infrastructure like railways and waterways.

Health impacts

The impact of road noise and air pollution on health is well documented. Every year, 9,000 Londoners die prematurely from long-term exposure to air pollution, and one in four London schools are in areas exceeding safe legal pollution levels. Research by TfL found substantial health inequalities between people living on busy streets and those in quiet ones. Reasons include air pollution, noise, physical inactivity, lack of independent mobility for children, increased collisions and social isolation. All of this has implications for public health costs and budgets.

Challenges to addressing impacts

What became evident early in this research was the underlying challenge of fully understanding and quantifying the impacts of physical barriers. Most guidance or other research is limited to assessing road-based severance; little is said about the impacts of waterways, railways or other infrastructure – let alone how to overcome any of them.

Future of London’s research is starting to fill in the gaps, highlighting the issues to be addressed in measuring and mitigating impacts as well as helping to overcome barriers by sharing replicable lessons.

Where funding exists to understand, measure and mitigate impacts, it tends to be limited to major new schemes. Securing investment to study the effects of modifying or fixing existing infrastructure, or for smaller projects, is far harder.

Additionally, the lack of widespread post-completion evaluation limits the sector’s ability to understand impacts, share lessons learned or build these into the design of future projects.

Any effective mitigation strategy requires a multi-disciplinary approach, potentially involving planning, health, transport, design, social services, economic regeneration, and public realm departments across national, regional and local organisations from the private, public and third sectors. Such joined-up working is a challenge in itself.
Administrative boundaries

London’s administrative boundaries present three core challenges: the disconnect between planning policies and priorities between (and within) organisations; investment in neighbourhoods at borough edges; and the limited benefits of regeneration beyond red-line boundaries. All impact on the way people live, work and play in the city.

Policies and priorities

Growth in London is influenced by national, regional and borough-level policy, plus strategies implemented by Mayoral Development Corporations, Opportunity Areas, Business Improvement Districts, Local Enterprise Partnerships and others. In the main, it is boroughs that drive policy – but there are divergent views across and within local authorities about how those policies should be implemented. Boroughs have different political leadership, interpretations of law and policy, and planning priorities. (see Beam Park case study, p. 18).

Clashes can happen where regional and local priorities collide. For example, the imposing M4/A4 corridor in Brentford, Hounslow is essential to moving people and goods in and out of the capital but creates an unpleasant environment for pedestrians. Multi-agency ownership complicates efforts to improve or change the road network: Highways England manages the M4, Transport for London the A4, LB Hounslow the intersecting local roads, and several landowners abut the corridor. Each has different, and sometimes conflicting, priorities.

Duty to Cooperate, a national government policy introduced in 2011 to compel planning authorities to co-ordinate on cross-boundary strategic issues, lacked incentives and enforcement to achieve this goal. It remains to be seen whether the government’s addition of the ‘Statement of Common Ground’ in autumn 2018 will have the desired effect.7

Living on the edge

Civic and economic hubs tend to be located near the centre of boroughs, accessible to the greatest number of residents – and attracting the lion’s share of policy focus and investment. Border communities risk falling off the radar.

The neighbourhood of Crystal Palace is a case in point, sitting across five boroughs without being a priority for any. A review of borough policies in 2015 found that of the five, only Lambeth formally recognised Crystal Palace as a key cross-border issue8. Areas like Cricklewood and Finsbury Park (see case study, p. 19) similarly struggle with disjointed policy across neighbouring boroughs.

One roundtable participant explained how this has played out in a major estate regeneration scheme. The estate is adjacent to a park in need of refurbishment, but the estate and park sit in different boroughs. Despite the obvious benefits of improving the park for residents on both sides of the border, the local authority responsible for the estate regeneration will not allocate Section 106 money to the neighbouring authority responsible for the park.

In addition to planning and development, council services such as waste collection, parking and health are managed differently by each authority. Residents in fringe neighbourhoods are affected by differing service provision and policies from each bordering borough, but may not know who to contact about certain issues, or end up having to contact officers and members across multiple boroughs.

For developers, housing associations, their consultants and advisors working strategically across boroughs, it can be equally difficult to know which departments and people to approach, and vexing when responses from each don’t align.

Displacement

Regeneration can bring social, economic and environmental benefits to an area, but where people live in relation to the ‘red line’ boundary around a regeneration area can result in short- or long-term displacement. Investment within the boundary pushes land values up, often creating an affordability barrier for local people. This is resulting in migration from inner to outer London, or out of London altogether.9 Urban renewal projects must ensure local people aren’t disadvantaged by investment and growth.
In some areas, barriers correspond with dramatic variations in indices of multiple deprivation. For example, stark differences can be seen in places like Canary Wharf and Poplar (separated by road and railways); the Bromley-Lewisham border; South Acton and Chiswick (separated by railways); Stonebridge and Wembley (separated by the River Brent and North Circular); and east and west Haringey (separated by railways). It’s important to note that these are correlations – further investigation is needed to understand the deeper links between deprivation and barriers, but data and maps like this can provide a starting point.
Despite the challenges, Future of London’s research uncovered numerous solutions for mitigating barriers and their impacts. This section brings together a selection of case studies with effective, replicable approaches, grouped by theme.

The starting point is understanding barriers – both physical and administrative, and through analysis, observation or consultation. From there, working beyond barriers is about effective strategies for delivering projects across administrative barriers. For physical infrastructure, initiatives for reducing or reframing barriers can operate from local to regional level.

### Understanding barriers

**Understand how people experience barriers**

When it comes to physical barriers, people experience them differently depending on gender, sexuality, age, ethnicity, disability or previous experience, whether positive or negative. What is a barrier to some may not be a problem for others.

Administrative boundaries also influence people’s experience of places. For example, people living or working in areas spanning multiple boroughs (e.g. Crystal Palace, Finsbury Park) are affected by decisions made by all the local authorities involved, not just those in which they live or pay business rates.

In addition to mapping physical and administrative barriers, research methods like observing movement patterns, surveys and consultations (face-to-face and online) are useful for learning how different groups or individuals experience barriers and borders. For example, walking surveys and interviews with older people reveal unique obstacles (see Older People case study, p. 15). LB Lewisham has incorporated this approach, along with a holistic view of area-wide barriers, in its regeneration plans for Catford town centre (see Catford case study, p. 14).

**Consider how barriers are linked to economic, social, and health impacts**

There is limited academic research or technical guidance making a direct connection between physical or administrative barriers and economic, social or health impacts. There clearly are impacts, but quantifying them and extrapolating which aspects of the built environment cause which effects can be incredibly difficult in a laboratory as complex as a living, changing city.

