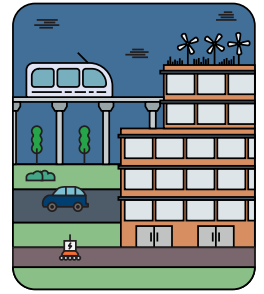


NLA Expert Panel Whitepaper:

Built Environment Technology



Between September 2021 and August 2023, the panel has met six times. The panel was partly refreshed in September 2022.

Introduction Overall

Approach

As identified by the Year 1 and Year 2 panels.

The interconnectedness between the built environment and the social, ecological, and economic performance of our cities is clear; well-designed places enable people to live, work, and enjoy life in full; well-planned neighbourhoods enable communities to connect and collaborate; and well-planned urban regions enable populations to thrive within the boundaries of our planet's precious life support systems.

Technology has always played a key role in defining the nature of these relationships. In many ways, digital technology is just the next wave of tools—like telephones and light bulbs—to help us shape more livable and sustainable cities. In other, quite fundamental ways, digital technology has created a whole new world of its own.

How should the physical and non-physical environments converge? The answer starts, and ends, with people.

With this in mind, we propose to develop digital technology in support of ① **The Democratic City**, ② **the Pleasant City**, and ③ **the Sustainable City**.

Unpacking these concepts:

- The Democratic City is about using technology as a communication tool, to facilitate a more inclusive and informed dialogue between citizens and public and private stakeholders;
- The Pleasant City is about using technology to improve the everyday environmental conditions and experiences of shared buildings, spaces, and mobility systems—for the collective as well as the individual;
- and the Sustainable City is about using technology as an operational tool, ensuring the safe, equitable, and efficient distribution of material and immaterial resources today and for the generations to come.

Additionally, we call on the sector to:

- Take collective responsibility to ensure that the implementation of digital technology safeguards public interests in the long-term.
- Provide clarity on how investments in digital technology and enablement of private sector monopolies contribute to achieving a shared vision for the city.
- Demand transparency in how data is collected, stored, and used by public and private sectors alike to build trust with the communities whose lives will ultimately be impacted by the decision that this evidence fuels.

Overall challenges

As identified by the Year 1 and Year 2 panels.

Where is the vision?

London does not have a holistic, people-centred, outcome-led vision for the application of digital technology in the built environment. What do we want our city to look and feel like in 50 years, and how are the technologies we are developing and implementing today helping us to get there? [Smart Kalasamata](#), a new urban district outside Helsinki, was developed with a single ambition in mind: to give every resident one more hour of free time every day. To achieve this ambition, the new neighbourhood will use digital technology to improve traffic flows, shorten distances to services, and reduce administrative tasks.

- ① Recommendation: Rewrite London's smart city agenda to focus on a handful of outcomes which are meaningful to the lives of Londoners, with or without technology. Use technology as a tool to achieve these goals where appropriate.

Who is in the driving seat?

Our reliance on digital technology and data continues to outpace the development of knowledge, skills, and supporting infrastructure in the built environment, creating serious down-stream resilience issues. How can the fast pace, big money, and commercial interests of the digital sector be reconciled with the slow pace, austerity measures, and public interests shaping urban development? Perhaps it shouldn't be. All across the world, the increasing pace of development has spurred a counter movement towards '[slow cities](#)' and '[slow governance](#)'. Both concepts embrace the use of technology, but not at the cost of democracy and collaborative citymaking.

- ② Recommendation: Expand current community engagement practices to include engagement on the use and implementation of technology itself, even if it means slowing down the current pace of implementation. How long should a traffic CCTV camera store its data for? What metrics should we measure our success by? How should value created from public data be shared back? These and other questions should be the subject of public debate.

How does it stack up?

The overall cost/benefit analysis driving investments in data and digital technology does not yet stack up for many built environment applications, especially at the urban scale. How do we weigh up the costs (money, privacy, time) and investments (upgrades, upskilling) against the benefits that might be unlocked (economies of scale, efficiency) and the risks (bias, malfunction, obsolescence, crime) involved? Google's Sidewalk Labs tried to address this

challenge in their concept for a fully integrated digital neighbourhood on Toronto's waterfront. In 2020, the project was cancelled on account of viability issues. In the preceding years, the development had also met fierce local opposition due to its opaque handling of citizen data. Today, [Sidewalk Labs](#) has pivoted to building discrete products for cities instead.

- ③ Recommendation: Develop a bespoke business model to help public sector organisations justify and capitalise on investments in built environment technology and data for public good. Do not assume that value models created for global, private organisations with products to sell are automatically transferable to local, public organisations with places to steward.

In addition to these overarching challenges, the year 2 panelists present recommendations across four priority areas.

Four priority areas

Developed by the Year 2 panelists.

① ***The hardware of software: why we cannot implement unlimited digital solutions in a limited physical environment.***

Today, when we interact with digital technology, it is easy to overlook the physical impacts of our activities. And yet digital infrastructure makes its mark on our built environment in a number of ways, namely through the requirements for energy-demanding storage facilities, intricate cable networks, and costly end-use devices.

According to the Data Center Journal there are currently more than 100 data centres distributed across London with an estimated combined footprint of more than 45 hectares. In addition to taking up valuable land, these facilities also come with significant electricity and water usage demands, which may put a strain on the delivery of other local services—such as housing—and contribute to global GHG emissions.

Therefore, as our dependence on digital tools and services increases, so must our understanding of its physical realities.

Key challenges:

- The environmental cost of data storage (space + GHG emissions) requires us to question the limitations of 'cloud-based' services.
- Energy consumption required to facilitate current cloud data services contradicts push to Zero Carbon with serious challenges to decarbonising urban environments.
- The physical disruption created by, and fragility embedded in, physical cable networks requires us to question the privatisation of critical infrastructure.
- The reliance on physical devices to capture data from the built environment requires us to question the business models that may underpin the city's democratic 'smartification'.

Recommendations:

- Create a London-wide masterplan for the implementation of digital infrastructure that considers public service requirements, the storage of public data, land use, and energy requirements as one. A recent [example from Devon](#) shows the potential of data centres to become secondary heat sources for community facilities, for example.
- Create a governing body and estate managing function like Transport for London (Information for London?), which can oversee the city's digital traffic and infrastructure requirements now and in the future. "Information for London" would be responsible for the resilience of the city's digital infrastructure and give ownership of the city's information flows back to the public.
- Require all physical gadgets which are installed by private building owners and landowners with a purpose to monitor the performance of their assets to also collect and share key data points in service of public interests.
- Build 'smarter' and smaller Data Hubs, closer to the community, and apply Section 106 requirements. The Local Authority Planning process should also include an absolute requirement for data centres to recycle heat and energy, set out in clear percentages.

② ***Universal metrics for local needs: balancing viability, feasibility, and desirability in large-scale urban data sharing ecosystems.***

As the scale and breadth of urban data generation and availability grows, there is a parallel rise in the number of digital twins and data ecosystems available to cities, professionals, and communities. Despite this progress, substantial challenges persist in establishing uniform standards and agreeing upon metrics that are both locally relevant and broadly comparable.

London, being a dynamic metropolis, requires specific standards and metrics tailored to its unique urban landscape and diverse needs. However, achieving compatibility with other cities' data ecosystems is also essential for sharing best practices and specific tools on a global scale.

Both the GLA, local authorities, and national government are keenly aware of these challenges. Projects like the London Datastore, Planning London Datahub, and National Digital Twin Programme have, for example, all been set out with an ambition to enable data sharing at a wider scale. In other parts of the world, countries from [Singapore](#) to [Sweden](#) are doing the same, though with different approaches to the selection of metrics and the handling of public/private interests.

Key challenges:

- Data models rely on the selection of a discrete number of metrics; defining those metrics so they have equal local relevance and global compatibility is a significant challenge to unlocking economies of scale in a way that also meaningfully benefits communities.
- Data models rely on data feeds, which is the process of capturing, cleaning, and uploading information to the system. While in time these processes might be increasingly automated, at the moment there are often significant bottlenecks to getting raw data from source to consumption.
- Data models often rely on a combination of public, private, and personal data to generate truly transformative insight; there is not currently a clear transactional agreement between these distinct entities, resulting in the risk of value extraction from the public sector and communities by the private sector.

Recommendations:

- The GLA should continue its efforts to promote consistent data sharing across London Boroughs, particularly by developing key existing data platforms such as the [Planning London Datahub](#) and the [London Datastore](#).
- Use natural language processing tools to increase the usability of large data models and data ecosystems for the general public; imagine if the London Datastore could generate insights from its data based on a single, simple prompt.
- Focus initial data sharing efforts on relatively narrow challenges that can easily be quantified and analysed with just a handful of readily available metrics. Without a clear use case, there is little incentive for stakeholders to engage, as discovered by the City of Copenhagen through the [City Data Exchange pilot project](#).
- Avoid monopolies where the private sector becomes the gatekeepers of critical data feeds or the providers of critical data platforms and models; the development of London's built environment should be shaped in the digital commons, not by privately-owned public data.
- Test new data models and data sharing uses in a sandbox environment, where challenges relating to cost, privacy, and ethics can be trialed alongside technical issues.

③ ***Engaging communities: using innovative Information and Communication Technologies to improve how we inform and communicate with citizens.***

Digital engagement tools are revolutionising our interactions with local communities, offering numerous advantages such as enhanced engagement and user-friendly interfaces. However, challenges relating to the cost of technology and data collection can impact accessibility and trust.

These digital tools play a pivotal role in empowering residents by giving them greater control over shaping their cities and participating in sustainable practices that foster circular economies. The benefits of digital engagement methods can be summarised in three key aspects:

- Enhanced connectivity: Digital tools facilitate more agile and user-friendly connections between community groups. This seamless communication fosters collaboration and inclusivity, ensuring a broader range of voices are heard.
- Expansive data platforms: Leveraging data platforms allows practitioners to gather firsthand insights from citizens on a wider scale. By tapping into a diverse range of perspectives, decision-makers can make more informed and equitable choices.
- Augmented Reality applications: With extended reality applications, individuals can experience a deeper understanding of a place's context, leading to more informed and meaningful opinions. This immersive experience enhances public participation and involvement in urban planning.

Key challenges:

- Ensuring that digital tools are accessible to all members of the community, including those with limited internet access, digital literacy, or disabilities, can be a significant challenge. Bridging the digital divide is crucial to avoid excluding certain groups from the engagement process.
- Building trust among citizens is essential for successful engagement. Concerns about data privacy and how personal information will be used may deter individuals from participating in digital platforms, especially when sensitive information is involved.
- Digital engagement tools can unintentionally attract a certain demographic, resulting in participation bias. This may lead to an overrepresentation of specific groups and underrepresentation of others, skewing the outcomes and undermining the inclusivity of the process.
- Implementing and maintaining digital tools for citizen engagement requires technical expertise and resources. Ensuring the platforms are user-friendly, secure, and reliable can be challenging, particularly for smaller communities with limited budgets.

Recommendations:

- Create digital engagement platforms that invite continuous feedback, so that citizen needs may inform the identification and prioritisation of projects as well as their development and implementation. At the moment, platforms like [FixMyStreet](#) exist to handle citizen reports about specific environmental issues like potholes, but what if there was a channel for capturing wider sentiments about a place and its potential?
- Embed digitally-enabled citizen engagement platforms as part of the physical urban environment. Small urban interventions like [Hello Lamp Post](#), [The Interactive Bench](#), and [25 Questions for Cities](#) show the potential of this approach.
- Use digital technology to augment architectural drawings, planning applications, and environmental data. Implement a requirement for all projects above a certain size to utilise AR technology to help citizens visualise a scheme in its context. Examples of this include Hadley's collaboration with [Spaceform](#) and Arup's development of [YARD](#).
- Build trust with citizens by showing them exactly how their input has been used to shape design outcomes. This could, for example, be achieved by requiring all projects above a certain size to continue citizen engagement via a digital platform for a number of years after completion.
- Set a goal for London to become a global exemplar for inclusive citizen engagement, using digital tools to break down language and skills barriers in particular. Implement a certification system to help public authorities and developers navigate different digital solutions.

④ **Overcoming barriers to adoption: when new communication tools require their own language of communication.**

Despite the growing importance of digital tools and technology for design and planning, there remain barriers to wide-spread adoption of innovative technology.

The panel attempted to solicit responses from the industry in order to better understand current barriers and opportunities. Due to the limited number of responses, no final conclusions have been identified for this topic area.

Recommendations:

- Create a data competence hub, where people working at the intersection of the built environment and technology can seek support, share experiences, and exchange tools. Platforms like GITHUB and Reddit are commonly used by the digital technology sector, but the built environment professions have yet to become engaged in online knowledge sharing forums.
- Implement a scheme like Public Practice specifically with an aim to develop data science and technology skills within local authorities. The two initiatives could be linked (Digital Public Practice), but with a specific focus on helping people transition from the digital technology sector to environment, planning, architecture, construction, and design.

Shared recommendations across the four areas:

- Exercise constraint. Exercising constraint is vital for our city, as we face limitations in our carbon budget, energy resources, and available space to store and process vast amounts of data within ever-growing digital models. Acknowledging these constraints is essential, as it means we cannot know everything, consult on everything, or store all data indefinitely. While the digital realm may appear boundless, accepting its limitations can change our perception of technology.
- Safeguard the digital commons. We must prioritise safeguarding the digital commons, recognizing that privately-owned public data and digital infrastructure come with certain restrictions, much like privately-owned public spaces. This involves protecting public interests in the face of increasing digitization within knowledge ecosystems, whether it's the organisations owning street fibres or companies licensing our data.
- De-mystify the digital sector. Demystifying the digital sector is crucial. Although digital technology boils down to communication using 0s and 1s transmitted through electrical currents, it has often been perceived as overly complex and specialised, hindering broad debate. However, with a new generation of digital natives entering the workforce and advancements in natural language processing tools, we have the opportunity to change this perception and encourage more inclusive discussions about digital technology's role in our lives.

Bonus mini-paper on artificial intelligence

Technology within the built environment has seen exponential growth across all aspects in the last 10 years, and more so in the last 5.

SMART buildings and the use of IoT are an expectation and no longer seen as innovation. The power of data is well understood and often referred to as the solution to all problems. However the next phase of building industry technology seems to be a move towards Artificial Intelligence (AI) and Machine Learning (ML).

AI is very efficient at solving issues based on its ability to handle complexity very well, it can test enormous amounts of solutions and show us the ones closest to global optimum outcomes. There is certainly no doubt that AI and ML are tools that can assist with a number of time consuming complex tasks such as:

- Automation of repetitive tasks: AI and ML can automate various repetitive and mundane tasks in the built environment, such as data entry, documentation, standardisation, and quality control. Planning and design of real estate is highly centralised on documents and text. AI developed to handle large amounts of text can have a massive impact on the risk, confusion, and quality of documentation in the industry. Training machines to search for errors, duplication, out-of-date standards, conflicting clauses in contracts will increase the quality and decrease risk to all. Something that we strive for every day.
- Improved efficiency and productivity: Algorithms can analyse large amounts of data to identify patterns, optimise processes, and make predictions. In the built environment, this can help improve efficiency in areas such as project management, scheduling, energy management, and maintenance planning.
- Enhanced design and simulation capabilities: Assist in design simulation tasks by generating alternative design options, optimising building performance and layouts, and predicting outcomes. One of the first implementations of AI design was to optimise structural loadings and load paths, interestingly resulting in biomimicry solutions. AI could also leverage historical project information to generate optimised design alternatives, improving energy efficiency, structural integrity, whilst considering planning restrictions and requirements.

What's happening now

The major part being played by AI currently is facility management, whereby leveraging historical data, analysing real-time sensor data, making intelligent decisions through machine learning, AI algorithms can identify patterns routine tasks are being automated, enabling:

- Forecast maintenance requirements
- Fault detection

- Root cause analytics
- Enhance operational efficiency
- Optimisation of resource use
- Reduced downtime and improved maintenance

What the future might hold

Despite already being used to push conventional limitations and enhance current processes across different domains of the industry, the adoption of AI is at the infancy of its capabilities. Recently we have seen a huge influx of SMART software solutions; technology that claims to achieve everything and anything. And therein lies the current issue within the industry, someone needs to know what the objective is, why is the technology needed and what value it will bring, without this SMART solutions end up not achieving anything of any value. However there are some interesting concepts being developed:

- LLMs trained on O&M manuals. Reducing reliance on complex O&M manuals leading to reduced breakdown fix times, therefore building managers may need less technical knowledge, helping with customer-service focused building managers.
- PDF Parsers (readers). Should reduce risk of missing vital clauses or dates in large construction contracts, reducing contractual risk associated with conflicting or ambiguous clauses in contracts.
- Text to BIM. Using natural language processing to generate BIM models.
- Generative Images in Design. Using tools to translate words into images, help teams visualise options more quickly.

Clearly AI holds vast potential for streamlining construction processes and project management tasks such as site inspections, surveying, and material delivery, reducing time, expense, and waste. Machine learning algorithms could also be able to analyse project data to predict delays, optimize scheduling, and mitigate risks, thereby improving productivity and safety.

However, there remains a gap. The benefits of AI and machine learning are now commonly understood to improve efficiency and productivity by automating repetitive manual tasks and with the correct algorithms, enormous amounts of data can be quickly analysed to identify patterns in performance, optimise processes, predict risk, failure, and the most effective time to invest. But, whilst software companies can write the code for an algorithm, they still currently need a human to tell them what data to analyse and the rules that are needed for the algorithm to calculate correctly. But how long will this be the case?

The industry is about to experience an enormous shift away from human-first to AI-first design where industry professionals will be enabling technology to give us the best in design excellence while keeping a watchful eye over the outputs, validating, and executing implementation. There will be risk in a loss of traditional skills as tasks become easier. This could be comparable to drafting skills being lost as CAD was adopted. While this may result in a reduction in the overall workplace it is likely that the real effect will focus on a change in skill sets required. The adoption of AI and machine learning will create new job roles in the built environment. These may include AI specialists, data scientists, algorithm developers, and AI system trainers.

Additionally, there will be a growing need for workers who can interpret and apply the insights generated by AI systems to make informed decisions.

Whilst AI will bring changes to job roles, it also drive innovation in the industry, for example, there is no longer an engineer with a spanner and screwdriver, this is an analytical engineer that understands how an asset achieves optimal performance, knows what influences an asset's performance and how an asset reacts if a parameter is varied. This engineer writes the rules, and the software engineer writes the code. The successful integration of these technologies will depend on a combination of technical expertise, ethical considerations, and effective collaboration between humans and machines. Another example might be, the endless fight for standardization. Ultimately this is a human level problem which can be overcome using AI in a fraction of the time it would take a human. What other human level problems are we wrestling with that we could have AI/ML solve within hours where it would take us years?

Current thinking is that machines cannot do artistic or creative thinking, the big question is—will that change? With carbon becoming a primary driver in design, construction, and operation, will creativity as we know it, give way to efficiency led buildings. In the early stages of all disciplines,

we need to compile a design which is the optimal solution, not a creative non optimal one. The hard part is combining all of this information into an optimal performing building, this is a great area for AI to deliver the optimal interdisciplinary designed product.

For now, it seems like AI is very useful in solving tasks where we know the input and want one optimal solution—and the complexity is the problem. Until further development creativity and innovation can be supported by AI but may remain the domain of humans, for now.

If we allow AI to solve routine problems, and these become embedded globally, one of the human level challenges is; who is checking the work, and who checks the checker? As we lose core skills, are we allowing errors, or what we think are errors now, to become commonplace, and does that matter?

About the Built Environment Technology expert panel

The panel brings together the tech and built environment sector, connecting innovators, tech specialists, and urban practitioners to discuss how emerging technologies and practices could solve key urban problems. The panel intends to champion the role of the capital as an incubator for technological innovation in property and city making.

Chair: *Camilla Siggaard Andersen, Hassell*

Theo Blackwell MBE, GLA

Niall Bolger, LB Hounslow

David Bullock, Hayes Davidson

Jan Bunge, Squint/Opera

Marta Granda Nistal, Arup

Milos Halecka, MiddleCap

Danny Hall, The Crown Estate

Ruth Hynes, Atkins

Candice Lemaitre, Transport for London

Susan Mantle, Heyne Tillett Steel

Ana Matic, Scott Brownrigg

Laurel Nyberg, Be First

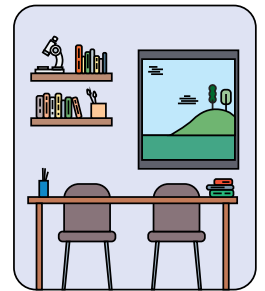
Simone Pagani, GIA

Matt Rimmer, Hadley

Bridget Wilkins, DLUCH

NLA Expert Panel Whitepaper:

Education



The Education Expert Panel has pursued three strands of investigation through its subgroups: Creative Curriculum, Access to Education and Retrofit. The policy ideas arising from these strands span all of the New London Agenda's six themes, but most closely align with Focus on People and Planet and Prioritise Partnership.

Strand 1 – Creative Curriculum

The creative curriculum in schools has been substantially reduced over the past decade. This has potentially enormous impact on the next generation of creative thinkers depriving them of the skills required to shape London's future built environment. Whilst undoubtedly a national issue, there are some London-centric policy ideas that would help address this evolving crisis.

- **NLA Connect** – there are an increasing number of excellent initiatives to make the built environment sector more accessible to young people, particularly those from non-traditional backgrounds. The challenge is one of awareness, coordination and funding. Proposal for NLA to take a coordinating role, leveraging their network to connect initiatives with potential sources of ESG funding in the development and wider business community. Coordination would be through an online portal, managed on behalf of the GLA, to connect initiatives London-wide with schools, colleges, young people and the development community.
- **Co-design** – Developers should be required by the GLA to work specifically with schools and 6th form / FE colleges, alongside more general community engagement, to allow young people to co-design their own local environments. Aside from gaining valuable creative input, young people will be invested in the design of their own community and get exposure to the creative process in the built environment sector.
- **NLA Awards** – co-design, design apprenticeships and other initiatives should feature in the annual NLA Awards, providing both a platform and a celebration to raise profile and awareness.
- **National Curriculum** – All students must study creative subjects no matter their background, as a major subject area from an early age (year 8) and supported to develop their interests in subject choice for KS4. Without this there will not be the diversity of talent emerging to design the future of London. New national governments leading up to GE 2024 and beyond should be lobbied to promote the national interest of the retention and development of the creative curriculum in schools.

Strand 2 – Access to Education / Re-using space

The decline of traditional retail means high streets are having to adapt to attract a more diverse range of uses. Similarly, there is evidence of under-utilised commercial office space in both town centres and the periphery. This presents an opportunity for some of these spaces to be re-used for education, with the potential to make educational provision, particularly early years and adult education, more accessible. At the same time, there has been a sudden decline in school age population in Inner London, in 2020 and 2021 for every pupil who joined a London school, 1.67 left. This has resulted in the closure of some schools, and there is a challenge of what to do with these redundant assets already in education use.

- **Re-use of redundant retail/office spaces**—identify likely educational uses such as Further Education or spaces for vocational training. Specialist facilities such as media labs. Lack of outdoor space makes school use problematic. Identify exemplars of imaginative education

re-use (refer to endnotes).

- **Retention of existing school buildings** – once education assets are disposed out of public ownership they can never be recovered. Identify viable community uses for school buildings to allow them to be preserved for future educational use. Suggestion that many education providers are struggling with SEN space provision and that available education buildings could plug that gap. Another potential use is as ‘swing space’ to allow essential maintenance and deep retrofit of other nearby schools.

Strand 3 – Education Retrofit / Net Zero

One recurring theme on the panel has been how to deliver change within a difficult budgetary environment. This is especially true when considering the scale of the challenge required to retrofit and decarbonise thousands of schools and colleges across England. Two National Audit Office reports published in June 2023 were hard-hitting. Noting that the available budget for maintaining the school estate is less than half what the DfE believe is necessary, the NAO describe the 21,600-school estate as deteriorating. The reports also note that there is no plan in place for achieving the scale of decarbonisation across the education sector that is needed to make a proportionate contribution to government’s targets.

There is an urgent need to develop an affordable and deliverable retrofit package that can be rolled out at scale to schools. University and college estates are further ahead on this journey with committed plans to decarbonise by set dates, in some cases less than a decade.

- CIL / s106 funding for Education NetZero retrofit—Given funding constraints facing schools and the falling rolls of London schools, divert CIL / s106 monies, historically used to increase school place provision, towards retrofitting them to be more sustainable, resilient, and ultimately, net zero.
- Identify feasible measures—deep retrofit is often not feasible in operational schools, due to timescale and budgetary limitations. What is needed from DfE is an evidence-based approach to identifying which high-impact retrofit measures can work around school operations, and provide clear, simple, guidance on how to achieve them.
- Utilise available data - DfE and UCL have a big data model of all schools in England, their type and their environmental performance. Identifying more / better exemplar retrofit projects is a key step in getting better data, and a more focussed retrofit approaches to differing types / eras of education buildings: Victorian Board school, 60s system build, BSF etc. The database could be expanded to record retrofit and its performance—what was done, impact on DEC etc.
- Celebrating success - education organisations (and schools in particular) have a preference for ‘shiny new buildings’ and are sceptical about whether their existing estate can really be made fit for the future through retrofit. Inspire others by making exemplar retrofit projects and hard data easily accessible.
- Not only Net Zero—a singular focus on Net Zero is risky as it ignores other challenges, such as adaptation to climate change and coping with higher summertime temperatures, which are operationally and practically important in education. The template for a school retrofit project should include climate change adaptation as well as mitigation.
- Establish a London-wide Forum—the management of the schools estate is fragmented (between DfE MATs, Local Authorities and other organisations) and retrofit action is currently taking place in a siloed way. Establishing a London-wide forum for schools for this specific issue to lobby for action and share best practice between school estate managers and industry professionals through an annual London Schools Retrofit conference or similar forum.

1	Creative Curriculum	1 Plan for the long term	2 Think beyond boundaries	3 Embrace Diversity	4 Focus on Health People and Planet	5 Invest in Innovation	6 Prioritise Partnership
1.1	NLA Connect – idea for NLA to take coordinating role in fostering and developing partnerships, co-design and apprenticeship opportunities with schools. NLA leverages its network to provide a portal to connect initiatives across London , specifically interested potential funders from the development community to various initiatives.			•			•
1.2	NLA Awards – co-design, apprenticeships and other initiatives features in the NLA annual awards to augment visibility.			•			
1.3	NLA Strategy – 5 to 7 year strategy to encourage interest in the creative and construction professions.	•		•			
1.4	Lobbying National Government – Students should be encouraged into creative and manufacturing industries from an early age (year 8) and supported to develop their interests in subject choice for KS4. New national governments leading up to GE 2024 and beyond should be lobbied to promote the national interest of retention and development of the creative curriculum in schools.	•	•				
1.5	Encouraging Co-Design - All schools should be given co-design opportunities both for projects in their own schools but crucially be involved with local authorities, developers and architects to design their own local environments. This should be promoted by the NLA (see 2 - NLA Awards).				•		•
1.6	Embed Best Practice - Funding and running of initiatives is key. LA funding should be set aside to ensure that co-design ideas became reality and were sustainable from a revenue perspective. Developers are not necessarily champions of social justice so best practice with local authorities should be embedded across London.		•				•
1.7	University Partnerships – need to be fostered and developed with funding to developing connections with interest in design, architecture and the built environment.						•
1.8	Thinking Globally - Opportunities should be taken to encourage pupils to become truly global scholars and to use this as a context for their education. Modern foreign languages should feature in creative subjects, for example in food technology. Schools should be encouraged to build on links with schools in other countries to develop their understanding of other contexts and environments.				•		•

2	Re-using Space / Access to Education	1 Plan for the long term	2 Think beyond boundaries	3 Embrace Diversity	4 Focus on Health People and Planet	5 Invest in Innovation	6 Prioritise Partnership
2.1	Re-use of redundant retail spaces – identify likely educational uses such as Further Education or spaces for vocational training. Specialist facilities such as media labs. Lack of outdoor space makes school use problematic. Identify exemplars of imaginative education re-use.		•		•		•
2.2	Retention of existing school buildings – once education assets are disposed out of public ownership they can never be recovered. Identify viable community uses for school buildings to allow them to be preserved for future educational use. Suggestion that many education providers are struggling with SEN space provision.	•				•	•
2.3	Use the change in use as an opportunity to upgrade the facilities to align with sustainable targets – given the spaces are redundant and empty, use the refurbishment works to significantly enhance their environmental performance. Deep retrofit.				•		
2.4	Leverage London's extensive/world class cultural and scientific institutions - to ensure schools London-wide receive maximum benefit from proximity to this knowledge cluster.		•				•
2.5	Utilise social value frameworks – to provide shared education facilities provision (whether in schools with extra space or on the high street) local councils can leverage the social value act and including social value frameworks in their projects and procurement- eg. Hammersmith and Fulham have in place.			•			•

3	Education Retrofit / Net Zero	1 Plan for the long term	2 Think beyond boundaries	3 Embrace Diversity	4 Focus on Health People and Planet	5 Invest in Innovation	6 Prioritise Partnership
3.1	CIL / s106 funding for Education NetZero retrofit - Given funding constraints facing schools and the falling rolls of London schools, divert CIL / s106 monies, historically used to increase school place provision, towards retrofitting them to be more sustainable, resilient and ultimately net zero.		•		•	•	
3.2	Identify feasible measures - deep retrofit is often not feasible in operational schools, due to timescale and budgetary limitations. What is needed is an evidence-based approach to identifying which high-impact retrofit measures can work around school operations, and provide clear, simple, guidance on how to achieve them.				•		
3.3	Tailoring an approach using data - DfE and UCL have a big data model of all UK schools, their type and their environmental performance. Identifying more / better exemplar retrofit projects as a key step in getting better data, and a more focussed retrofit approaches to differing types / eras of education buildings: Victorian Board school, 60s system build, noughties BSF etc.		•		•		
3.4	Celebrating success - education organisations (and schools in particular) <u>have a preference for 'shiny new buildings'</u> and are sceptical about whether their existing estate can really be made fit for the future through retrofit. Inspire others by making exemplar retrofit projects and hard data easily accessible. NLA portal?				•		
3.5	Not only Net Zero – a singular focus on Net Zero is risky as it ignores other challenges, <u>such as</u> adaptation to climate change and coping with higher summertime temperatures, which are operationally and practically important in education.	•			•		
3.6	Long Term Funding – retrofitting education buildings is not a fad. There needs to be long-term visibility of how this is going to be organised and funded. Encourage <u>policy-makers</u> to put in place a long term, stable plan	•					
3.7	A London-wide Forum – the management of the <u>schools</u> estate is fragmented (between LEAs, MATs and other organisations) and retrofit action is currently taking place in a siloed way – the NLA together with GLA could foster a collaborative approach to lobbying for action and sharing best practice between school estate managers and industry professionals, through a London Schools Retrofit conference or forum		•				•
3.8	Reaching out to students – there is huge potential to engage students and their families in an organised schools retrofit process, and this could give families the knowledge they need to tackle energy use in their homes and <u>communities</u>						•
3.9	GLA Retrofit Fund – GLA establishes a cross-sector retrofit fund to which grant applications or loans may be applied for by <u>schools</u>				•		
3.10	Expertise – Establish accredited panel of experts to advise education <u>providers</u>				•		

About the Education Expert Panel

Focusing on the future needs of the education estates, schools, FE institutions and universities, the panel will explore how we make sure we plan and design sustainable, inclusive and accessible spaces for education, knowledge sharing and innovation.

Chair: *Ben Marston, Jestico + Whiles*

Tom Bentham, Max Fordham

Lorna Edwards, RSHP

Marta Galinanes-Garcia, AKT II

Bruce Glockling, Regeneration and Education Capital Development Specialist

Rhiannon Klein, Gerald Eve

Jess Mailey, BDP

Neil Pinder, Wandsworth Borough Council

Quinton Pop, HOK

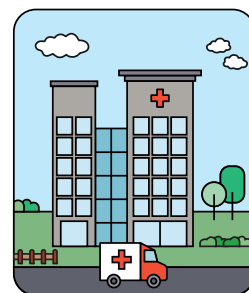
Julian Robinson, LSE

Dan Tassell, Haworth Tompkins

Crawford Wright, Department for Education

NLA Expert Panel Whitepaper:

Healthcare



On 8 March 2023, the Healthcare Expert Panel held a rountable with a number of London ICSs, the GLA and the London Estates Delivery Unit. The group noted the Mayor's Six Tests, the London Health and Care Estate Strategy and the national duty being applied in November 2023 to incorporate climate adaptation across all government policy.