In particular, practitioners need tools to gather replicable, reliable, and easily accessible information on the impacts of barriers. UCL’s Dr Paulo Anciaes has called for the creation of “objective severance indicators” combined with consultation to understand how best to define and measure ‘success’.

This doesn’t just apply to existing barriers. New developments risk creating new barriers, so it’s crucial to understand whether proposed development will add new or exacerbate existing barriers and work to mitigate this if so. Considering a total ‘mitigation strategy’ rather than individual mitigation measures may be an effective way of dealing with the various aspects of severance and the different communities involved.
Transforming Trafalgar Square

In the mid-1990s, Trafalgar Square was cut off from the National Gallery by a busy, multi-lane road and suffered poor connectivity to spaces to the south, with narrow pavements and few pedestrian crossings. As part of the ‘World Squares for All’ project, Westminster, TfL, the GLA, and Westminster Council sought to improve public spaces between Trafalgar and Parliament Square 850m to the south.

During the masterplan commissioning process in the late 1990s, Space Syntax supported the Norman Foster & Partners bid with a detailed analysis of how people moved around and used Trafalgar Square. The Space Syntax team started by observing routes people used, where people clustered, and who the people were. They repeated their observations during different times, days and seasons from more than 300 locations in the area.

The team found that Londoners avoided walking through the square, sticking to the narrow pavements around the edges – or, as Foster observed on a site visit: “It is so tight that people climb up onto the grass above the narrow pavement to try to overtake the crowds of people blocking the way.”

Tourists were more likely than Londoners to brave the road and linger in the square. Perplexingly for the project team, tourists clustered in the southeast corner, and would dash across the road to the small, unconnected traffic island south of the square.

The team adopted a new perspective and reviewed the study area as if they were tourists, discovering that people made the perilous journey to the island because it offered panoramic views, useful for wayfinding and photo opportunities. However, tourists struggled to reach Parliament Square from the island. While the busy road between the square and National Gallery was initially the more obvious barrier, observation unveiled the need to address connectivity to the south as well.

These findings helped Norman Foster & Partners win the masterplan bid. Further observation and pedestrian modelling – the most advanced at the time – informed design solutions, including pedestrianisation of the road north of the square, a large staircase connecting it to the National Gallery, and better diagonal connectivity within the square.

In addition to helping people travel more safely, amenities like seating and a café supported Trafalgar Square as a viable public space. Westminster Council insisted on lifts to accompany the staircase and accessible toilets, ultimately making the site welcoming to a broader range of people. The project team consulted with more than 180 public bodies and thousands of individuals throughout the process and achieved strong support for the redesign.

The redesign was finished in 2003 and post-completion analysis found movement in the square increased 13 times over previous levels. Trafalgar Square is still a tourist hotspot, now safer and easier to navigate. But improved access has also helped the square become one of London’s key civic and democratic assets, hosting celebrations and political demonstrations that reconnect Londoners with the space.

Trafalgar Square movement patterns before the redesign. Blue lines indicate Londoners’ paths, green lines are tourist paths, and red dots are stationary pedestrians.

Movement patterns after the redesign (no differentiation between Londoners and tourists). Note the less rigid movement along the pedestrianised area north of the square and increased density of stationary pedestrians, especially at the north where the new staircase was installed.
Consulting in Catford town centre

Catford is both the civic and geographical centre of LB Lewisham, connected by two railway lines, the Ravensbourne and Pool Rivers, and major roads including the South Circular – which has hindered masterplanning in Catford for the last 50 years. But with Catford town centre designated as part of a London Plan growth corridor and a possible stop for TfL’s Bakerloo Line extension, change is on the horizon.

To better understand the impacts of severance and options for regeneration, LB Lewisham commissioned Gensler to do an integrated study of the town centre. The work took a holistic view of all local infrastructure – not just the South Circular – and movement patterns. Alongside this, the council set out to understand local people’s concerns about the town centre.

Through Commonplace, an online mapping and consultation tool, complemented by face-to-face consultations, people left upwards of 1,700 comments on the town centre and identified aspects for improvement. Notably, railway lines and rivers proved less frustrating for people than the South Circular, which drew ire for making Catford feel unsafe, polluted, and difficult to travel through on foot or by bike. LB Lewisham also incorporated ‘User Experience Design’ into their consultations, involving one-on-one town centre walkabouts with residents to learn about specific issues and barriers within the public realm – and solutions to address them.

For the council’s regeneration team, the volume and frequency of concerns about the South Circular and town centre environment gave them more confidence to implement a solution. Findings from the study and consultation exercises are now informing the Catford town centre masterplan, due for approval in mid-2019.

Using Lewisham Gateway as precedent (see Lewisham case study, p. 22), LB Lewisham plans to re-route the South Circular south of the council’s own Laurence House and remove the gyratory, creating opportunities for development and improved connectivity ahead of the area’s anticipated growth, which includes 3,000 homes across five sites. The bold plan has approval from LB Lewisham’s cabinet, TfL and the Mayor, bringing an end to the 50-year standstill over the South Circular.

LB Lewisham wants to re-route this section of the busy South Circular, which cuts through Catford town centre, to the south of Laurence House (i.e. the right side of the building in the centre of the photo).
As a fast-growing demographic, over-55s will have a huge impact on cities. During a research project to understand barriers to older people’s mobility and use of the public realm, researchers at the University of Edinburgh used walking interviews and electroencephalograms (EEG) to measure brain activity among 20 participants. Results showed that participants enjoyed environments that are colourful, familiar, and inspire good memories. Familiarity is especially important for wayfinding (e.g. navigating by landmarks) and feelings of safety. Participants also reported wanting social reasons to walk rather than walking for health alone.

Research by Age UK complements this work, finding that neighbourhood characteristics (e.g. streets that are difficult to cross, hard-to-reach amenities, area deprivation) contribute to loneliness among older people. At the same time, older people with mobility or health issues are less likely to be able to easily access the public realm, increasing time spent alone. Fear – of crime, of change, or of the unknown – also contributes to loneliness as people become concerned about leaving their home or the familiar areas of their neighbourhoods.

The two studies suggest retaining familiar aspects of a place during periods of rapid change; designing safe, well-lit, accessible public spaces; and including features like public toilets and places to sit. Although the barriers older people experience in the built environment may differ from other groups, solutions like these benefit not just older people, but people of all ages.

Talking to a diverse range of people, including older people, uncovers individual barriers to using the built environment. Taken together, these barriers can show recurring issues to address as priority.

Older people’s experiences in the built environment

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Working across barriers

London’s political boundaries rarely change, and the red lines bounding development sites tend to stay in place until completion, with their influence felt long after. However, the policies, processes, and people within these borders are dynamic. These are aspects to address when seeking to overcome administrative barriers.

For the largest, long-term and more complex programmes, setting up Mayoral Development Corporations or Enterprise Zones embeds cross-border working. The London Legacy Development Corporation and its precursors have been crucial to delivering London 2012-related development that benefits people beyond the Olympic Park (see LLDC case study, p. 17). In the Royal Docks, an Enterprise Zone set-up allowed the GLA to use business rates to hire a dedicated team to coordinate development and regeneration projects within that area of East London.

Options for cross-border/cross-organisation teams are to co-locate offices, establish project departments or arrange team-building workshops. Several organisations involved in delivering the redesigned London Bridge station took this approach. Multi-borough shared services offer a longer-term version of this. For example, WestTrans, a partnership between TfL and six west London boroughs, funds a small, dedicated team to coordinate sub-regional transport and engage with local businesses.

In other cases, boroughs have retained their own teams, but arranged joint-working forums and agreements (see case studies for LLDC, p. 17 and Finsbury Park, p. 19). For a ground-up approach, structures like Trusts (see case studies for Wandale Valley, p. 20 and the Westway p. 28) and Neighbourhood Plans (see Finsbury Park case study, p. 19) give communities an opportunity to strategise across borders.

Spreading the benefits of development schemes beyond red lines is another challenge. Local authority planners should be clear about the physical connections, amenities and local character that can help stitch new development into the existing urban fabric. This can be achieved through a strong vision and commissioning and/or planning agreements. Where forward-thinking developers are already keen to work beyond red lines, boroughs should support them to identify suitable opportunities to strengthen existing routes and/or create new ones and ensure the efficient location of new facilities. This will extend the benefits for the local community and the agencies responsible for long-term management, maintenance and service delivery.

Grassroots groups with their own funding (e.g. crowdfunded schemes, Big Local) can make significant contributions to the built environment – even more so when they have support from boroughs (see Peckham Coal Line case study, p. 26). For local people, one of the biggest administrative barriers, recurring throughout our research, is the difficulty of communicating with boroughs, developers, and other stakeholders. Early engagement helps, as does clarity on whom to contact about specific issues – but in either case sufficient staff time and resource must be allocated to address concerns and support community-led projects.
Partnerships for the Olympic Park

**Working in partnership**

London won the 2012 Olympic bid on the premise of regenerating a large industrial and brownfield site in east London. In 2005, infrastructure that was historically integral to the area’s economy – its waterways, railways and roads – severed the future Olympic Park site both internally and from the rest of London. On top of the obvious physical barriers to regeneration, the site dips into four local authorities: Tower Hamlets, Hackney, Newham, and Waltham Forest.

A joined-up approach was crucial to delivering the Olympics, the Park, and accompanying regeneration. In 2009, the neighbouring boroughs (along with fellow host borough Greenwich) established a multi-area agreement* to co-ordinate an Olympic legacy strategy. Host boroughs developed a ‘Convergence Framework’ with the aim for residents of host communities to have the same social and economic chances as the London average by 2030.

The cross-sector Olympic Legacy Company was also established in 2009 to implement a Legacy Masterplan Framework addressing design and access of the Olympic Park. Following the 2012 Games, the GLA replaced this company with the public-sector London Legacy Development Corporation (LLDC). Part of the LLDC’s remit is to connect Queen Elizabeth Olympic Park with the rest of London, overcoming the social, economic, and physical barriers separating it from neighbouring areas. Being structured as a development corporation allows LLDC to take a co-ordinated approach across four local authorities, cutting through potential inter-borough administrative conflicts or barriers.

**An accessible legacy**

Integrating the park into East London requires more than physical infrastructure: routes in need to be welcoming and local people need to feel the park offers them something. One way of attracting people to the park has been the strategic placement of new schools around its perimeter, bringing a daily influx of students and parents from both surrounding and new neighbourhoods.

The upcoming UCL East campus should have a similar effect for young people with additional public-access programming aimed at local residents. Here East – a hub for high-tech companies and research – is an essential component in the LLDC’s East Works programme, which connects local people to job opportunities in the tech sector through hands-on industry experience and accelerator schemes.

At the same time, the LLDC intends to ensure the area’s more traditional industrial and manufacturing businesses and artist studios aren’t cut off or pushed out as development intensifies. Its investment programme provides affordable workspace, business support (with a business development manager jointly appointed by LLDC, LB Tower Hamlets and LB Hackney) and networking.

This focus on accessible legacy extends to former Olympic venues. The London Aquatic Centre has affordable pricing to attract local people, and the LLDC hopes to better integrate the Olympic Stadium into the ‘social’ landscape of the park through a roster of events appealing to local people.

**Achieving ‘convergence’**

Success in achieving these ‘convergence’ goals is mixed to date. For example, 2015/16 reports found student achievement meeting or on track to meet targets, while objectives tied to deprivation, crime, and physical activity were falling short. The London Assembly’s 2017 review praised the LLDC’s progress in developing housing, business, and creative industries within the Park, but noted that cash- and resource-strapped boroughs have struggled to support convergence projects, which would have impact beyond the LLDC and park boundaries.

As a remedy, the Assembly calls for the LLDC to develop an updated Convergence strategy and ‘emphasise the need for a collaborative vision extending well beyond the boundaries of the Olympic Park’. Mechanisms to track progress have been vital to identifying these gaps and providing future iterations of the strategy with clear goal posts.

* Multi-area agreements were a government initiative between 2008 and 2010 to promote sub-regional, cross-boundary working and more efficient use of public funds. They were replaced by Local Enterprise Partnerships under the coalition government and repealed in 2015.
Benefits beyond boundaries in Beam Park

The Beam Park regeneration area falls within two boroughs – Barking & Dagenham and Havering – and faces numerous constraints. The site is bordered by Kent Avenue to the west, a proposed development site to the east, the A1306 New Road to the north and the High Speed 1 and regional railway lines to the south. The River Beam, which is also the boroughs’ border, passes through the site.

Bringing forward major residential development on the site required joint venture partners Countryside Properties and L&Q to submit a hybrid planning application to the two boroughs. Though always advisable, joint working from an early stage isn’t fool-proof: Barking & Dagenham approved the initial application, but Havering members rejected it over concerns of proposed densities. The Mayor finally ‘called in’ the scheme to resolve massing issues.

In autumn 2018, the GLA granted permission for the scheme and the JV partners are working to bring forward a total of 3,000 homes, 50% of which will be affordable. A new railway station will form a key part of Phase 1 work, serving residents well beyond the development redline. Countryside is leading on construction and design, and liaising with stakeholders including TfL, Network Rail, C2C and GLA.