The Panel met on 20 March and furthered the discussion on recommendations for the New London Agenda incorporating the body of literature outlined above.

Introduction

① *Maximising skills of London NHS estates and development teams*

There is a wide divergence in skill level and knowledge required in redeveloping healthcare assets. The panel recommends focus is placed on maximising the skills of the NHS Estates and Development Teams in partnership with London Universities. Key subject matter would include:

- Sustainability: The reuse of existing assets
- Financial investment to level up health inequalities: Funding and partnership models and accessing S106 and Community Infrastructure Levy (CIL) funds
- Optimising healthcare assets: Interrogation of NHS space utilisation, capital and carbon cost vs long-term revenue costs

② *Thinking beyond NHS site boundaries to improve population health*

Encourage the utilisation of vacant assets, such as high street retail units, partnership working with local authorities, reusing council assets through Local Plans and masterplanning, all of which are essential ingredients within the development of the ICS estates strategies to be issued in December 2023.

This provides the co-benefit of revitalising the capital's high streets and local communities, encouraging meanwhile use beyond the red line boundary of NHS estates, whilst also reducing health inequalities by focusing more on prevention rather than simply cure through the implementation of social prescribing facilities. As a result, this would in the long term help to reduce the pressure on frontline staff as population health improves.

In addition, it is important to consider the social and environmental factors that affect health across our capital: air quality, green infrastructure, noise pollution, travel choices, comfort and safety. Urban planning not only mitigates the impact of health hazards, but it can also be the tool for creating health.

With this focus, the hope is that over time Londoners will not only live longer, but will also sustain healthier lives for longer, delaying the need for hospital beds and social care.

③ *Social Value*

The implementation of a Social Value Framework spearheaded by the GLA that embeds health and wellbeing into all built environment sectors, not just that of healthcare facilities. This could support a number of business cases including healthcare business cases whose focus is currently on capital and carbon cost but lacks a robust set of public sector metrics to measure social value over a certain time period in areas such as meaningful patient and public engagement.

④ **Decarbonising strategy**

In support of the Environmental Improvement Plan 2023, it is vitally important that major detailed planning applications support the net zero carbon agenda by mandating the following:

- Provision of a decarbonisation strategy, which if for an NHS Trust or ICS, must demonstrate its roadmap to achieving net zero carbon by 2040 across its estate. It must therefore justify how the proposed new development assists in achieving this strategy.
- Demonstration of how the proposed development has been designed to incorporate flexible and adaptable alternative uses. This “longer life, loose fit” approach, where possible, should encourage retrofit or certainly enable retrofit of the new development in the future, safeguarding against its demolition and need to rebuild.

2024 Plan for the Healthcare Expert Panel

In line with the likely Mayoral election manifestos, the panel has decided following its third meeting of the cycle on 26 June to focus on two of the draft recommendations that will adhere to two overarching themes: The London Plan and Employment and Workforce.

① The London Plan

Recommendation number 2: Thinking beyond NHS site boundaries to improve population health

Implementation: Creating a Green and Blue Masterplan across London linking all green and blue spaces into a cohesive network

The driving force behind taking our second recommendation to the next stage is improving population health outcomes. Having access to good quality green and blue spaces throughout our capital (often alluded to as nature prescribing) is an essential ingredient to levelling up health inequalities and indeed life expectancy. This can assist in reducing the number of visits required to medical facilities whether that be acute hospital or community healthcare settings.

The concept of greening our capital / nature prescribing is further reinforced by the current Mayor's ambition to decarbonise London extending to the outer zones. The symbiotic relationship between both healthcare outcomes through access to nature and air quality as well as noise pollution is fundamental.

We recognise that there may well be a crossover to the Net Zero panel particularly in the context of how decarbonisation is being addressed in major planning applications as well as with the Health and Wellbeing panel in the context of nature prescribing. This is to be investigated further in 2024.

Proposed key actions and considerations:

- Organise a roundtable to discuss green masterplanning of the capital including topics on access to funding, understanding the blockers and challenges for each of the organisations represented as well as post project evaluations of key outdoor regeneration projects and how they have impacted community health outcomes.
- Suggested organisations to include:
 - Vicky Hobart – Head of Health, GLA
 - Catherine Barber – Assistant Director, Environment and Energy, GLA
 - Louise Duggan – Interim Head of Regeneration, GLA
 - 5 Integrated Care Board Estates / Sustainability Leads
 - Mary Manuel - London Healthy Urban Development Unit
 - Transport for London – Graham Craig
 - London National Park City
 - Sustrans in relation to potential cycle superhighways

- Green Grids
- Landscape Institute – Carolin Göhler and Joanna Gibbons
- Parks for Health
- Canals and Rivers Trust
- Representatives from other cities where green networks are being planned or have been undertaken. Possibly contacts through C40 or the NLA international network
- Feasibility study on the Homerton Green Corridor. Representatives from: Homerton Healthcare NHS Foundation Trust, North East London NHS Integrated Care Board, East London NHS Foundation Trust, Hackney Council
- 1–2 representatives from regeneration developers of projects such as the Walthamstow Wetlands

Proposed workstream members:

- Magali Thomson – Great Ormond Street Hospital
- Mark Carter – Ryder Architecture
- Josephine Neill – Arcadis
- Mark Rowe – Perkins & Will
- Sam Shooter – Hoare Lea

② Employment and Workforce

Recommendation number 1: Maximising skills of London NHS estates and development teams

Implementation: Identifying an academic and healthcare system partnership to maximise the estates development skills of London's NHS Estates and Development teams

London comprises 5 ICBs, 34 NHS Trusts, the NHS Estates and Development teams for which manage over 1,500 sites. With competing opportunities within the private sector, it is important that there is a partnership / programme in place with an academic institution to assist in maximising the skills at different stages of an estates and development career in the NHS. This can range from the NHS Estates apprenticeships (potentially earn and learn) comprising graduates and non-graduates to gap analysis assessments in conjunction with a London university on areas of the development process. Potential universities and academic partnerships with whom to engage:

- University College London (The Bartlett Faculty of the Built Environment)—Prof Grant Mills, Professor of Healthcare Infrastructure Delivery and Ann Symons, Senior Research Fellow
- Imperial College London
- King's College London
- Academic Health Science Networks: Imperial College Health Partners, UCL Partners, Health Innovation Network South London
- London Estates Delivery Unit – Sue Hardy, Programme Director and Regional Estates Delivery Director, London

The expertise generated from such partnership / programme will empower NHS estates and development teams to easily challenge consultants by asking the relevant probing questions and reducing the reliance to some extent on the private sector. This could have the positive impact of reducing time through a streamlined number of development iterations and it could ultimately lower capital and revenue budgets.

Not only is this important for the NHS but it has the co-benefit of optimising the quality of masterplans carried out in partnership with NHS organisations as well as their related major planning applications. Investment in maximising development expertise before embarking on a capital programme will reap dividends for the GLA who will be either a key stakeholder in those regeneration masterplans or the approver of major planning applications.

Proposed workstream members:

- Joanne De La Porte – Gleeds
- Jane McElroy – NBBJ
- Lienelle Geldenhuys – White Arkitekter
- Ian Rae – Waltham Forest Council

About the Healthcare Expert Panel

The healthcare sector is set to see a new level of government investment not seen in over a decade. This Panel will focus on the delivery of new healthcare buildings for London, best practice in design, health and adaptability, as well as the opportunities for wider regeneration and integration into the urban environment.

Chair: *Anisha Mayor, WSP*

Mark Carter, Ryder

Joanne de la Porte, Gleeds

Lienelle Geldenhuys, White Arkitekter

Simon Hodson, JLL

Jane McElroy, NBBJ

Josephine Neill, Arcadis

Ian Rae, LB Waltham Forest

Mark Rowe, Perkins&Will

Sam Shooter, Hoare Lea

Magali Thomson, Great Ormond Street

Ernest Fasanya, Hopkins Architects

NLA Expert Panel Whitepaper:

Highstreets



Over the past year the panel has discussed various examples of good practice in the high street and discussions have been wide ranging.

Clearly high streets and in turn retail has experienced huge challenges following the Covid 19 pandemic, Brexit and online shopping.

What has been really encouraging is the opportunity and framework this has created for entrepreneurs and local authorities to come together, share ideas and hone this idea of 'stewardship'.

If the pandemic has offered anything positive, it is the rise of hybrid working and the ability for people to use their neighbourhood more. This has created a landscape for locals to enjoy their 'local' and get to know the people shaping the high streets. The 15 minute neighbourhood has been widely championed by boroughs such as Ealing.

There have been a number of initiatives to help entrepreneurs be more involved in their high streets. These range from offering reduced / or free rent for 6 months. Business rates, fragmented ownership can be real barriers to defining the right uses and the right places, creating a more holistic approach to our town centres and high streets.

Focusing on some key themes

- ① Plan for the future: High streets are the lifeblood of any town or village
 - ② Think beyond boundaries. We can't just focus on each specific site in a cycle. The focus should be on a more joined up approach. There have been a number of high street initiatives which aim to bring in local entrepreneurs, and the urban landscape should aim to provide a place for this to happen
 - ③ Work in partnership: Partnerships between Boroughs and developers. Our conversations suggest the best value for high streets is community, developer, and borough working together
- Good highstreets are ecosystems, a combination of economic, sustainable and community growth
 - Role of Local Authorities and Town Centre Managers—being present and visible on site. In Brent the Town Centre Manager in constant conversation with businesses—dedicated Town centre managers are key
 - Connectivity and footfall—knowing where the sense of place is
 - Flexible timelines for regeneration and providing long-term vision for the community—example of where Joint Ventures work well
 - The in-between spaces and understanding ownership—how can we engage landowners and landlords as stewards of place, long-term placemaking principles
 - Affordability, Amenity, Accessibility
 - How can we deliver social value and measure this? (Think Brent Cross Town, Flourishing Index)
 - The Civic Square and Civic Centre as an anchor

Good examples

Nunhead

- The public house and green space acting as an anchor for a new parade of shops
- Local residents involved in ideas to promote a better place, successfully working with the local authority
- Really good example of local entrepreneurs setting up independent shops and the long term success of this

Case Study: Stockton on Tees

- Redevelopment of Castlegate shopping centre
- Genuine community consultation—Castlegate Shopping Centre and Swallow Hotel
- Replaced with green space which interprets heritage of Stockton
- Historical anchor
- A land bridge over the river and green space leads into retail core and connects the place

Case Study: Rotterdam

- Post war demolished, new build, Bauhaus style
- Enforce planning—challenged use, threatened court action
- Long term planning corridor strategy for whole street
- Retailors take responsibility for own part of street - pavement, windows

Case Study: Brent Cross

- Joint Venture between Argent and Brent Cross
- Excellent connectivity, park, train station
- Patient tenant = long term thinking

Case Study: Ealing Council

- Highstreets task force, conversations with BIDS about reactivating spaces
- Ealing challenge role of public sector—is it an enabling empowering role or about providing capital and resources
- Retro-first principle. Ealing council were going to demolish but will now retain and retrofit building w/ office space—will meet needs of 97% micro-businesses in Ealing

How do we demonstrate value and measure this over time?

- Community engagement
- Brent Cross Town example: Flourishing Index focus on health and wellbeing
- Continuous symbiotic relationship between community, developer, and borough working together
- Good stewardship and management

About the High Streets Expert Panel

Change to 'High streets and retail have grappled with significant challenges stemming from the Covid-19 pandemic, Brexit, and the increasing prevalence of online shopping. Despite these obstacles, a positive outcome has emerged in the form of a newfound opportunity and framework for collaboration between entrepreneurs and local authorities. The High Streets Panel focuses on a collaborative approach this year, building upon discussions over the past year that delve into examples of good practice.

Chair: *James Mitchell, Axiom Architects*

Rumi Bose, Royal Borough of Greenwich

Mark Bruce, EPR Architects

Bev Churchill, Churchill & Partners

Dee Corsi, New West End Company

Jon Eaglesham, Barr Gazetas

Olivia Jackson, HLM Architects

Owain Lloyd-James, Historic England

Connor McDonagh, LB Ealing

Katya Samokhvalova, Nexus Planning

Giles Semper, Opportunity Kensington

Steve Tennant, Ballymore

Abigail Thomas, Lifschutz Davidson Sandilands

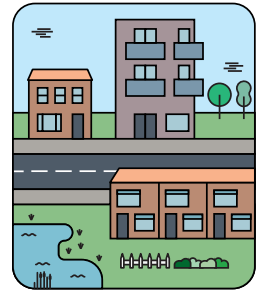
Jamie Webb, Benoy

Ciara Whelehan, LB Brent

Tariq Mukadam, LB Newham

NLA Expert Panel Whitepaper:

Housing



Key Recommendations for the London Agenda

Introduction

Over the past year and a half, the Housing Panel have been enthusiastically engaged in debating how to successfully deliver affordable, sustainable and joyful homes to all Londoners. During this relatively short period, the challenges and opportunities, (but increasingly the challenges) facing housing supply in the capital have shifted significantly.

Global energy prices, the war in Ukraine and inflationary pressure on constructors and customers has caused a slow-down in the implementation and sales of homes. Regulatory frameworks continue to be opaque and increasingly in conflict, with abrupt policy changes, such as the introduction of a mandatory second staircase in taller residential buildings (now at anything over six storeys), leading to the cancellation of whole housing programmes.

At the same time, the panel continue to highlight creative solutions to circumnavigate the challenges faced with a distinct focus on mitigating the social and environmental impact of delivering new homes. Here, the health, well-being and future resilience of London's communities, alongside a pursuit of net zero carbon targets, has driven a incisive shift to consider a 'retro-fit first' approach to existing buildings for residential uses.

Our recommendations to The New London Agenda reflect these dynamic circumstances and needs.

Panel Working Groups

Informed by the broad knowledge and experience within the panel, our discussion has been guided throughout by the themes of People, Place and Planet.

People – How London's communities can shape and contribute to their own neighbourhoods

Place – How residential districts across London are commissioned, designed and managed

Planet – How we accelerate truly net-zero carbon homes in the face of other pressures on housing supply

We have also considered how our recommendations reflect the New London Sounding Board aims to take collective responsibility, provide clarity and build trust.

The panel was organised into 3 working groups, each including a balance of both private sector developers, residential providers, local authorities and consultants. The recommendations are summarised here:

Recommendations People

Early panel discussions centred on existing London communities with many directly involved with regeneration of housing estates. The topics of empowerment, choice and stewardship emerged as key components to successful long-term regeneration. This led us to scrutinise the residential ballot process and gather best practice from our collective experience, to encourage equality across boroughs and give clarity to a policy which was intended to deeply empower communities and give a voice to those on the threshold of change.

As noted, the shift in the panel experience during the 2022/23 sessions has been the increased consideration of refurbishment and infill in favour of wholesale renewal. The recommendations reflect this change:

1. Update current GLA guidance—‘Better Homes for local people. The Mayor’s good practice guide to estate regeneration, February 2018’ to include estate ballot guidance for infill (at scale, see below) and retrofit, not only full regeneration. We would suggest that a ballot is required if decanting is necessary to achieve deeper retrofits.
2. Review reducing the additional homes required to trigger the ballot. The report ‘Altered Estates 2, How to address changing priorities in estate regeneration, June 2022’ recommends 50 homes as the threshold; which we would advocate.
3. The current ballot choices are overly simplistic: Yes means: “redevelopment”; No means: “no change/ no improvements at all”. Additionally, the time and cost for development agencies to prepare a full design on which to seek a ballot decision adds unnecessary risk. Review a two-stage ballot—an initial resident offer outlining those commitments that can be fixed such as rent levels and the sizes of new homes; followed by an endorsement vote based on outline planning design (including parameter drawings). This process promotes a deeper engagement and increased resident involvement from the outset.
4. Strengthen the offer to estate tenants to a commitment of a single move, and to a better home! Where a first phase cannot be achieved without off-site decanting, a commitment to return should be included.
5. Update the GLA guidance with a commitment to dialogue with communities post-ballot, to ensure continuity and trust (especially for large multi-phased regenerations) while development personnel change and design proposals evolve and become more defined.