In line with the Rainham and Beam Park Planning Framework, development will seek to reduce the physical barrier posed by the A1306 New Road, greening the corridor and providing connections between existing communities in the north and their new neighbours to the south. Funds are also committed to improve the local bus network, pedestrian and cycle links.

Enhanced connectivity will provide access to planned amenities for surrounding communities. These include two new primary schools; a nursery; new community spaces, including a multi-faith workshop space, leisure facilities and play space; and new green spaces and parkland.

Perhaps the most significant benefit to communities beyond the development area is the creation of a Medical Centre capable of serving 21,875 people. The new development’s projected population is 7,170 people, leaving a surplus of 14,705 spaces for residents outside the Beam Park development area. Countryside is leading on design and fit-out, but other key stakeholders include the boroughs, L&Q, GLA and Clinical Commissioning Groups representing Barking & Dagenham, Havering and even Redbridge, showing the reach of proposed benefits.
Forums in Finsbury Park

Straddling three boroughs – Islington, Hackney, and Haringey – Finsbury Park depends on cross-borough cooperation for effective policymaking and regeneration. TfL and Network Rail are key players, along with businesses, residents, and community groups.

Finsbury Park is home to four distinct commercial districts: Blackstock Road, Stroud Green, Seven Sisters, and Fonthill Road, making economic policy a top priority for all boroughs. While the districts have different histories and specialisms, many of the challenges traders face are similar, and each area’s local Trade Association meets regularly. The traders are also a key part of the multi-borough Town Centre Management Group (TCMG), which aims to co-ordinate activity and prevent duplication of initiatives, bringing policies from the three boroughs in line with one another. The group meets quarterly and comprises the four trade associations, representatives from each borough (officers and councillors) and TfL.

While the TCMG is central to cross-borough working in the town centres, challenges remain. Some of these are being taken up by the Finsbury Park and Stroud Green Neighbourhood Forum. For example, mismatched planning policies between boroughs impact issues such as housing and permitted development. The group is hoping to ratify a Neighbourhood Plan to cover the area as a whole, rather than dividing it into borough segments, ultimately bringing consistency, aligning policies and fostering cohesion.

Looking ahead, new developments bring opportunities and risks. While planning agreements through the large City North development gave TfL the opportunity to make significant accessibility improvements at Finsbury Park station, construction mandated the closure of the Wells Terrace station entrance, significantly affecting footfall on Fonthill Road. This, combined with a downturn in Fonthill Road’s thriving textile wholesale industries, threatened livelihoods on the road.

Until recently, the relationship between stakeholders – LB Islington, City North, TfL and traders – was strained. Traders viewed the borough as an enforcement body, collecting rates but offering no tangible support. In 2017, they staged a protest at the turning on of Christmas lights, sparking a dialogue with other stakeholders.

Council officers are now working with traders to enhance the retail offer at Fonthill Road and traders have an outlet to discuss concerns about the impact of City North, with all parties working better together and looking for win-win outcomes. In 2018, the stakeholders agreed plans for a community festive street market, delivered jointly and with sponsorship from developers, to promote the area as an attractive specialist retail location. A thriving Fonthill Road benefits all parties, and should be more achievable as communication improves.
The River Wandle was called “Europe’s hardest-working river” in the 19th century, and despite the decline of the industries that earned it the nickname, is still a strategic asset for London. The Wandle Valley stretches through four boroughs (Croydon, Sutton, Merton and Wandsworth), and is re-emerging as one of the capital’s key corridors, hosting a fifth of London’s manufacturing and with plans for some 50,000 new homes and the investment to support this social and economic growth.

The challenge is to provide the means to deliver greater connection to and between the valley’s open spaces, and in so doing, create an asset bigger than the sum of its parts. This is the Wandle Valley ‘Regional Park’ concept, championed by the Wandle Valley Regional Park Trust (WVRPT) and its partner organisations, with support from local authorities, the Mayor of London and other stakeholders.

The purpose of the WVRPT is to overcome barriers by providing “the leadership and co-ordination of an effective sub-regional partnership that will improve the effectiveness, coherence, resilience and quality of the Wandle Valley”. Established in 2013, the Trust has worked with many delivery partners to raise the profile of the area, highlight the significance of the river and promote the Regional Park concept.

The Trust helped set up the successful Living Wandle Partnership, and along with the four boroughs and other partners, has secured more than £1.7m for capital and revenue projects in the Wandle Valley, delivering conservation, community, access, and training work.

The Trust is now preparing to deliver on a large scale. Its 2016–2021 Wandle Valley Strategy sets out six strategic aims for the Valley and its recent Wandle Valley Prospectus supports the ongoing development of the Trust itself, a model which could be replicated across London (see also Westway Trust case study, p. 28).
Reducing barriers

Physical barriers are usually deeply ingrained, forming part of local-, city-, or region-wide networks. Given the importance to connectivity and the economy, it’s rare for major infrastructure like roads and railways to be removed entirely. And, as noted in Challenges, even new infrastructure with a remit to improve connectivity sometimes brings unintended harm.

Measures to help people move around the built environment and lessen the negative impacts of physical barriers range from small-scale interventions like ensuring planting doesn’t obscure sightlines to large-scale schemes like new bridges. The approaches below offer a few starting points.

- Public realm improvements: providing good lighting and clear sightlines; offering places to sit and rest; providing public toilets; keeping pavements clear of clutter and excessive street furniture; providing wayfinding/maps; reducing slopes/inclines; removing railings
- Road crossing points: reducing the number of crossings to reach a destination; adding new, fully-accessible crossings at desire lines; using ‘colourful crossings’; creating raised junctions; giving people enough time to cross; ensuring tactile paving and dropped kerbs are built to high standard
- Other road changes: narrowing lanes; lowering speed limits; closing roads to motor vehicles; high-quality, protected cycling lanes and facilities at junctions; removing roundabouts/‘peninsularisation’ (see Lewisham case study, p. 22)
- Creating new routes/permeability: punching through railway viaduct arches; building cycle tracks; constructing pedestrian and cyclist bridges
- Designing mapping apps and digital tools to show things like step-free routes; footpath widths; less polluted routes; volume of use (motor vehicles, cyclists, and pedestrians) on routes; construction areas; public toilets; accessible crossing points; slopes/inclines.

Initiatives to reduce barriers are also key to unlocking development. Examples like East Croydon station (see case study, p. 23) show how, and their lessons are becoming more relevant as London’s remaining development sites often suffer from lack of connectivity.

At a personal level, reducing barriers within the built environment addresses many individuals’ fears and changes their assumptions about a place (see Poplar case study, p. 24). For others, more needs to be done to tackle deeply-held perceptions about places. Given the private nature and myriad origins of individual barriers, they are challenging to address, but community-led approaches can make significant inroads to empowering individuals to make the most of their neighbourhoods (see Westway Trust case study, p. 28).