Place

These recommendations are driven by the perception of the panel that urgent and emerging regulatory agendas supporting building safety, climate change and design quality are not currently joined up. The result is often a string of unintended consequences that have the potential to stall housing delivery, but more importantly, negatively impact the quality of our residential environment. The motivation of the panel is not to generate more regulation, but rather consolidate and prioritise existing components. Regulation should focus on the principles and performance to be achieved leaving flexibility for variety and innovation in housing solutions.

6. Clarity on when new guidance or policy is to be published and deployed on projects at different stages of design and delivery. This is essential to build industry confidence and reduce disruption to communities (especially multi-phase housing programmes).
7. Leverage the GLA’s ability to deliver guidance that is aligned with the NPPF, reducing the need for Local Authorities to develop and monitor additional guidance, where possible.
8. Evolve guidance to a set of performance requirements, with a focus on outcomes that are data driven, rather than overly prescriptive and which limit site specific innovation. The panel acknowledge the LPG framework but are concerned that, for example, the Housing Standards SPG requirements and diagrams preclude typologies that would be essential to provide the homes needed for the diversity of London’s sites and communities.
9. Support Local Authorities in developing both skills and capacity to help officers interpret, monitor and successfully implement increasingly complex regulatory guidance. This could take the form of initiatives to promote public-private knowledge sharing and upskilling of planning officers in design matters, leveraging the capital’s concentration of world class experts in the built environment, as well as increasing capacity within local authorities through building on initiatives that the GLA has supported/delivered in the past, such as Public Practice and the Homebuilding Capacity Fund.
10. Enable open-source POE tools to improve health and wellbeing outcomes by monitoring performance in-use and using real data to inform design guidance.
11. Aligning increased regulatory standards with additional grant support for affordable homes; including where existing affordable housing stock is upgraded.

Planet

The Planet working group have been exploring recommendations to help remove the barriers to achieving net zero carbon homes. The group combined forces with the NLA Net Zero panel to inform and align recommendations and have focused on retro-fit and upgrading existing housing stock. This is where the panel believe support and guidance is most needed and will potentially

have the greatest impact. (Currently there are circa 3.6 million homes in London of which 1.25 million are leasehold).

Key barriers to achieving net zero homes:

Behavioural – A lack of knowledge and an inability to assess the performance and suitability of existing buildings for upgrade, discourages clients and individual homeowners from upgrading their homes towards net zero.

Economic – There is insufficient targeted funding available for net zero upgrade projects. Those that exist for individual homeowners are poorly advertised. Without harmonising VAT on retrofit with that on new build alternatives, the viability of upgrading is overly prejudiced.

Planning – Whilst the GLA has integrated Whole Life-Cycle Carbon and Circular Economy policies into the London Plan, there remains a lack of clarity in how upgrading existing homes are supported in planning policy—this is further challenging in conservation and heritage settings.

Capacity & Skills – The shortage of skills and knowledge throughout the whole supply chain means funding, designing, constructing and monitoring homes to achieve net zero is restricted. The panel see that AI could be well placed to address this skills gap.

Regulatory – Competing agendas are causing confusion. For example, the conflict of prohibiting the safe use of timber for residential buildings is delaying the drive to net zero at scale.

12. Support individual homeowners to achieve net zero

- Public messaging. Clear messaging to improve knowledge of options available for retro-fit and access to grants.
- EPC B rating. Guidance on how to achieve, and route map to uplift further to net zero.
- Easy wins to more complex interventions—clear guidance on cost versus impact.
- Exemplar projects—robust, detailed case studies in the UK and abroad needed, including lessons learned.
- Implementation of a GLA dedicated fund to invest and move technologically forward to create a catalyst effect reinvigorated version Retro-fit Accelerator). Reference: [Energiesprong UK](#)—a standard and funding approach for whole house refurbishment and new build financed by energy and maintenance savings.

13. Unlock retro-fit funding for housing at scale

- GLA Funding – adjust grant rates to offer incentives for higher energy performance. Consider ring fencing funding specifically to achieve net zero.
- Cost benchmark – establish benchmark cost for retrofitting to a net zero standard.
- Carbon off set funds – provide transparency on payments received and how monies are spent.
- Provide a framework for how this is to be spent in the future and how it could be used for cross benefit.
- Lobby government to remove VAT on retro-fit.
- Publish wider health and well-being benefits and socio-economic impact of net zero environments. Reference: Clarion Housing - Retro-fit demonstrator project for the Social Housing Decarbonisation Fund (SHDF).

14. Establish planning framework for retro-fit homes

- Expand planning guidance (recognising what is/ is not achievable) to promote retro-fitting homes
- Include clear guidance and support for homeowners with heritage buildings.

15. Apply UK Net Zero Carbon Buildings Standard to new and existing homes

- The UK Net Zero Carbon Buildings Standard will provide the GLA with a much needed universal standard to define net zero, and will provide a robust methodology to local authorities, developers and the public in delivering net zero homes.

Case Study 1, People: Barnsbury Estate, Islington



Client: Newlon Housing Trust

Location: London Borough Islington

Key data: 1,225 homes 2018-current

Sustainability credentials: Passivhaus Net Zero

Project Summary

PTE's masterplan for the Barnsbury Estate in Kings Cross includes for 275 homes to be fully refurbished and 351 post-war homes redeveloped for existing residents, with a further 550-600 new homes provided across the estate. The masterplan also provides commercial space, a community centre and new landscaped spaces including play, outdoor gym equipment and growing areas.

The project will achieve 50 per cent affordable housing with a mix of home types and sizes to suit the needs of residents. The masterplan layout is the result of a comprehensive consultation programme with existing residents of the estate. PTE's design was approved by residents in March 2021, in a ballot that returned a 73 per cent yes vote.

Lessons Learned

Allow for flexibility in the engagement strategy—to speed up or slow down based on resident feedback, to change presentation techniques or focus on areas of interest.

Align planning and engagement programmes so feedback can be shared in both directions. Many residents were difficult to engage until their individual offers were available.

Maintain engagement post-planning.

Break into smaller groups to allow quieter people to be heard.

Have material translated into multiple languages. Whatever font size you think of using, increase it! There's always someone who will struggle to read it.

Allow plenty of time to prepare for resident workshops. Getting the material and wording right takes time.

Is this case study scalable, How does it demonstrate value, and how can this be measured over time

In terms of the retro-fit element, London has a vast stock of mansion blocks from 1930's slum clearance, remaining today an important component of affordable homes and a valued part of the capital's heritage.

The successful upgrade of these buildings, at scale, is key to London's sustainable future housing.

The Barnsbury project is currently testing the upgrade of a single block balancing the existing challenges of small home areas, narrow gallery access, maintaining the decorative brick finishes, avoiding (or minimising) resident decant.

The prototype block will be measured for performance and the design work reviewed ahead of refurbishing the remaining buildings.

Case Study 2, Place: Urban Design Learning



Location: London-wide

Project Summary

Achieving well-designed buildings and places across an area the size of London, requires the right design infrastructure to support the skills needed for plan-making and decision-making that achieves high quality development in each local authority. Part of this infrastructure must be the support to build knowledge and confidence about what good design looks like, how it is achieved and what tools and processes can be used to help achieve it.

For 20 years, Urban Design London (UDL), now called Urban Design Learning, a not-for-profit organisation, has supported local authorities and practitioners across the capital by providing training, networking opportunities and learning materials on a huge range of policy and practice issues effecting the built environment. Primarily funded through TfL and an annual subscription programme, UDL is the hub for information on local design review panels as well as running its own panel to review TfL streets and public space projects and hosting site visits to see examples of good practice. It has built an online library of learning material and written good practice guidance.

Before the 2021 London Plan was formulated UDL held a range of workshops on what the London Plan should say on design. This led to a clear steer to remove the density matrix and instead use a design-led approach to site capacity. The GLA picked this up and changed the London Plan approach. UDL then held a number of training sessions and surgeries to help boroughs understand how to apply the new approach.

To support the application of London Plan policies, the GLA has developed a suite of guidance documents that relate to the design coding process for London boroughs. UDL ran bespoke workshops to help the boroughs understand how to apply these.

Working with the GLA and TfL environment teams, UDL has developed and delivered comprehensive training programmes on these issues that include workshops, site visits and surgeries.

One of the 10 key insights from the GLA's biennial survey of placeshaping capacity in local authorities published in March 2023, highlighted that "There is huge demand for knowledge sharing and upskilling existing teams [and that] Authorities value GLA resources that upskill or assist in knowledge sharing, notably Urban Design London, Good Growth by Design and Transport for London guidance."

Over 2022–23, UDL ran 78 events as part of their London Programme, covering a variety of training topics and networking opportunities across 13 series. 270 people attended eight site visits throughout the year. On average, there were 165 event bookings per borough over the year, an increase of just over 5 per cent on the previous year.

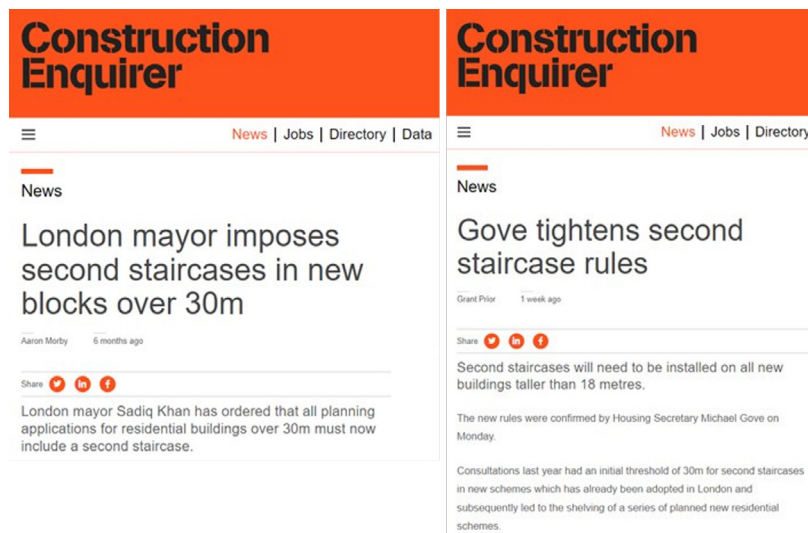
Lessons learned

Supporting organisations that can help cross-sector and cross-disciplinary learning is an important low-cost resource to help build knowledge and skills.

Is this case study scalable, How does it demonstrate value, and how can this be measured over time?

The opportunity of extending this programme nationally will require the close working of a network of similar design-led organisations to ensure quality of the programme is maintained and improved to meet local and regional needs.

Case Study 4, Place: Transparency, Clarity and Alignment in relation to new guidance and regulatory changes



Location: London-wide

Case Study Summary

This recommendation seeks to build trust and clarity by proposing that GLA guidance is aligned with regulatory changes at Government level and that all guidance is consulted, published and implemented in coordinated and reasonable manner. This will help mitigate the scale of unintended consequences we are seeing in relation to the way that guidance around the requirement for a second stair has been publicised and implemented, which reportedly has stalled more than 20,000 yet-to-be-built homes in the capital* largely due to the lack of clarity in the guidance itself and the absence of a reasonable transition period.

In December of 2022, DLUCH published a consultation on the threshold for the introduction of a second stair in high risk buildings. In February of 2023, the GLA announced a requirement for second stairs in buildings over 30m to be incorporated to all schemes in Planning before those schemes being allowed to proceed. Six months later, DLUHC has announced that the new threshold for second stairs will be 18m once the new Part B guidance is updated and that there will be reasonable transition periods following the publication of this new guidance. Details of the proposed date for the publication of this new guidance and associated transition periods remain unknown, causing more projects to go on hold, delayed and potentially no longer viable.

*<https://www.architectsjournal.co.uk/news/over-20000-unbuilt-london-homes-caught-in-second-stair-havoc>

Lessons learned

The sudden introduction of high impact guidance such as the requirement for a second stair has led to significant unintended consequences which could have been avoided through alignment between GLA and DLUHC guidance, absolute clarity around the performance requirement and more transparency around transition periods and upcoming changes.

The lack of joined up thinking in terms of what the safety threshold should be (ie. 18m vs. 30m) has resulted in what could be read as a subjective interpretation of a technical consideration, ie. technically, only one of the two thresholds would achieve the performance requirement, the other is either a redundancy or a deficiency. The introduction of two thresholds has resulted in a two-tiered approach between GLA and DLUHC guidance, with the upcoming DLUHC guidance being the more onerous one. This will likely generate confusion for future residents, home owners and insurance providers of homes without a second stair in new buildings between the 18m and 30m threshold.

This recommendation asks for all GLA guidance, specially where the impact is of this magnitude, to be joined up with Government regulation, to be technically validated and aligned in terms of performance outcomes, and to adopt reasonable transition periods to allow the industry and supply chain to be ready for these changes.

More recently DLUHC's has suggested there will be a proposed transition period for the

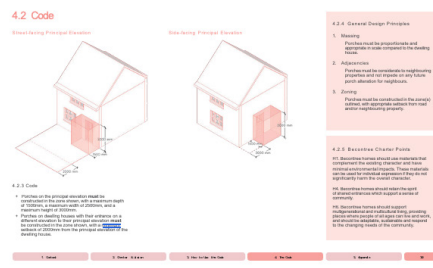
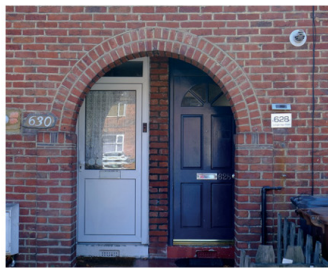
introduction of the second stair threshold once guidance is updated, however the date of publication for this update and the length of transition periods remain unknown.

Is this case study scalable, How does it demonstrate value, and how can this be measured over time

Only through transparency, clarity and reasonable transition periods can new designs appropriately respond to new guidance. These three elements will be vital in helping the industry and the Planning system focus its resources in resolving the challenges ahead without compromising the quality and quantity of homes being delivered.

By way of comparison, the recent 18-month transition for parts L and O has proven to be a challenge for the industry, supply chain and assessors to be ready to implement the changes. New GLA guidance with major viability impact should at least allow for the same transition period as other important regulatory changes being implemented by DLUHC, and should be proportionate to the scale of change, upskilling and supply chain preparation required.

Case Study 5, Planet: Becontree Design Code, Becontree Estate



Client: London Borough of Barking & Dagenham

Location: Becontree Estate, London Borough of Barking & Dagenham

Key data: 29,000 homes ongoing application



Project Summary

The design code supports the London Borough of Barking & Dagenham's (LBBD) commitment to improving the sustainability and attractiveness of the Becontree Estate. The Becontree Estate Design Code is written to assist residents adapting their homes. It seeks to enhance the special character of the Becontree Estate and champion sustainable retrofit, while also preventing works that may harm the special historic character and appearance of the estate.

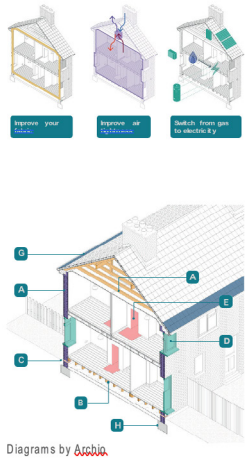
Lessons learned

- Incentivise retrofit, remove barriers to planning for residents
- Resident engagement is key at an early stage and throughout the production of the code
- Essential to have planning input to determine the scope and scale of the code
- Clarity of language and terms is important

Is this case study scalable, How does it demonstrate value, and how can this be measured over time

The study is applicable to many garden estates built during the interwar period. The elements covered in the code included the most popular planning application subjects, and value will be determined with an improvement in the quality of the planning applications, a reduction in refusal rates, and enhancement of the Becontree Estate.

Case Study 5, Planet: Becontree Design Guide, Becontree Estate



Client: Be First

Location: Becontree Estate, London Borough of Barking & Dagenham

Key data: 29,000 homes ongoing application

Project Summary

The retrofit guide is for Becontree Estate homeowners and landlords who are interested in retrofitting their homes. The Becontree Estate is the largest council housing estate in the UK. The 29,000 homes were built in the 1920s and 1930s on the fundamental principle of creating an environment for people to live a better life. The guide provides a range of proven solutions for reducing energy consumption and embodied carbon which could be applied to thousands of homes on the estate, and suggests community led approaches so that costs can be brought down.

Key aims

→ Analyse housing types, incentivise retrofit, encourage community led low energy elements

Lessons learned

- Input and co-design from residents is key to developing proven and proposed solutions
- Cost benefit analysis important for prioritising retrofit

Is this case study scalable, How does it demonstrate value, and how can this be measured over time

The extraordinary scale and repetition of house types on the Becontree Estate provides a unique opportunity for implementing mass retrofit. The estate has some of the highest fuel poverty rates in the borough and reducing these will be a key metric of success. The implementation of resident led retrofit schemes, alongside local authority schemes, and the transition to sustainable energy generation is a priority for the guide.

Housing Expert Panel

Delivering the quality and quantity of housing Londoners need remains perhaps the biggest challenge for London. This Panel focuses on developing thought-leadership around the challenges and opportunities facing delivering both affordable and sustainable housing for Londoners and interrogates these issues through the lens of people, place and planet.

Chair: *Carl Vann, Pollard Thomas Edwards*

Jo McCafferty, Levitt Bernstein

Sarah Allan, DLUCH

Rachel Bagenal, Hackney Council

Jennifer Daothong, LB Lewisham

Rachel Ferguson, Pocket Living

James Green, City of Westminster

Alice Hawkins, Turley

John Lewis, Peabody

Miranda MacLaren, Morris+Company

Oliver Maury, Montagu Evans

Darren Parker, L&Q

Isabel Pietri, Lendlease

Sarah Beth Riley, Be First

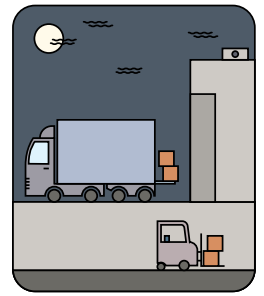
Amandeep Singh Kalra, Be First

Prisca Thielmann, Maccleanor Lavington

Kathryn Tombling, BDP

Sarah Wardle, BECG

NLA Expert Panel Whitepaper: Industrial & Logistics



Introduction

The expert panel has had a potent, illuminating and productive couple of years with a comprehensive collective of experts covering key aspects of this highly active and increasingly innovative production industry. Through the contributions of each member key topic interventions were immediately enlightening and quickly drew out significant and impactful areas to discuss.

This paper covers a summary of the panel's topics, focus groups and propositions, whilst also separately integrating these with the NLA's New London Agenda items for extraction and integration with wider documents

Range of Topics Explored

The panel has raised, debated, experienced and to some extents analysed a complementary and highly relevant range of industrial, logistics and mixed use issues. These include Intensification, Co-Location, Networks, Environment.

One of these was the fundamental circular tension between the industrial sector's urban design needs for space and access, driven by the increasing demands in volume and at speed of delivered goods and services to London's businesses and people. We want more but need to appreciate the logistical and sustainable ways of achieving this in balance with London's multiple other city organisms.

We further explored the perceptions of what industrial really looks and feels like from B8 and B2 to E Class, which is crucial to its relationship with planning policies, and uniquely the 10 years in 10 months expansion of its already growing volumes during the COVID19 pandemic.

We reviewed international examples, including Japan which is seen as being 20 years ahead of the UK in its intensification of industrial buildings.

We positively acknowledged that industrial buildings now must match office type workplaces in terms of the health and wellbeing of its occupants and visitors, enhancing their envelope, internal and external public realm design elements. Combined with a need to better integrate with local communities of living, learning and playing activities, these buildings can reveal parts of their internal functions. These activities can be low to high technology spectacles with partially open but secure and protective facade designs, creating real connections between the people inside and outside.

Focus Groups + Initiatives

Over the course of further panel gatherings, through presentations and debates, we focused on areas that will define the headlines for informing and hopefully steering the local and citywide governance of London. These were covered by smaller focus groups populated by the relevant experts across the panel.

Intensification:

London needs a no-compromise approach to logistics' land use strategies, whether independently sited or as co-location. We have the skills to address the challenges with

innovation and optimise opportunities for a people-friendly integration. We need to acknowledge some uses are best kept independent suggesting a curation of uses at a city scale.

All industrial volumes and their yards can or will need successful blending with local communities whether due to their proximity or the vehicular movement of goods and services. Multi-level is one solution, and both mixed-use and pure industrial options are being explored, with all parties trying to forecast which will prove to be the market's choice/s. The changing patterns of building use also suggest potential re-uses of redundant spaces in the city, retail and car parks being this year's focus.

A contentious topic was raised during the discussions that all parties should consider the use of some greenbelt zones. This was urgent during recent high demand low periods and needs market assessment for further review. Panelists highlighted that some greenbelt already has a brownfield characteristic, and these could be examined for a change of definition.

Co-Location:

It became clear that this crossed over the intensification focus and the groups eventually merged to share thinking and initiatives. Essentially co-location will require a no-compromise approach to ensure no use is left short of its market needs and potential. There are many examples of this being explored and developed, some are built, others in site are being closely watched for the best compositions. The market is leaning towards familiar relationships between the parts and this potential new asset class will find its best option in time. For now we should review and assess schemes in conception and planning stages to ensure they are viable and uncompromised. This can be governed but is probably better to screen and curate as suggested in other parts of this paper.

Networks:

The choreography of goods and services, namely London's infrastructure, transport and distribution systems are still relatively poor across London compared with that of people. People are the priority, and their safe and healthy flow is critical and mostly improving with each decade. Goods have strategies but they can grate against those people's flows, sometimes dangerously. We can look harder at the existing arteries and their potential timeshare opportunities in cities. The River Thames can tidally float a barge with 24 containers from East to West and back, which is 24 HGV's off the roads for one round trip, unused subterranean tunnels like the Royal Mail Well-Line could transmit goods, and e-mobility is already very positively disrupting the white van culture. We need to map out the primary arteries and their capacities and analyse the millions of independent business movements between sheds and customers in order to identify the gaps and new safe and efficient flows. We could gather their owners such as the GLA, PLA, TfL and Network Rail with the giants of logistics to take a look at the sometimes chaotic realities and together explore strategies to make the flow better for all parties, whilst inherently reducing the environmental impact.

Environment + Wellbeing:

Industrial volumes and surfaces offer great passive biodiversity and energy opportunities, as well as residual sharing of those benefits. They can act like biospheres with their natural spatial and structural agility to be a home to all current industrial uses but also to future changes of those uses. The 100-year building approach is inherent in their tech, but also for transformations to education, life sciences, entertainment, retail, greenhouses and even accommodation. This is a key remit for any new building as we face the climate crisis, and increasingly the sector is responding as investors and occupiers take on their ESG responsibilities.

Summary of Initiatives and Recommendations:

- Identify and acknowledge the actual types of industrial seeking a London presence and reflect that in any guidelines. B8 currently has a strong need, E Class is perceived as a sizeable need that should be monitored and reflective, then also enable future needs.
- Use expert screening for intensification and colocation curation. The NLA's Industrial, Logistics and Co-Location Expert Panel can illustrate the range and breadth of skills that would ideally oversee such screening. Masterplan guidelines could be established but there are many influences and evolving forces that can act on the process, so it would need to be a highly informed and swiftly reactive group. Coordinate this with the GLA's Land Supply Study.

- Ensure environmental and wellbeing opportunities are integral with design and build processes for all industrial, logistics and co-location schemes across London. Disrupt the current perceptions around the historically impactful operations and highlight the sophistication of current and emerging uses through visibility and interaction in blended locations.
- Develop strategies to enable the movement of goods and services as a coordinated London network. This would include analysis, forecasts, and strategic plans for the roads, railways, waterways, airspace and any new technological innovations where feasible. A large and complex topic with visionary and longstanding benefits for the future of the city's fluidity and living experience for its people and natural geography.
- Reference exemplars of industrial, intensification and co-location. Build on the NLA Expert Panel's emerging collection of schemes in the UK and international that successfully deliver intensified or collocated uses.

Part 2 – NLA New London Agenda Themes:

The panel's focus areas and propositions were also considered in the context of the New London Agenda areas of focus, specifically:

① *Plan for the long-term*

Thinking beyond short-term development and political cycles, focusing on those actions that deliver long-term gain for Londoners and their city.

Industrial and logistics and their occasional co-location is a vital part of the London organism that keeps essential work and supply lines efficient and durable. They need to be considered as 100-year spaces that can fulfil the current needs of industry but with an agility to change use in the future.

Portal frame, multi level chassis structures and blended use schemes can absolutely achieve these requirements with their strong floors, wide column spans, high volume spaces, enabling multi operations and inhabitation types. They are pure outer shelters open to the imagination and durable to the changing human and climatic advances, whether productive or adverse.

② *Think beyond boundaries*

Delivering greatest impact when we think beyond the 'red line' of development plots, of borough and administrative boundaries, and industry silos.

This clearly aligns with our focus on Networks, further covered in that section of this paper, but in summary the industrial plots across the city need supply and return flows from outside the city, access to neighbourhoods to deliver their services and goods, and ideally a connected relationship with other related industries. A whole Network that can use the roads, rails, waterways and air across the city. This needs cohesive visions and inter agency dialogue and cooperation for universal benefits.

This collective model was quickly illustrated when the Networks focus group gathered around a map of London and highlighted the current routes, well served areas with primary arteries, dense areas with labyrinthine systems, key supply and operational zones and potential new or enhanced arteries such as the Thames.

③ *Embrace diversity*

Embracing the diversity and richness of place, people, and planet—understanding that London's diversity is its greatest strength.

This sector and its potential richness of activities inside a shed of light and agility is inherently inclusive and open minded to almost any use and all possible inhabitants. It comes with an opportunity to embrace diversity of activity, culture and people. Connecting with the community through windows on Work and other outreach initiatives could be a part of the operational licences guiding tenants.

④ **Focus on health of people and planet**

Measuring our success through focusing our impact on the health of people and planet.

A huge and probably the most important focus for the expert panels and the NLA's agenda of proposition to London's governance. Again this is a direct alignment with the panel's Environment and Wellbeing focus group, with the benefits and opportunities offered by industrial integration in the city outlined in our focus group's summary above.

⑤ **Invest in innovation**

Driving change through investing in innovations and technologies that support our end goals.

The sector is and mostly has been driven by innovation to maximise efficiencies and services in a highly competitive market. Its engagement with the greater London area is highly driven to provide the needs mentioned in other sections of this paper, resulting in a range of exceptional new ideas, explorations and now built examples of new models, including multi level chassis structures with their inherent use agility, and hybrid blends of industrial with other uses, namely Co-Location. These include mixing with residential, life sciences, recreation, education and potential other activities.

These can be challenging but the key is to integrate them without compromise on any of the uses. More on this can be found in other NLA papers, the GLA's studies and several independent schemes and detailed design approaches.

⑥ **Prioritise partnership**

Working together in partnership, enabling us to unlock new solutions and approaches to shaping places for the future.

The panel is a fine example of partnership bringing together a comprehensive field of the active stakeholders in this sector and beyond. The energy, passion, rigorous and sometimes polemical debates within this group are backed up by their experience, expertise and fundamental drive to ensure all aspects of the I + L systems are enabled. This can be commercial, protective, sustainable, neighbourly, technological, durable and above all enhancing for the people of London, present and in the future.

The panel's analytical observations and recommendations seek an audience and welcome further engagement and debate with London's people and its governance, partnering being an essential experience for the sector's integration and mutual benefits to grow and mature.

Industrial & Logistics Expert Panel

Supporting the urban logistics that keep the capital functioning, the Panel examines the evolution of London's industrial and logistics sectors which support London as a world-leading centre.

Chair: *Tom Alexander, Aukett Swanke*

Adam Blacker, DMWR Architects

Hugo Braddick, Haworth Tompkins

Tessa English, JLL

Catriona Fraser, Turley

Caroline Harper, LB Barking & Dagenham

Steve Harrington, Regal London

Neil Impiazzi, SEGRO

Francis Moss, LB Ealing

Carita Ogden, Amazon Logistics

Bridget Outtrim, Savills

Emily Pearson, Gerald Eve

Tim Smith, DP World

Gwyn Stubbings, GLP

Victoria Towers, Forsters LLP

James Trimmer, Port of London Authority

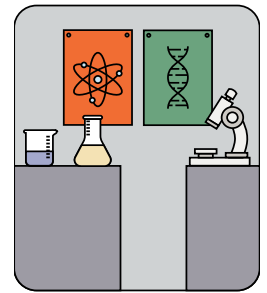
Tim Ward, Chetwoods

Robin Woodbridge, Prologis

Jörn Peters, Greater London Authority

NLA Expert Panel Whitepaper:

Innovation Districts



Introduction

The three key themes we took into the year were:

- ① Need for more innovation districts
- ② Need for more impact on innovation and upskilling
- ③ Need enhanced sustainability and help tackle the climate crisis

During the year we concluded that London needs some clear plans to galvanise activity around to recover from covid, navigate difficult economic times and support its institutions, businesses and people. Innovation districts have a key role to play in building on our research and education excellence, helping to drive business productivity, and helping support people in up-skilling, reskilling and indeed in forming/growing businesses. Helping to 'Level up' London.

Work should be focussed on districts where there is scientific research and R&D, but not exclusively. We want to support those places where there is material intent and co-ordination around building innovation and enterprise. In essence you don't need a leading university in a district given that they are here at city wide level—although stakeholders leading initiatives need to think about and build plans around how you anchor universities into innovation hubs.

For the innovation districts with strong research activity, we believe that London needs to market itself holistically and as a key node of the Golden triangle, whilst at the same time highlighting its various innovation district assets and how it is a city strong in innovation.

We feel the role of innovation districts to power London and support its people is going to be an important part of the New London Agenda.

Into the future we want sustainability on laboratory development to be improved, in terms of how it is benchmarked and attended to.

Delivering impactful innovation districts

In terms of how innovation districts need to be developed with inclusivity and performance in mind, we want to see:

- ① Public Realm – Character development and improvement in the way that people in the area feel welcome and a part of the community. Density and how a place works is more important than large open spaces
- ② Live / Active Frontages. Comes with enhanced density
- ③ Culture of innovation. This requires pro-active work to think about the topic, plan with ambition and ultimately deliver curation
- ④ Amenities and Supportive Uses. Potentially difficult in districts where there are multiple ownerships reference deliverability but setting objectives may help in realising success in delivering a 24/7 economy that works well and is safe. With community involvement, at times involving choreography
- ⑤ Affordable Workspace is important and initiatives at local level now need to be built upon, with best practice advanced in an ever more co-ordinated fashion
- ⑥ Residential Accommodation. We need to think about how people working for the innovation companies and perhaps not earning too much can afford to live here. Conversion of properties and shared occupation may have contributions to make.

- ⑦ Inclusivity. Big investment mustn't undermine local residents feeling of belonging. Local Authorities as well as large property owners potentially have a role to play. We need to evolve measures around equity and equality—green book economics. We need to plan for the longer term, for inclusion and social impact.
- ⑧ SMART cities need to plan in technology, and for uses to be integrated

Papers from the panel

We have produced papers on how to deliver inclusive innovation districts, how to capitalise on London's research districts and on sustainable laboratory development. We hope that some of the outputs of these will influence the next Mayor's agenda for London—building the city's innovation capacity and capability.

Capitalising on London's Research Intensive Innovation Districts: SC1 – London's Life Sciences Innovation District, White City & King's Cross/Euston Road and beyond

Introduction

The positive social and economic impact of 'Clustering' is a well-established economic model most clearly set out by Michael Porter.¹ Since the 1990s, when it emerged as a valued model for urban growth and regeneration, the understanding of the core components that support effective clusters has increased and provided the foundations for the theory of Innovation Districts (Katz & Wagner).² The extreme examples of success in the Bay Area of California (Silicon Valley) and in Cambridge Massachusetts have then gone on to set extraordinary benchmarks for what Innovation District's at scale can deliver. Further research and analysis has then considered London and the relative capacity for sub-locations within our City to evolve into genuine Innovation Districts (Hanna).³

Importantly, Cluster theory and Innovation District theory accept a wide range of models: from deeply Urban to the rural Science Park, and with a range of catalysts and actors across the public to private spectrum. London must therefore welcome the many established, emerging and planned initiatives seeking to apply broad Cluster and Innovation District principles to urban regeneration—indeed it is key to the spirit of Innovation led growth that many experiments must be tried to improve understanding and implementation.