AccessMap (accessmap.io) is a tool developed by the University of Washington to enable accessible journey planning throughout hilly Seattle. Rather than optimise routes for the shortest time or distance, AccessMap can avoid routing users along steep inclines, areas with no footpaths or lowered kerbs, or streets with construction.18
Linking up Lewisham town centre

Since 2015, Archway, Elephant & Castle, and Old Street roundabouts have undergone ‘peninsularisation’, with one arm of each roundabout closed to motor vehicles and road networks redesigned with two-way traffic flow, pedestrian crossings and new public space. These were TfL-led schemes, but London boroughs can follow suit – as has happened in Lewisham town centre.

As part of its 1990s ‘Lewisham 2000’ strategy, LB Lewisham constructed a large three-lane roundabout between Lewisham railway station and the town centre, with one consequence being a complicated and time-consuming pedestrian journey between the two. The roundabout was short-lived: in 2005 the council started making plans – under its ‘Urban Renaissance in Lewisham’ programme – to remove it and repair town centre connections.

Since the roundabout formed part of the Transport for London Road Network, removing it required support from TfL, as did proposals for a redesigned bus interchange for Lewisham station. With Single Regeneration Budget funding, LB Lewisham, TfL, London Buses, and the London Development Agency worked together to design a new road network and bus station called Lewisham Gateway. They appointed Lewisham Gateway Developments, a joint venture between Muse and Taylor Wimpey, to run the scheme, which received council approval in 2007 (the delivery body was later renamed Lewisham Gateway, a partnership between Muse, LB Lewisham, and TfL).

Delivery stalled with the recession, but in 2016 the roundabout was replaced with an ‘H’-shaped road layout, reducing the number of pedestrian crossings from the station to the town centre from four to one. Removing the roundabout also opened 5.6ha of council-owned land for development, which will include nearly 1,000 homes, retail, restaurants, and a cinema. It also sets a precedent for further major road schemes, most notably plans to reroute the South Circular in Catford (see case study, p. 14).

The council also identified a need to improve connectivity between the town centre and communities to the west – a challenging journey on foot or bike due to the largely impermeable shopping centre façade, wide Molesworth Street, a railway viaduct, and the Ravensbourne River running parallel to one another.

In 2008, LB Lewisham commissioned a new public park and restoration of the Ravensbourne River, dismantling part of its flood defence channel and rewilding it to integrate with the new park, which now acts as a more natural flood barrier. Lighting and clear sightlines throughout the park have reduced fear of crime, making it a well-used space that feels safe to visit. For those needing to access the town centre, new paths connect the park to Molesworth Street.

The next barrier to tackle is the remainder of the route to Lewisham High Street, which currently requires walking through the shopping centre or taking a long detour around it. LB Lewisham is currently working with Land Securities and other Lewisham Shopping Centre landowners to improve and increase access points.
Connecting East Croydon

Designated an Opportunity Area in 2013, LB Croydon’s £5.25bn town centre regeneration programme is set to deliver 23,594 new jobs and 10,000 homes over the coming decade. Croydon’s regional rail connections are a catalyst for growth, but the town centre’s internal movement network is fragmented. For Croydon to deliver on ambitious targets, connectivity is needed.

Development goals are set out through five distinct but integrated masterplans and include creating links between strategic areas. One such link is East Croydon station’s £20m footbridge. Designed by Hawkins\Brown, the bridge operates both as part of the wider public realm and a key component of Croydon’s East-West pedestrian link. The first phase, completed in 2013, provides a station entrance and egress. Upon completion the bridge will be two-track, connecting Cherry Orchard Road with Ruskin Square via a public walkway.

The challenge of upgrading live stations is well known. To avoid closing the station for installation, the £20m bridge was pre-manufactured and push-launched over live tracks, moving the structure incrementally so as not to alarm approaching train drivers – a London first.

Improved connectivity is shaping regeneration in the surrounding area. The phasing of private development sites adjacent to the station was adjusted to ensure development benefiting from the new route were brought forward first. New mixed-use blocks have all contributed to the redevelopment of Ruskin Square, with finance secured through Section 106 contributions and work delivered by the developer. The footbridge has been a catalyst, leading the transformation of an overlooked area into an attractive, active public space.

The East Croydon station footbridge brought forward surrounding sites for development, which have contributed to the creation of Ruskin Square, a new public space near the station.
Reducing barriers to integration in Poplar

Poplar HARCA’s Accents Team works to maximise the benefits of regeneration projects across the area by taking early steps to create inclusive space that can be widely used. As part of its successful funding bid for the Spotlight Centre – a youth arts space set in the middle of Poplar in a ‘neutral’ area outside gang territory – Poplar HARCA lobbied for an additional DLR station at Langdon Park, the only one to be granted after network completion. An accompanying footbridge crosses the DLR tracks and adds a vital new east-west link which ensures access to the neutral grounds of the Spotlight Centre and neighbouring park, BMX track and Steel Warriors Gym.

Founded in 2017, the charity Steel Warriors works to reduce youth violence and knife crime. Its gym frames are made from knives seized in police raids and melted down, simultaneously providing a public starting point for discussion and safe spaces for young people to socialise and build self-confidence. Poplar’s Steel Warriors Gym is made from 70% recycled blades, transforming weapons into a key component of a safe environment. The Gym appeals to a wide cross-section – not just adolescents, but local men, women, and children, workout video bloggers and visitors from other neighbourhoods and cities who come to experience the unique, professionally-designed facility.

The Accents Teams is conscious that borough or institutional branding can embed connotations as to who a space is for or who controls it. Though built and managed by Poplar HARCA, the Spotlight Centre flies no flag: the Accents Team believes this neutrality has increased local uptake of the facility and surrounding amenities.

The Team is also overseeing a pipeline of smaller projects designed to overcome psychological and physical barriers to using public space. ‘Greening Brownfield’ delivered health benefits by increasing green space across the Brownfield Estate. The project saw two derelict tennis courts backing on to the busy A12 transformed into a thriving community garden, where 10 rescued battery chickens now live in hand-made coops and local people can rent a raised bed for £12 per year. Two residents developed and manage the project, one of whom won 2014 Green Tenant of the Year at the Sustainable Housing Awards. Giving residents control over and support for such projects is key to their success and longevity, ensuring initiatives are rooted in and relevant to the local community.
Flagship Community Living for the Over 55s

In Muswell Hill, co-design champions Pollard Thomas Edwards architects are working to break down common perceptions of what older people’s housing should be. Rejecting the idea that older people are best placed in age-segregated, suburban communities, Woodside Square demonstrates that a prime site, acquired on the open market, can successfully support a high-quality, intergenerational development.