However, it is also clear that a specific model of Innovation District demonstrates consistently strong performance: the University Plus approach within an Embedded urban grain. It is important that University Plus models genuinely include the anchor HEI at scale, and on a multi-disciplinary basis, to create a true research intensive anchor: the serendipity engine requires significant fuel. Metrics are never simple and rarely consistent, but an ideal scheme would certainly have at least 1000 active university researchers across at least 3 major sectors or disciplines. In practical reality, that is going to demand complex and flexible research facilities well in excess of 25,000 sqm. The capacity building required to build fully scaled universities with global research reputations is simply extraordinary, requiring decades (if not centuries) of investment in rare talent and bespoke operations—these Districts then have substantial 'knowledge based' infrastructure that support a research intensive approach. It is notable that these characteristics have demonstrated success already in the UK via the Oxford and Cambridge Clusters. However, as scale and density are essential for supporting the often exponential growth of successful ventures formed from the Districts, it is perhaps not surprising that Oxbridge, with combined populations less than some single London boroughs, are suffering growing pains that place an unfortunate restriction on innovative growth.

The supporting paper from this panel from Elie Gamburg of KPF provides further insight and detail into the urbanisation of the Innovation District—noting that Cities have become the natural foundational location because they likely already have established institutions, but more crucially also have the diversity of population and greater ability to support true inclusivity. It feels important that London's emerging Innovation Districts have diversity, inclusivity and sustainability as core tenets of their purpose, and whilst not every successful District will have to be anchored by a world class university, they will need a clear purpose.

The purpose of this paper is to champion the areas of London that already have the foundational infrastructure to deliver sustainable and inclusive growth via an Innovation District University Plus model, and to support that first generation to scale with success to match a global peer group.

How do we best promote the ‘Value Add’ proposition for London’s leading research intensive districts?

Within this University Plus Innovation District Framework the rarest ‘core foundation’ is research and specialised education that is both excellent and at scale. However, London has an extraordinary number of pre-established world class research intensive Universities: Imperial College London, King’s College London, and University College London all stand out as consistent members of the global top 50⁴—and the three universities not only have significant STEM activity base but are also structurally connected with the NHS via the Academic Health Science Centres.

Historically these institutions have experienced limited growth in their own local geography, often restricted in capacity as London has developed around them. However, the last decade has seen both a significant increase in the growth rate of the Universities, and internationalisation of their activity, and a willingness to extend their geographical sphere of influence to support the co-location that enable Innovation Districts to emerge. This has established 3 schemes that have converged towards a University Plus model and benefited from, or shifted towards, an ‘Embedded’ urban grain: The Knowledge Quarter in Kings Cross (A ‘radical mixed use’ development that has evolved towards a University Plus status); White City Innovation District in West London (A deliberate University Plus model that is evolving towards a more ‘Embedded’ urban grain) and SC1—London’s Life Sciences Innovation District in South Central London (Another deliberate University Plus model with strong focus on NHS nodes of activity and public/private partnerships to foster commercialization).

Often, these locations are deemed as having met the threshold of successful Innovation Districts. However, in reality they all continue to need significant ongoing activation and intervention to achieve the quality and scale of Physical, Network and Economic Assets necessary for them to compare with the global competition. It is therefore strongly advised that London actively and aggressively promotes these developments as the best in class innovation districts for the clustering of innovative growth.

London must also promote the next generation of locations that can follow their path, building on areas of research intensive excellence. At the same time help establish other legitimate Innovation District models with less reliance on a ‘knowledge intensive anchor. It is clear from the NLA Network there is a pipeline of potential urban regeneration schemes keen to utilise the power of Innovation District theory to support growth. Examples include Whitechapel (anchored by Queen Mary, University of London and the NHS), Sutton (anchored by Institute for Cancer Research and the NHS), Paddington (anchored by Imperial College and the NHS), Queen Elizabeth Park (anchored by UCL and Loughborough University), Canada Water and Brent Cross Town (anchored by Sheffield Hallam University). And for those building on education and upskilling, potentially involving a range of universities, we have Republic at East India Dock, for example, and Waltham Forest’s initiative at Walthamstow.

How geographically tight knit is the UK’s Golden Triangle?

It is worth expanding further on the national context. Firstly, Oxford and Cambridge are rightly identified as exceptional existing University Plus Districts with an Embedded urban realm. In the ‘Silicon Valley’ approach to cluster definitions they would be included within a single District, with London—taking the already peerless count of global top 50 research intensive Universities from 3 to 5. It is important therefore that London collaborates with Oxford and Cambridge to support their growth and the growth of the ventures that emerge from their ecosystems. Furthermore, London will need to demonstrate its continued role as the flywheel for the wider UK economy. If London succeeds in supporting at least 3 global scale Innovation Districts into maturity, the halo effect needs to expand with the transport infrastructure into the West, the Midlands and the North.

What we want from the Mayor’s office into the future

Planning support – permitting and enabling functional density.

Infrastructure support – ensuring established and emerging locations benefit from transport and social infrastructure investment: including places to live and play as well as work.

National and Global promotion – placing these locations at the centre of the City’s promotional activities and drawing on these communities to demonstrate the impact of Innovation as a counterbalance to the historic dominance of financial services.

This paper was written by **John Anderson, Investment Director, Imperial College London.**
Co-author, **Jonathan Burroughs, Partner, Creative Places.**

Advancing Inclusive Innovation: A Planning Primer

Introduction

Cities are generators of 'innovation' as measured through a variety of metrics including idea generation, company formation, and research citations, as has been extensively documented by researchers such as Saskia Sassen, Richard Florida, and Ricky Burdett. Cities bring people together to exchange ideas, leading to new ways of thinking that can be termed truly innovative. Ensuring that cities like London can continue to provide places to collaborate and create, even as space has become more expensive and constrained, is key to catalysing innovation.

The purpose of this essay is to establish the ways in which planning policy and urban design can enable the growth of truly diverse and inclusive 'Innovation Districts' that are engaged with their broader communities and contexts.

How do you catalyse innovation?

Before positing the ways in which 'Innovation Districts' can be catalysed, it is useful to step back and define what 'Innovation' is and then assess the ways in which these types of districts can foster it.

For the purposes of this study, by 'innovation' we mean the creation of new ideas in such disciplines as science, technology, art, media and business that are divergent from previous avenues of research and work, and which facilitate new ways of thinking within, or across, these disciplines. For example, the steady improvements on a CD player demonstrate an evolution, the creation of the smart phone is an innovation.

Innovation can occur in many ways, but a common ingredient is the presence of different types of people working together and applying divergent ways of thinking to a particular problem—developing ideas or solutions beyond the scope of an individual person or single discipline. The diverse inputs of those with different expertise, experiences and points of view creates new ideas.

If a key ingredient for innovation is the presence of a diverse population, then the role of a neighbourhood designed to create innovation is to provide places for different kinds of people to work, socialise and collaborate. Mathematicians with musicians, businesses and artists, biologists and bakers, etc. Diversity can be by profession, experience, education and outlook as well as age, culture, gender, and class. The more that people from very different walks of life find meaningful ways to interact, the more possibility there is of finding new perspectives and fostering new ways of thinking. Understanding this transforms inclusivity from a 'community benefit' to a critical ingredient of what makes innovation districts work: inclusivity is not a 'nice-to-have' but a necessity.

An institution can be an innovation district 'anchor,' bringing people together to study, teach, or research. It can provide workspaces, opportunities for collaboration, and curated events that set up chance encounters which may result in creative collaboration. Unsurprisingly, academia-anchored innovation districts are one of the most common types. However, the presence of an institution is itself not sufficient to ensure innovation will happen.

An institution may produce cutting-edge research and new cultural ideas, but without adjacent spaces where these ideas can grow into successful firms, without housing, and without spaces for people to get together off campus, a true innovation district cannot emerge. It is important that neighbourhoods build on an institution to provide the necessary conditions for innovation: ① workspaces where creative ventures can emerge and flourish (lab space, maker space, cheap office space, art studios, incubator spaces, and larger format commercial space where firms can scale up); ② social spaces (nightlife, cafes/restaurants, event spaces, parks, cultural and professional institutions); and ③ housing in close proximity, across a range of housing types and affordability.

Palo Alto (adjacent to Stanford University in California) and Kendall Square (adjacent to MIT, in Massachusetts) are examples of institution-led innovation districts, where the catalyst of an academic anchor with the growth medium of a neighbourhood provided affordability, community, research/workspace and lifestyle benefits. At one time these neighbourhoods provided cheap office/maker space, a diversity of small-town social spaces, and proximity to areas of cheap housing—before becoming victims of their own success as planning no longer kept up with need.

It is possible to create self-igniting innovation districts, without institutional anchors, if the right mix of firms, people and culture can be brought together. Seaport Square in Boston is a contemporary example of such a district.



Seaport Square Innovation District, Boston, designed by KPF for Boston Global Investors © Neoscape

In a sense, the evolution of neighbourhoods like Shoreditch and Clerkenwell through the 1970s, 80s and 90s is evidence of a similar arc, where the combination of cheap housing, affordable (and flexible) office and workshop space, and an active social and cultural scene attracted a diverse population, enabling creativity and new ventures.

Today, such neighbourhoods are scarce, and those that exist often become over-full (like Palo Alto)—and the need to catalyse innovation to solve pressing global problems and help foster broad-based and inclusive economic growth has never been more pressing.

Policy Recommendations

Planners can facilitate the emergence of innovation districts. Design and policy can positively influence areas that support institutional anchors (such as SC1 or White City) or are emerging on their own (Canary Wharf).

These districts can create ‘innovation ecosystems’ where diverse firms and organisations (across typology, area of focus and scale) co-exist and collaborate, supported by necessary amenities, energised by an active social scene and with appropriate housing provision.



One North Quay, Canary Wharf, designed by KPF for Canary Wharf and Kadans Science Partners ©Kiasm for KPF

Specific recommendations include:

① Social Space: Encourage Diversity

The goal is to create an environment where a wide range of people want to meet, socialize, and engage. This provides the incentive to return to a place, and to meaningfully engage with other people.

Public Realm Improvements

Create impromptu social spaces within neighbourhoods that are to be used for casual meetings and larger social events. A desirable public realm accommodates a broad range of people and

facilitates serendipitous encounters. Public realm improvements are key to engaging existing communities and integrating emerging innovation districts. Planning can incentivise public realm improvements through enhanced density in return for new public spaces but can also ensure these public spaces are activated through cultural, retail, and academic activity.

Live + Active Frontages

Incentivise active frontages at ground levels to energise public space and create social draws to the neighbourhood. These include retail, restaurants, bars and clubs as well as markets and other kinds of experiential and cultural retail such as galleries, studios, and bookstores. This liveliness makes a neighbourhood desirable and fun and safe for women and people of diverse cultural backgrounds. Cultural events, social gatherings, and fun nights out are the benefits of city living and critical to attracting and retaining the diverse talent required for innovation. Planning can encourage active ground floor uses, a diversity of use classes within the lower levels of buildings and allow appropriately curated retail/publicly active uses on ground levels to count towards affordable workspace.

② Workplace: Provide the Diversity of Space Types Required for Innovation



Vinegar Yard, London Bridge.
Designed by KPF for CIT
© Plomp

Accommodating Varied Building Typologies

The needs of life-science, technology, media and commercial businesses are varied. Policy should encourage the creation of long-life, loose-fit buildings that provide a range of spaces in terms of size, floor-to-floor height, and configuration. 'Shrink-wrapping' buildings to fit their initial use limits the ability for them to be adapted at a later date—making reuse impractical and prompting demolition and replacement, which impacts whole-life carbon. Many historic industrial buildings have the flexibility to be re-used and survive multiple lifecycles across different uses. Flexibility to accommodate specific needs, such as roof-top plant, special access and loading, are key to enabling a diverse ecosystem of supportive uses, encouraging innovation. A variety of building sizes, and flexibility within the buildings themselves, are key to enabling firms to scale-up. Planning policy can encourage this by avoiding downward pressure on typical floor-to-floor heights (acknowledging the benefits of more general heights towards long-term flexibility and environmental quality) and encouraging site agglomeration, where appropriate, to enable more integrally conceived of projects spanning multiple properties. It is also important to embrace meanwhile uses and acknowledge that needs and uses will evolve over time—and the ability for neighbourhoods to respond flexibly is key to their long-term health and resiliency.

Affordable Workspace

Affordable workspace at multiple scales is important to provide the opportunity to start ventures, scale them up and grow them out. This includes traditional affordable workspace, managed 'incubator' spaces that support new firms, and commercial co-location space where smaller firms can benefit from proximity and shared resources with larger firms or academic institutions. Affordable space also includes the ability to provide enough lab, office, and workshop space that even with commercial rents enable innovative companies to stay. This includes light

industrial space for research, making and fabrication in addition to more traditional commercial space. Organizations need space to take root, grow and stay in close connection. Planning can encourage this through enabling a graduated range of rents/affordability to qualify for affordable workplace policy and by speeding provision of supply.

③ *Amenity: Supporting Innovation and Ideas Exchange*

Build a multi-sector, but focused, set of organizations that are mutually catalysing and reinforcing while providing them with the critical amenities they need to survive and the support they need to thrive—amenities that are specific to commercial uses but also those that are helpful in the support of everyday life, such as childcare.

Sectorial Activity + Diversity

The ability to accommodate diversity across different sectors and facilitate interdisciplinary exchange is important to enabling innovation. New advances often come at the intersection of disciplines: hardware and software, technology and media, biology and engineering, business, and design. Districts work best when groups across a variety of stages and disciplines emerge and collaborate across areas of expertise. Geographic proximity of spaces of diverse types and scales (life-science next to office, large office next to smaller workspace, making near designing) is important, as is the creation of programmatic 'mixing chambers' that encourage different organizations to interact and collaborate. Planning can encourage this by encouraging a mix of use classes in close proximity as well as a diversity of building types and sizes.

Amenities + Supporting Uses

Amenities that support specific sectors and populations are important to catalysing innovation. For example, centralized lab support spaces such as lab supply, cGMP space, or vivariums would be difficult for any but the largest organizations to afford, but could be provided by institutions, developers, or governments for shared use across tenancies. Examples exist across other disciplines, such as shared maker-spaces for designers and artists. Sector-specific amenities also include space for business-led or cultural organizations that encourage people from across a sector to get together (such as hackathon events, life-science conferences, art festivals). Shared amenities include conferencing, co-working, or other kinds of professional or social amenity spaces that support organizations while also encouraging interaction across disciplines. These are most successful when they are accessible to local communities, broadening their reach, impact, and sense of excitement. Planning can encourage individual developers, groups of aligned development teams or even governance organization like SC1 to provide these needed amenities. Lifestyle amenities like childcare, playgrounds, gyms, and social clubs are also key to enhancing the desirability of neighbourhoods, especially at a time when staying home is always an option.

④ *People: Encouraging Diversity and Engagement*

Accommodating and engaging with a diverse community is critical to the long-term success of innovation districts. Innovation districts cannot succeed if the people critical to their success cannot afford to live nearby or if they feel that these neighbourhoods are not accessible or relevant to them.

Providing Varied Accommodation for Diverse Populations

People create innovation, so it is important that innovation districts enable them to live and thrive in close proximity to one another. Since diversity drives innovation, it is also key to accommodate a broad mix of people. This goes beyond traditional 'affordable housing' to include accommodation for people across all life stages, from students and young professionals, to growing families and business leaders. Encouraging housing diversity and cross-subsidizing housing costs to reduce reliance on councils or on high-cost housing to subsidize lower-cost affordable housing is important to ensuring a wide range of people can be accommodated. Planning can support housing policy to encourage a maximalist approach to housing as a critical ingredient to feeding innovation. In considering housing, it is important to make sure that residences and their associated amenities are as publicly integrated into the community as any other program so that gardens, playgrounds, community rooms, etc are as much for the benefit of the broader public as for specific residents.

Consultation and Engagement

Innovation districts can only succeed in attracting the people critical to their success if they appear open, inviting, inclusive and relevant to their current and future communities. Early engagement with local communities is critical and works best when done in advance of specific planning actions. Creating consensus is required to support large interventions that will catalyse innovation. Engagement is most effective when it is ongoing. Innovation districts are not static assemblages, but living communities with constituencies whose identities and needs evolve. Creating spaces and providing soft programming to enable engagement are both important. Good university anchors do this through student and faculty engagement, but even they must engage 'beyond their walls' for greatest impact. A critical part of this includes elements that 'put the science' and other such programs on display—building up support within communities and inspiring the next generation.

Conclusion

Planning policy truly can help catalyse innovation districts by creating neighbourhoods that enable a wide variety of people to work, collaborate and live together. They can be made more effective through the creation of specific spaces that are critical to their success and the provision of amenity and support for the organisations they house. Ultimately, it is the ability of cities to bring together diverse populations which is the greatest strength of urban locations for innovation.

Further Reading

<https://www.ukinnovationdistricts.co.uk/news-items/opening-the-innovation-economy-the-case-for-inclusive-innovation-in-the-uk>



*Downtown West, San Jose,
KPF are district architects
for Google © Google*

NLA Innovation Districts Panel: Science Buildings & Sustainability

Introduction

Over the last decade as the science and research sector has continued to expand its prominence in the UK market, our industry has grappled with how to approach design with respect to the imperative of ESG. Indeed, this very challenge propelled our Expert Panel to focus on Inclusive Design in October 22.

Whilst some in the industry will be expecting a binary set of carbon targets as exists for other sectors, it is our view that this approach would not be appropriate for a discipline which is defined by the breadth and constantly evolving nature of science.

This paper aims to highlight the need for greater understanding and guidance regarding this imperative. Our aim is ultimately to provide a high-level framework of how to approach this complex subject by challenging industry norms, examining alternative approaches and proposing ideas around creation of a sustainable future of urban science for the UK.

How can we balance future resilience with upfront Carbon?

Like any project, a building for research or R&D needs a design brief, and it is here where the challenge often begins. Traditionally life science buildings were defined by a research or academic institution, or an established private company ("big Pharma" for example) with a well-defined and detailed brief. However, as the UK's Innovation Districts continue to evolve, places and buildings will be used by multiple tenants, within varying science sub-disciplines and across different scales, such that brief definition is complex and needs experienced designers to help shape.

This is further compounded by the concept of future resilience which historically has been an accepted imperative for research & development projects and would set the tone for the arguably conservative specification we still see today. The issue is one of the unknown. Who can predict the future of science and thus the likely needs of a laboratory over a 60-year life span or more.

Historically, the solution to this question was of course to increase specification to a level that provided a worst-case blanket response, capable of accommodating these unknown changes. However, this was never defined with the rigor that would be expected of engineers and designers, and instead an "industry standard" evolved, which is arguably overly conservative for most functions in a given life science development. Designing buildings to last is indeed imperative, but this resilience must be balanced with also limiting upfront carbon.

One opportunity here is to adopt a design hierarchy whereby a resilient "back bone" is constructed on day one, which can be added to in the years to come as may be required. This strategy limits the up-front carbon to that only necessary to enable future change, whilst providing a future proofed chassis. This can then be linked to a System Build approach, whereby a primary chassis becomes a prefabricated and repeated system—possible only with the collaboration of supply chain early in the process and thus a change in mindset in real estate procurement.

Our relationship with end users is also key here, as we rely too much on passive anecdotal evidence or specific end user needs at the time, as opposed to data from test-fit models or working floors. This will enable designers to understand the actual requirements of the market and fundamentally improve the carbon attributes of design.

There is evidence that clients and designers alike are beginning to focus on performance-based approaches, which use data to construct statistical scenarios which can inform a specification and brief. But although there are pockets of collectives pushing this agenda, our industry is not collecting nearly enough data to achieve a mature machine learning capability. Perhaps initiatives could be defined to push this agenda?

Can adaptive re-use of existing buildings play a part in Innovation Districts?

When looking through the lens of sustainable development, working with existing buildings if at all possible is, of course, a crucial first step, and the many voices of the 'retro-first' campaign remind us that demolition should be a last resort. However, this is a complex debate with the 'fit for purpose' argument defining a counter position.

In terms of Innovation Districts, this is particularly crucial, given the complexity of specification and need for resilience as explained above. The different disciplines of science often require

a geometry, structural frame, service distribution or logistical requirement that results in reinvention opportunities being dismissed, in lieu of a new resilient building as described above. However, as specification requirements reduce there is no reason why existing buildings with the 'right bones' can not be re-purposed into life science developments, and there are certain developers proving this to be the case.

Another important aspect that we are witnessing is that the clustering of buildings in evolving Innovation Districts is presenting a further opportunity. Within a defined campus, different buildings can provide varying functions thus creating the required resilience and breadth of specification in an eco-system as opposed to stand alone buildings. Thus, a balance can be sought between reinvention and new by careful planning and sharing within a cluster.

Detailed studies on complex refurbishment projects are beginning to shed light on the significant amount of carbon often needed to strengthen historic frames as well as the magnitude of temporary works. Whilst complex cut and carve developments attempt to predict carbon rates, it is often not until frames are stripped back to expose the nature and condition of the historic structure that the degree of engineering invention is realised. It is again here, where data collection across the industry is crucial to continue this learning, informing more data-driven decisions.

Ultimately the option of reclassifying an existing building as a laboratory and appropriately up-specifying the fabric should be evaluated. This can be done through a simple classification process where key variables are scored against a range of specification targets. Depending on the type of science, some variables may be binary whilst others will inevitably be more difficult to conclude, and varying degrees of compromise will be necessary.

Can stakeholders in Innovation Districts look more constructively at district wide heating and cooling?

There is opportunity across an area of real estate that extends beyond just one building to look at how energy may best be utilised. The Amsterdam Institute for Advanced Metropolitan Solutions has been working on projects to look at how users in an area may be able to make choices about energy exchange or storage based on economic motivation, sustainability or to support the energy grid. Energy generated in such places might be stored locally. Technology can be used to create 'digital twin' representation of what is happening and can explore better ways of managing energy. District energy platforms may well become more common place but are a challenge to create. Where better to start to build such opportunities than innovation districts?

What we want from the Mayor's office into the future

Support and understanding of the complexities of Sustainable design in the Life Science sector, helping with the adoption of new standards for sustainability on laboratories. London needs design direction in its framework for construction under the Climate Emergency Banner. It has had LETI references in 2018 but this doesn't cover laboratories and new standards evolving through the RICS and RIBA should enable a step change—both referencing embodied carbon and carbon in use.

Therefore, the Mayor's office should:

- Confirm it will adopt industry EUI for specific lab building classes when available from industry bodies
- Seek a requirement for on-site energy storage for all high intensity scientific environments to create a distributed resilient storage capacity within the capital
- Seek a requirement for planning narrative on flexible and non-flexible building zones to demonstrate future adaptability
- Commission an update to the 2014 Sustainable Design and Construction SPG to allow specific research and recommendations in regard to Science and Technology building (currently this document does not mention science buildings)

If the Mayor's office wants further guidance on this, once the new standards are published, the NLA has professionals on this panel able to contribute to interpretation and comment.

This paper was written in May 2023 by **Rob Partridge, Design Director, AKT II, Jonathan Burroughs, Partner, Creative Places**

About the Innovation Districts Expert Panel

London and the Golden Triangle contains the strongest biosciences cluster in Europe studying genomics, digital health, artificial intelligence in healthcare, and neuroscience; the greatest concentration of top universities in the world; as well as clusters of global tech companies. This panel will develop findings from NLA's recent Knowledge Networks report, to focus on the design and delivery of spaces for the science, tech and innovation sectors to support the burgeoning knowledge economy, and the clustering of businesses across the region to foster innovation.

Chair: *Jonathan Burroughs, Creative Places*

John Anderson, Imperial College London

Peter Baird, Perkins&Will

David Burns, LB Camden

Alla Elmahadi, Buckley Gray Yeoman

Matt Flood, Related Argent

Emma Frost, LLDC

Elie Gamburg, Kohn Peterson Fox Associates

Kat Hanna, Avison Young

Faaiza Lalji, Precis Advisory

Jonathan Martin, LB Waltham Forest

James Morgan, Heyne Tillett Steel

Maja Nesdale, IBI Group

Rob Partridge, AKT II

David Reay, Stanhope

Georgina Rizik, SC1

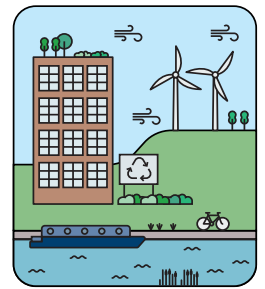
Emily Slupek, Bidwells

Rupert Corbett, Buro Four

Endnotes

- 1 <https://hbr.org/1998/11/clusters-and-the-new-economics-of-competition>
- 2 <https://www.brookings.edu/essay/rise-of-innovation-districts/>
- 3 <https://www.centreforlondon.org/publication/innovation-districts/>
- 4 <https://www.timeshighereducation.com/world-university-rankings/2023/world-ranking>

NLA Expert Panel Whitepaper: Net Zero



Introduction

The GLA has integrated Whole Life-Cycle Carbon and Circular Economy policies into the London Plan with associated guidance, recognised to be unique in the UK. This is an innovative approach to mitigate climate change holistically through emissions reduction within the construction sector, through the planning system. Currently, the guidance recommends that applicants prioritise retention and retrofit over new build in order to reduce carbon emissions and waste. Schemes that are referable to the GLA are required to undertake and submit a Whole Life Carbon Assessment (WLCA) from concept to post-completion.

While the policies have had a positive impact in the consideration of retrofit-first principles, the power of WLCA as a design decision making tool and the implementation of Circular Economy principles it is considered there is further development of the Guidance and interrogation of submissions that is possible without altering the over-arching policies. The NLA net zero expert panel proposals aim to provide greater assistance to local authorities and applicants in addressing current policy objectives more consistently at the pre-application and early design stages to achieve lower carbon outcomes.

Mission Statement

We propose a London-wide Carbon Review Panel (CRP) to create the capacity for third party verification and greater interrogation of WLCA submissions. Alongside this, to support the current WLC and CE guidance in prioritising retrofit approaches, we propose a London-wide Demolition Impact Assessment (DIA) requirement added to the Whole Life-Cycle Carbon Assessment Guidance methodology.

Our proposals aim to achieve:

- Consistent and transparent strategic analysis of proposals and improvement in pre-application engagement with planning authorities
- Enable particular focus when existing buildings are involved, prior to a decision being made regarding retention, refurbishment or demolition and new build
- The opportunity for applicants and local authorities to draw on specialist advice and apply for third party review of WLCA and CE submissions
- Upskilling and training opportunities for Local Authorities across London with fewer in-house resources in this field
- Promotion of low carbon and low waste approaches through incentivising successful retrofit and lower WLC emission outcomes for projects

Greater consistency, focus and verification of WLCAs could generate the potential to quantify embodied carbon and whole life carbon emissions such that they could be linked to financial payments, as is currently done for operational carbon emissions. These proposals would strengthen the message to the industry about the urgency of climate change mitigation and the pathway to net zero carbon development.

Carbon Review Panel

Under policy SI2 and SI7 of the London Plan 2021 projects seeking planning approval within the Greater London area and of a scale to be referable to the GLA must submit a Whole Life Carbon Assessment (WLCA) and a Circular Economy (CE) Statement. To provide greater interrogation of

the submissions at pre-application stage, encourage more consistent optioneering and increase the capacity for third party verification of analysis, the NLA Net Zero Expert Panel propose a London-wide Carbon Review Panel (CRP). This needs no update to Policy or Guidance to implement.

The remit may evolve over time, reflecting changes in policy and increasing skills and expertise in the area within planning bodies, clients and design teams. Initially, it would:

- Focus on the implementation of WLCA and CE principles and support a high quality of response in line with the Policy and Guidance
- Encourage optioneering exercises and their interrogation at pre-application and early design stages prior to full submission
- Serve to fill the expertise gaps within Local Authorities and provide independent, transparent third party verification of submissions

The intention is not for the CRP to review every project. Local Authorities could refer projects at pre-application stage if they feel they need support interrogating the options proposed, together with assumptions and calculations. This process would be funded by the applicant. The CRP would either conclude the analysis and conclusions were robust or provide queries that would need a response prior to subsequent pre-application meetings with the relevant Local Authorities. The panel could complete its role there or be requested to carry out further reviews, including again at submission stage to review information and potentially advise officers for their deliberations.



Potential governance models

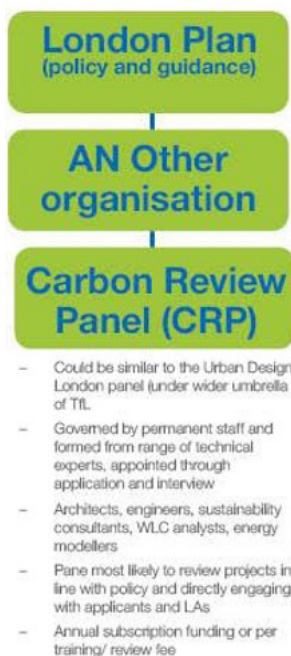
A Carbon Review Panel (CRP) is introduced as a sister, supporting or technical panel to the London Review Panel, within the GLA. The benefit of this arrangement is the relationship with the GLA in providing a role safeguarding the Policy and Guidance. It is recognised that the GLA or Good Growth team would need sufficient resources to fulfil this arrangement.



Alternatively, greater expertise in Carbon emissions and sustainability could be recruited into a larger cohort of Mayor's Design Advocates and the existing panel simply expanded to make administration simpler.



A further option is for the Carbon Review Panel (CRP) to be introduced as a design panel governed by another body or as an independent body. Governance of this panel would need to be carefully managed to ensure it remained in line with Policy and Guidance remits.



The panel itself should be paid and comprised of a pool of multiple people who serve for a fixed term and are appointed through a transparent application and interview process, with no conflict of interest. All disciplines should be represented including Architects, Structural Engineers, Civil engineers, MEP engineers, LCA professionals, Planners and Sustainability Consultants.

The CRP role may evolve or increase as policy evolve. For example:

- The London Plan and Guidance may evolve to request more projects undertake WLCA
- The current GLA embodied carbon benchmarks might be lowered or established as limits aligned with the UK Net Zero Building Standard

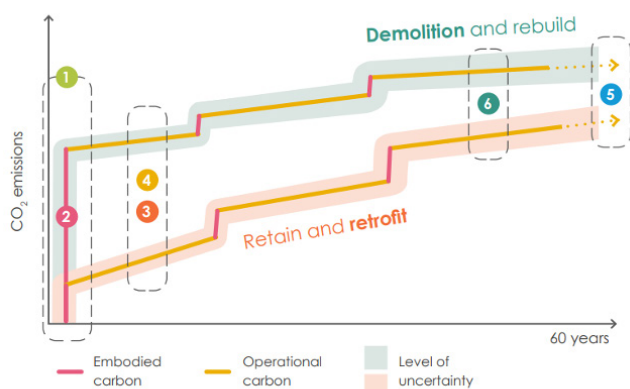
Choosing the higher carbon option at pre-application stage or recording greater upfront carbon emissions at post-completion than expected at planning might incur a fee or offsetting requirement that the GLA might use for wider carbon reduction initiatives.

While the CRP would support the enhanced quality of WLCA and CE considerations at the early design stage and upskilling of Local Authorities, it will also be critical in providing support if the other NLA proposal were taken forwards; Demolition Impact Assessments at pre-application.

Demolition Impact Assessment (DIA)

To urgently limit GHG emissions we need to reduce the embodied carbon emissions of the construction industry. A primary method of doing this is to prioritise the retention, refurbishment and retrofit of existing buildings and the re-use of existing materials over demolition. Our proposal is to introduce:

- An update to existing policy to emphasise the Presumption for Refurbishment and Retrofit over demolition
- A method of assessing and comparing the carbon impact of a refurbishment/ retrofit option with a new build on the same site, where this is relevant, in order that the lowest carbon solution is implemented



The current London Plan policies and guidance are geared towards redevelopment so the revisions can make the approach stronger and reinforce that options for retention should be prioritised and considered. The GLA's CE statement and WLC carbon assessment guidance can support with further guidance on how studies should be constructed to give a consistent result. A mark-up of the existing guidance has been carried out to indicate where the DIA could be signposted and how presumption for refurbishment could be emphasised further.