159 homes, 70% of which are aimed at active ‘downsizers’ aged 55 and over, are provided on the former hospital site, with a substantial proportion of affordable rented and shared ownership homes. Homes for all ages and incomes are mixed across the development and within apartment blocks. They aren’t separated by tenure and share the same entrances and lifts.

Communal landscape gardens are designed to bring residents together. The design encourages interaction: in the absence of lifts straight from the underground car park into the apartment buildings, residents access their homes through shared streets and gardens.

The design kept existing plantings and added outdoor dining tables, allotment spaces and play gardens. A common room is available for private hire to all residents: yoga, music and community meetings are popular uses. The communal space also features a guest suite for visiting friends and family.

The former hospital site historically formed a physical barrier to movement through the surrounding neighbourhood. The development resolved this by providing a popular new pedestrian route linking residential streets to the north with Highgate Wood and the local primary school to the south.

Intergenerational living is a model which tackles a range of perceptual and practical barriers. The facilities and demographic mix at Woodside Square are designed to ensure that older people remain happy and independent long beyond what used to be thought of as the typical retirement age.

Woodside Square offers intergenerational living with communal spaces designed to bring residents together.
Reframing barriers

As an alternative to – or in tandem with – reducing barriers, ‘reframing’ takes a barrier and adapts it for socialising, leisure, economic productivity, and other uses.

For example, waterways previously culverted or shunned by development turning its back to the water are enjoying new life as accessible community assets. Efforts to revitalise rivers, canals, and docks as places for leisure, health, socialising and biodiversity can be found throughout the city and are often driven by grassroots or third-sector initiatives (see Wandle Valley case study, p. 20).

Commercial uses within railway arches are another common example throughout London and other cities, especially where clusters of arches support social and community activity (see Railways case study, p. 29).

In New York, where spaces under elevated railways and roads are often more open than London, community co-design schemes are enlivening these areas as public spaces (see New York case study, p. 27).

On disused viaducts, former tracks and roads offer spaces to improve local pedestrian and cycling connections. For example, North London’s Parkland Walk, established in the ’80s through community campaigning, follows a former railway line between Finsbury Park and Highgate. Contemporary projects such as Camden High Line and Peckham Coal Line carry on this tradition of community-driven projects. Not only is it generally cheaper to reframe barrier infrastructure than to demolish it, it brings local people together to design public space.

At a local level, some projects have successfully reframed smaller roads as places. For example, LB Lambeth and TfL closed Venn Street in Clapham to traffic in 2011. New paving, electricity outlets for market stalls, bike parking, and extra space for restaurant seating has enhanced the street’s reputation as a social destination.

Despite successes by organisations like the Westway Trust in adapting strategic roads (see Westway case study, p. 28), reframing London’s major roads remains a challenge because of concerns about safety, proximity to pollution and noise, and increasing congestion. But equally, these issues, combined with the costs of ongoing infrastructure maintenance, could feed public and political appetite for reframing or removing major roads altogether. Bold examples in other cities to replace highways and major roads with public space show that it’s not impossible (see case study, p. 29).

The Peckham Coal Line is a beneficiary of the Mayor’s Crowdfunding Campaign, having raised £65,000 from over 900 local people and £10,000 each from LB Southwark the GLA. The project will use a combination of Network Rail’s disused coal lines and the Kirkwood nature reserve to provide a walking and cycling link between Rye Lane and Queens Road. The route will offer safer, easier access across busy roads like Consort Road (pictured above) and form part of the South London Greenway. The Coal Line delivery team comprises a ‘fluid core’ of around eight local people with complementary skills.

Crowdfunding paid for a feasibility study for the project, which has attracted extensive support locally and in policy: the Coal Line now forms part of Southwark’s Local Plan. Its position within policy gives the project team clout to negotiate with developers at nearby sites to ensure upcoming schemes integrate with the Coal Line.
The Boogie Down Booth was one of the temporary installations. It provided a sheltered, well-lit rest area that played music originating from the Bronx. As well as creating a playful space that promoted positive community interactions, the music helped mitigate train noise.

The Design Trust for Public Space is a US non-profit working to unlock the potential of New York City’s shared spaces. In 2015, the organisation published ‘Under the Elevated: Reclaiming space, connecting communities,’ prepared in partnership with the NYC Department of Transport.

It summarises two years of research, design, policy and pilot implementation work focused on transforming the public spaces – or "el-spaces" – beneath the city’s 1,100km of elevated bridges, highways, subway and rail lines into valuable community assets. A series of imaginative and engaging practical initiatives were piloted as part of the process. These ranged from green infrastructure to affordable art studios.

In addition, two pop-up experiments (Chinatown installation and Boogie Down Booth) were co-designed with a diverse group of New Yorkers, including Chinatown Partnership and the Women’s Housing and Economic Development Corporation. These popular initiatives, conceived to celebrate local culture and identity, provided highly engaging, tangible demonstration projects.

The second phase of the programme, entitled ‘El-Space: Creating Dynamic Places Under the Elevated’ involves several pilot building projects. The first is beneath the Gowanus Expressway, a section of a major interstate (motorway) which has severed a swathe of Brooklyn from its waterfront for decades. The project aims to improve environmental health and enhance pedestrian safety for residents and workers.

Three Design Trust Fellows worked with students at Sunset Park High School and members of a Community Advisory Board to analyse the area and develop innovative but practical solutions, which include green infrastructure that thrives in low light, bright paint on the underside of the viaduct, and improved lighting. Design Trust is monitoring effectiveness of the interventions on air quality and pedestrian safety with a view to incorporating lessons in future projects.
A Trust to transform the Westway

When the Greater London Council (GLC) planned to pair the Hammersmith & City Line with a new motorway during its mid-20th century ring-road building frenzy, people throughout North Kensington protested strongly. Despite resistance, the Westway drove through the area in the late 1960s, severing street-level connections, demolishing 600+ homes and displacing hundreds of people in a neighbourhood already experiencing overcrowding, rogue landlords and poor housing conditions.

As compensation, the community and RB Kensington & Chelsea secured responsibility from the GLC for 9.3ha of space underneath 1.6km of the flyover, becoming one of the country’s first community development trusts in 1971.

Today, TfL owns the land and the Westway Trust manages most of the space on a long-term lease. The space beneath the flyover has become home to a major sports centre, recreation facilities, entertainment venues, a market, flexible workspace and commercial spaces with discounted rents. Some 120 independent businesses and charities – employing around 850 people – work under the Westway.

The uses provide income for Westway Trust, which is financially self-sufficient and reinvests locally in projects like community-led festivals, art projects and green space improvements.

Larger schemes driven by the Trust itself – following long consultation with residents and businesses – will include a new arts and culture centre on Acklam Road; an indoor market hall and housing. Just outside the Trust’s boundary, Westbourne Studios hosts an exhibition space and flexible workspaces. All told, these spaces have helped reframe the Westway as one of London’s cultural and creative hubs, despite the flyover’s oppressive presence.

Managing and developing these spaces isn’t easy. In terms of physical barriers, the flyover’s imposition on the skyline “falsely signals” the end of Portobello Road; it generates pollution and blocks light; and height differences along its length, combined with a need to safeguard integrity of the infrastructure, means building under the flyover is complicated. Within those constraints, the Trust is delivering lighting improvements and brightening spaces with paint and public art to help make the Westway feel more safe, inviting and accessible.

There are also several administrative barriers. Multiple stakeholders have an interest in the area, such as RB Kensington & Chelsea, LB Hammersmith & Fulham, TfL, Network Rail, local businesses and residents, many of whom have experienced deprivation for generations. As with any community, views about the best way forward and how to ensure maximum benefit for local people are diverse and often conflicting.

Joint working and consultation are crucial for Westway Trust to address these barriers. RBKC supports the Trust, acknowledging its ambitions and independence in a jointly-developed Westway Supplementary Planning Document and the borough’s Local Plan.

The Trust is also working with RBKC, LBHF and area newcomer Imperial College London to improve cross-borough connections. Walking or cycling between North Kensington (RBKC side) and Imperial’s White City campus (LBHF side) currently requires major detours to get around the Westway, West Cross Route/A3220, and West London Overground rail line. Plans for a £4m walking and cycling underpass, part of Imperial’s Section 106 contribution, would link the two areas, connecting North Kensington residents to education and employment opportunities at the campus and open a route to White City station.
**Reframing railways**

Railway infrastructure is visible in every London borough and there are an estimated 3,200 commercial railway arches operating throughout the city. Home to manufacturers, repair shops, venues, restaurants, offices, furniture showrooms, artist studios and more, these London businesses – almost all independent – contribute an average of £160,000 to the country’s GDP (or around half a billion pounds, cumulatively), making them important economic players.

Most of London’s archway business clusters have grown organically and many businesses have deep roots in their communities after developing local supply chains, strong reputations, and loyal customer bases over years or generations. With their proximity to transport hubs and communities, many also function as spaces that bring people together. London is full of examples of railway arches as social infrastructure, from century-old Shepherd’s Bush Market, to global tourist magnet Camden market, to newer entrants like Deptford Market Yard.

For more structured approaches to reframing railways, a 2002 project by Cross River Partnership (CRP) offers lessons. With support and £7.4m funding from local authorities (via Section 106), the Single Regeneration Budget, TfL, Network Rail, the Railway Heritage Trust and the London Development Agency, CRP deep-cleaned several railway arches and underpasses near the South Bank and illuminated them with public art and/or lighting, making them more inviting as walking routes. Other arches were turned into retail units.

Despite their value, London’s archway businesses are increasingly under threat. Rent increases have forced some tenants to close shop, while Network Rail’s recent sale of its arches impacts around two-thirds of these businesses in London, who face uncertainty in their tenancies as they transition from a public to a private landlord. Businesses in the arches have come together to form a campaign group, Guardians of the Arches, aiming to be formally recognised as a Tenants’ Association. The aspiration is to negotiate a renters’ charter with the new owner, formalising rental agreements, increasing tenure security and safeguarding the long-term viability of independent business in the arches.

**Removing roads**

Several cities in the United States have replaced car-oriented freeways and expressways (motorways within cities) with more ‘human-scale’ roads and parks. For example, Rochester, NY’s Inner Loop East Transformation Project filled in part of a sunken freeway, releasing 2.4 ha of space for mixed-use development with a potential cost-benefit ratio of $1.90 to $2.20 for every dollar spent. This follows schemes like Portland’s Tom McCall Park, which replaced an expressway in the 1970s; San Francisco’s removal of the Embarcadero freeway after its 1989 earthquake; and Milwaukee’s demolition of the Park East Freeway in 2003, which opened 10.5ha for development and over $1bn of investment.

Other cities have undertaken similar projects. Montreal recently completed Projet Bonaventure, replacing an 850m section of concrete overpass with 24,000m² of green space at a key entrance point to the city and reconnecting neighbourhoods on either side. Utrecht in the Netherlands is reverting its city moat to a waterway after paving over it in the 1960s. Seoul, South Korea in particular is an old hand at abolishing major roads and flyovers, having removed at least 10 in as many years.

In many of these examples, change was driven by a combination of communities wanting improvements to their cities; ballooning maintenance costs; and city leaders who communicated and drove a strong vision.
RECOMMENDATIONS

**Understand barriers**

- Talk to a wide range of people from different demographics to learn their (often very different) experiences of physical and administrative barriers. Use this to inform schemes and develop impact metrics.
- Acknowledge that administrative borders aren’t always visible but exert an active influence on things like service delivery and how people engage with administrative bodies.
- Map where borders and barriers are and consider how they’re linked with and compound one another. Look for solutions to address multiple barriers at once.
- Use a wide variety of data/sources. Collated findings from integrated urban modelling, big data, surveys, observation, street audits, and consultations (both face to face and online) will draw out problem areas.
- During the early stages of new schemes and development, identify areas where new barriers may be added. If they can’t be designed out, plan mitigation measures early with input from a broad range of stakeholders – especially those affected.
- Carry out post-completion consultations to discover lessons learned and outstanding issues for a development (e.g. ongoing difficulties crossing a nearby road), which can be addressed in adjacent development sites.

**Build partnerships to address administrative barriers**

- Recognise and act on the appetite for joint working: where there’s the will to do it, there’s a way to do it.
- Leaders from all sectors must buy into the benefits of joint working and ensure openness to collaboration is embedded throughout each involved organisation.
- Big schemes will involve many parties and long time frames. Patience, persistence, partnerships, persuasion – and strong vision – are crucial to success.
- Make time to develop good working relationships and understand other stakeholders’ priorities and perspectives – and start as early as possible.
- Establish accords and agreements to drive cross-border working. Accords also help third-sector organisations involved in delivery make the case for grant funding as they can point to evidence of a joint approach.
- Look for opportunities to jointly hire staff with neighbouring organisations, e.g. Business Managers or Town Centre Managers responsible for neighbourhoods straddling multiple local authorities.
- Special planning committees – in which dedicated project officers and elected members oversee a project throughout its lifetime – ensure both public and private stakeholders have in-depth understanding of the scheme and consistent points of contact, helping secure buy-in.
- During long-term partnerships, look for opportunities to co-locate staff, arrange new departments or team branding, and plan team-building away days.
- For significant, long-term projects, arrangements like mayoral development corporations or enterprise zones allow for independent project teams with greater autonomy and statutory clout.

**Support local initiatives**

- Engage with local groups trying to fix barriers. Offer working space, funding, advice, inclusion in local plans/policies, or other support where feasible/appropriate.
- Involve or give control to local people in addressing barriers, such as co-designing solutions or setting up trusts for long-term projects.
- Work with Neighbourhood Forums seeking to develop cross-borough Neighbourhood Plans.
- Ensure local businesses aren’t pushed out of neighbourhoods going through change. Mentoring schemes, aesthetic improvements and visual merchandising support are relatively low-cost ways of helping businesses remain viable while appealing to new residents.
Communicate benefits

- Help members and communities understand that good development is about more than buildings: communicate positive impacts of schemes that address barriers in terms of improved connectivity, public realm, and access to jobs, rather than focusing primarily on housing.
- For members, engaging activities like field trips are a good way to showcase development benefits, while seminars on issues like placemaking or connectivity help build deeper, broader understanding of the built environment.
- The form is sometimes as important as the content. Meeting face-to-face can help work around language barriers and promote empathy/understanding. In written correspondence a jargon-free, plain-English approach is always best.
- Share success stories – and pitfalls to avoid – including aspects like funding streams, partnership arrangements and policy frameworks so others can adopt best practice.

Design creatively

- Consider opportunities to turn barriers into productive seams, e.g. using spaces under elevated infrastructure for retail; bringing derelict spaces back into community use.
- Make better use of leftover land next to barriers (e.g. roadside verges, areas along railways) as green space or to improve connections, especially where publicly owned.
- Sometimes the little things make the biggest difference: wayfinding, good sightlines and lighting, familiar landmarks and public toilets help people feel safer and more welcome.
- Small pots of funding can be put towards measures like the above, serving as a showcase/pilot to attract funding for larger works.
- Stitch several small improvement schemes together for cumulative impact, which can also attract funding for larger projects.

Make the most of policy

- At pan-London level, include measures to address barriers in the London Plan and strategies relating to infrastructure and transport. At borough level, use Local Plans to identify networks of barriers and ways that new development should address these.
- Officers and members must recognise the value of spreading development benefits outside the ‘red line’. Some developers are keen to do this, but need blessing from boroughs. For less keen developers, local authorities should use tools like planning frameworks, Section 106 or the Community Infrastructure Levy (CIL) to spread development benefits beyond red-line boundaries.
- For developments on or near borough borders, quid pro quo arrangements between boroughs could address situations where Section 106 contributions would be more effectively spent in a neighbouring borough and ensure a more balanced approach to providing amenities.
- Planning officers should push for higher standards of accessibility in buildings and public spaces. Consulting with accessibility specialists throughout a project helps.
- Where possible, borrow against future CIL contributions to bring forward schemes to remove/reduce barriers.
- GLA, TfL and other funders should demand evidence of cross-borough working for applicable projects. This is happening in some areas, like applications for the Good Growth Fund, and could be rolled out more widely.
CONCLUSION

Overcoming London’s Barriers set out to help clarify and mitigate the impact of physical and administrative barriers on London’s people and growth. Cutting through major regeneration areas, these barriers – the intricate, multi-tiered maze of roads, railways, waterways, and administrative boundaries criss-crossing the capital – have implications for wellbeing, development and investment.

In the rush to deliver much-needed housing and transport connections for Londoners, it’s critical that new infrastructure doesn’t compound existing barriers. On the contrary: regeneration and infrastructure schemes should be seen an opportunity to stitch communities back together.

The complexity of barriers and their impacts requires strategic, joined-up solutions, which Future of London’s network of cross-sector built environment practitioners is uniquely placed to deliver. Despite finding limited guidance for quantifying impacts of or best practice for overcoming barriers, this research uncovered numerous examples of forward-thinking organisations and partnerships from all sectors working to transform barriers, address impacts, and unlock opportunities for investment in communities. These case studies show that change is possible with vision and the will to work together.

By bringing this topic to the fore, we hope this report motivates all parties – especially local authorities, the GLA, TfL, developers, designers, and communities – to work collaboratively and avoid mistakes of the past, creating a more equitable and inclusive city.
NOTES AND FURTHER RESOURCES

Endnotes


3. GLA (2018), bit.ly/2xQYx5a


6. See resource list overleaf for a starting point of research in this area.


10. See research by Mindell and Anciaes overleaf.


17. Wandle Valley Vision, bit.ly/2Q8mSPT


22. RB Kensington & Chelsea Local Plan, Chapter 8 bit.ly/2KnWSLm


Further resources

Related Future of London work
Our website contains summaries from the conference, field trips, and roundtables associated with this project, offering further case studies and analysis. See futureoflondon.org.uk/knowledge/overcoming-barriers for additional content.

Looking beyond London, our 2014 briefing, Working Beyond Boundaries, focused on collaboration between London and the southeast. It’s available here: futureoflondon.org.uk/?ddownload=14016

Academic research
Paulo Anciaes and Jennifer Mindell of UCL have published extensively on the topic of physical/community severance and are an excellent starting point for further information.

For a review of academic research and technical guidelines on the topic of community severance, see Anciaes, P.R., et al (2016) Community Severance: Where Is It Found and at What Cost? (bit.ly/2D9g9zf)

For details on academic research into social and health impacts of severance, see Mindell, S., Karlsen, S. (2012) Community severance and health: what do we actually know? (bit.ly/2PpiEP0)

For research on bridging gaps between academic research and policy, see Anciaes, P.R., et al., Urban transport and community severance: Linking research and policy to link people and places. Journal of Transport & Health (2016) (bit.ly/2SqeYjf)


Technical guidance
UCL, Street Mobility Project Toolkit, ucl.ac.uk/street-mobility/toolkit


Cabe’s Inclusive Design Hub has a wealth of information and guidance to help built environment professionals embed accessibility in schemes. Search the hub here (bit.ly/2Ax1wEC). See also Inclusion by Design (bit.ly/2AzcCYf) and The Principles of Inclusive Design (bit.ly/2OSeiF8)

Centre for Accessible Environments, Designing for Accessibility (bit.ly/2AxAnQM) (paywall)

Department for Transport, Inclusive Mobility (bit.ly/2qi6i1s)

RIBA, Inclusive Design video series (bit.ly/2Ob1bMD)

Other documents


Arup, Under the Viaduct: Neglected spaces no longer (bit.ly/2IsG7Rr)


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