The content of a Demolition Impact Assessment could include the following:

- Comparative Whole life carbon assessments for retention and new build options
- Life cycle costing
- De-construction methodology and prioritisation of the reuse of materials on-site in their original form for any buildings, structures or material to be removed to facilitate the proposal
- Evidence that alternative build uses, forms and configurations have been considered
- Maximum and consistent energy efficiency measures have been proposed in all options compared

It is proposed that the DIA is carried out at pre-planning stage so that guidance can be given, and a single design carried forward to planning stage. The DIA will apply to any developments that cross a certain threshold of demolition (e.g. % GIA and or facade). At planning stage, a WLC

assessment of the chosen scheme is still required alongside a circular economy (CE) audit of all existing materials/finishes/furnishings should be included and options for their reuse on-site or within the wider CE should be highlighted.

About the Net Zero Expert Panel

To meet the Paris Agreement declaration the Mayor of London has declared a climate emergency, committing to become carbon neutral by 2030. This Panel focusses on understanding the priorities for London to achieve Net Zero, and the role that the built environment has to play in meeting this target. Topics of focus include London and local leadership, retrofit, circular economy, reducing embodied carbon in buildings, and increasing green infrastructure.

Chair: *Ashley Bateson, Hoare Lea*

Gareth Atkinson, Civic Engineers

Lucy Atlee, Transport for London

Marion Baeli, Studio PDP

Louisa Bowles, Hawkins\Brown Ltd

Jennie Colville, Landsec

Kristen Guida, GLA

Simon Hatherley, AHMM

Golnaz Ighany, BDP

Kerstin Kane, City of London Corporation

Georgia Laganakou, Hopkins Architects Limited

Eleni Makri, Stanton Williams

Juliette Morgan, Gensler

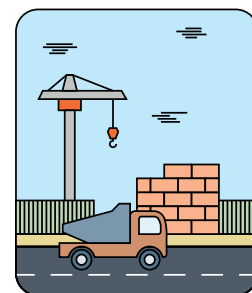
Rachael Owens, Buckley Gray Yeoman

Dorte Rich Joergensen, Introba UK

Charlie Scott, Waterman Group

NLA Expert Panel Whitepaper:

Planning



Theme 1: The proper functioning of the planning system

An effective, workable, funded and inclusive planning system is critical to unlocking good growth. However, recent Government proposals have failed to make meaningful improvements to the planning system, with real concerns that they would not function well in complex urban centres such as London. Meanwhile local authority planning departments continue to suffer from critical funding and skills shortages, despite them being essential for the implementation of technological, design and policy improvements alongside the continued delivery of their core functions.

- ① Council planning departments require proper funding and investment into skills and training that recognises the significant additional demands being placed upon them, which cannot be met by continually higher fees from applicants.
- ② The Mayor must lobby to ensure that any National Government planning reform meets the specific needs of London, the UK's economic engine, and support the continued primacy of the London Plan and regional and local decision making.
- ③ The next London Plan should be shorter to be more focussed on the key strategic issues facing the City to be addressed, with a clearer narrative, leaving more flexibility to the Local Authorities and not unnecessarily repeating any future national development management policies.

Theme 2: Embedding social value through all phases of planning and development

Although planning authorities have long sought to ensure positive community benefit from development, the broader concept of social value does cover a much more robust spectrum across environmental, economic and social wellbeing and requires a proper understanding of the needs of the area and its communities, with measurable objectives in place for the long term. Whilst there should not be a one size fits all approach and there must be considerable flexibility to meet the specific circumstances of the area and development in question, both Local Authorities and developers require assistance.

- ④ Embed more formal policies on social value into the London Plan, with a single adopted definition focussed on long term outcomes, and a Policy Framework to allow for flexibility (similar to the affordable workspace policy).
- ⑤ The Mayor should produce good practice guidance, building on the work of the London Sustainable Development Commission. This should include a tool box with some minimum requirements, possible timelines, approved processes and methodologies, suggested KPIs and best practise examples, to enable both local authorities and developers to more easily adopt a successful approach and bring about greater consistency in how social value is measured.
- ⑥ Establish a London Social Value Steering Group made up of key practitioners in the field to develop the guidance, provide advice for developers and authorities and to promote best practice.

Theme 3: Effective community engagement in planning

Successful community involvement in planning—both at plan making stage and when development proposals are being developed—is essential to improving outcomes for local communities. The reality is that such engagement is hard to achieve and requires considerable effort.

- ⑦ Include a paragraph into the London Plan which makes it a requirement for all proposed developments to undertake pre-application community engagement, as there is currently no statutory requirement for this (it was dropped from the Localism Bill for most schemes).
- ⑧ Local Authorities should define their minimum levels of expected engagement for developers within their own Statements of Community Involvement, including the channels that should be used and appropriate engagement tools, as currently those documents are too inward focussed.
- ⑨ Publish a list of approved technologies and their purpose, following the Government's digital pilots (which can be reviewed periodically) to ensure consistency across local authorities. As part of this, include a city-wide, digital model to help the public understand and visualise what is happening and what is proposed.
- ⑩ Bring London's young people and disadvantaged communities into discussions about place & planning and invest in the long-term through schools' engagement and education programmes.
- Best practice social value: Earls Court Development Company / Canada Water / examples from the Local Sustainable Development Commission / LBHF policy / The Silver Building meanwhile uses.
- Best practice educational initiatives: GLA's Minecraft London initiative / Merton & Clarion's regeneration week schools programme.

About the Planning Expert Panel

This Panel focuses on best practice in the planning system to support London's development, including new approaches to community consultation through the use of digital innovations. The Panel also seeks to improve trust in the development process; accessibility and transparency of data; the role of local and regional plans; and how the planning system can better support London's economic recovery. Alongside the pre-mentioned themes the Panel also discusses these in relation to the skills-gap, particularly within local authorities and assesses the ongoing national and regional planning policy updates.

Chair: Jonny Popper, London Communications Agency

Deidra Armsby, City of Westminster

Lucy Bird, Berkeley Group

Patricia Cazes-Potgieter, Transport for London

Elad Eisenstein, AECOM

Anisha Jogani, LB Croydon

Andrew Jones, Atkins

Spyridon Katsaros, PRP

Peter Kemp, GLA

Rob Krzyszowski, LB Haringey

Jasmine Lewin, John McAslan + Partners

Riette Oosthuizen, HTA Design

Rebekah Paczek, The Earls Court Development Company

Francesca Prestinoni, Hilson Moran

Hilary Satchwell, Tibbalds

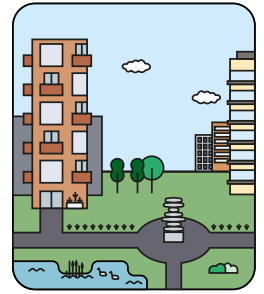
Craig Tabb, DP9

Lisa Webb, Gerald Eve

Christopher Wandel, Vu.city

Joanne Woodward, LB Hammersmith & Fulham

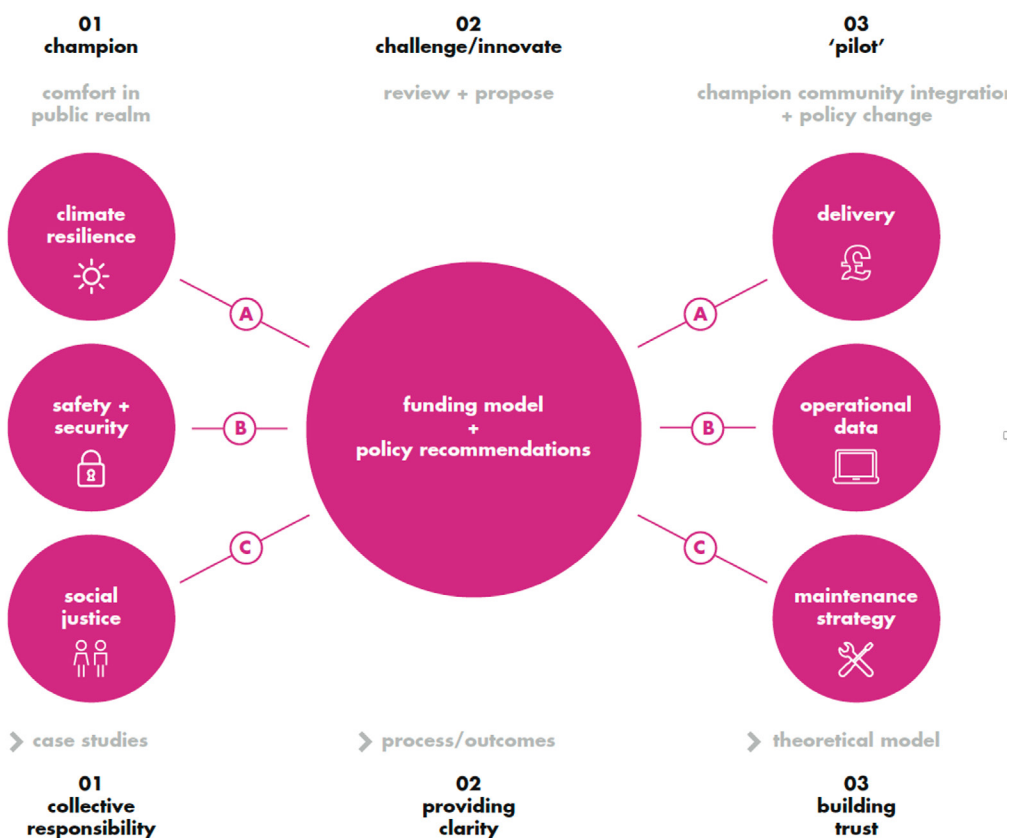
NLA Expert Panel Whitepaper: Public Realm



The Expert Panel in Public Realm was established to hear the voices of many diverse industry experts, with backgrounds from designers to implementors, to collectively review the importance of the public realm and its future role in the success of London as a place to travel through, reach a destination and indeed dwell in a setting.

Overall Challenges

Over two cycles, the group shared many views of the experience of the public realm and gained momentum in a common thread of the inclusivity and comfort of users, with the collective aim of how do we raise the inclusivity + quality of the public realm for the benefit of all?



The Panel unpacked this question via the overall challenges and subsequent championing needs identified by three sub-groups.

Climate Resilience – exploring biodiversity gains, “green not grey” + (lack of) climate justice

Safety + Security – analysing pedestrian priority, gender comfort + “a proportionate response”

Social Justice – questioning inclusivity, “identity + pride”, comfort + accountability

Policy Aims (what does good look like?)

The Panel visited Hoxton to Haggerston as a pilot scheme and resultant policy aims were agreed as:

- Long term investment in PLACE to work with communities + listen to voices
- Prevention of a piecemeal approach to public realm + in-between spaces
- Improved co-ordination during design + planning stages
- Mechanisms for delivery + long-term maintenance

The Panel formed a list of key acceptable standards of inclusivity with health + well-being benefits for the end-user.

- Justice + Fairness as policy criteria.
- Creation of a Social Justice Factor (similar to Urban Greening Factor) requiring developers to meet criteria to gain consent? De-risk for developers with a clear framework
- Clear identity of people who live + work locally within spaces, rather than gentrification.
- Climate Resilience inclusion via a Natural Capital concept + promoted behavior change?
- Disproportionate impact of climate change on deprived communities (green infrastructure)
- Safety + Security via a promotion of collective responsibility to gender/sex/ability?
- Recommendation for decision-makers to direct investment into deprived communities (CIL, S106) + pre-app stage assessment?
- Securing ongoing quality of management + maintenance? How is this achieved + monitored?
Can policy allow revenue funding to be used to develop over time rather than capital injections?

Justice In The Public Realm

Uniting all of our findings is the requirement for Justice; climatically, proportionally and socially.

The pressing need for justice is manifesting in distinct inequalities suffered by communities and marginalised groups. The built environment industry must fully integrate the culture and framework to empower community 'ownership' of the public spaces.

Ownership is created when local people are given the genuine opportunity to engage and shape the development and design of public spaces to suit their needs; increasing equity, soft power, self-esteem and belonging.

Currently the developer tends to hold and shape the engagement narrative for communities to respond to. The intersection of local and global pressures on communities from climate crisis, racial inequality and poverty, means the industry must make a contribution to delivering justice through the process of good design and placemaking to transform the lived experience, health and life chances of those most marginalised in society.

This is a moment to positively change perception of an industry that struggles to be trusted by communities through concrete and transparent action. There is potential to support the transformation of industry culture with both a call to action and frameworks that lock in community involvement and incentivises best practice to shift the dial from obligation to value driven.

The quality of engagement must also improve with the upskilling of communities as part of the process. Methodologies like the sortition process and appreciative enquiry deliver both equity and higher quality of insight in the process.

These methodologies also require commitment from participants (renumerated) which leads to sustained engagement and a deeper dive—more like participatory research, levelling the power dynamic between developer, community and local authority to something more collaborative, increasing the potential for designing with positive impact for people.

Good involving engagement that upskills and develops trust and respect, as experienced by local

communities, should be seen as an essential component to good design places.

Precedent case studies (where can we find good examples of this approach?)

The panel workshopped many examples of what good examples there are in places both within and beyond London:

London:

[Lambeths Kerbside Strategy](#)

[Lambeths Your Streets Your Way](#)

UK:

[Super Bloom, London](#)

[Barbican Public Realm, London](#)

[Grey to Green, Sheffield](#)

[The Queen's Green Canopy Initiative](#)

Denmark:

[JAJA Carpark , Copenhagen](#)

[Nordhavn, Copenhagen](#)

Netherlands:

[Amsterdam Green Infrastructure Vision](#)

[Pavement Gardens Den Haag](#)

USA:

[The Highline , New York](#)

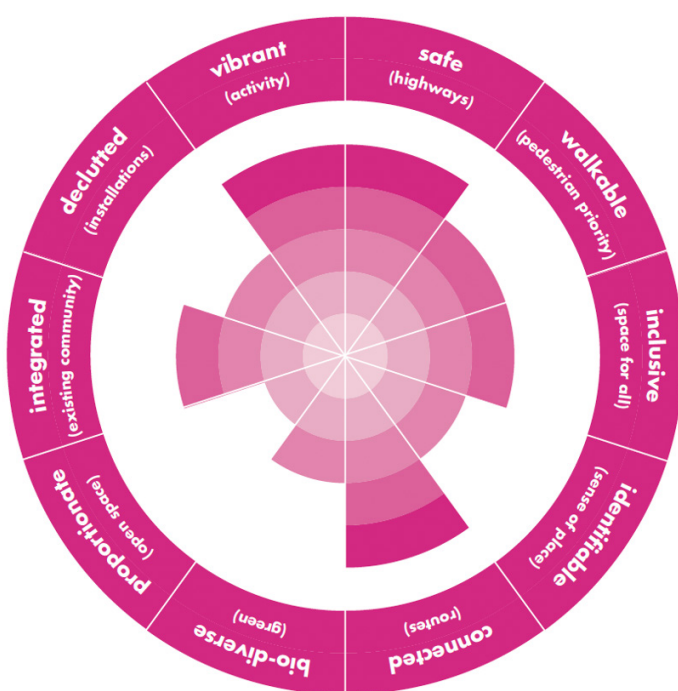
[Seattle, P-Patch Gardening](#)

[Brooklyn Grange Farm, New York](#)

Recommendations (how do we demonstrate value and measure this over time?):

① *The Panel calls on the industry to initiate a “Healthy Londoner” user experience – well-being wheel*

With 10 KPI's, scoring at all 4 stages of the project (design, delivery, use, maintenance) from impact of community (via access to the team at the design stage) to justice for the people that the public realm is ultimately intended for! see diagram 02 attached.



01 INCLUSIVE 02 IDENTIFIABLE 03 CONNECTED 04 BIO-DIVERSE 05
PROPORTIONATE 06 INTEGRATED 07 DECLUTTERED 08 VIBRANT
09 SAFE 10 WALKABLE

The Panel notes that there are other initiatives similar to this, ie the City of London Climate Resilience Wheel so it is important to collaborate and share data.

② *The Panel calls on the sector to develop an initial new policy for “Greening London”*

The Panel notes the need for the GLA to be engaged in developing a London wide (borough by borough) initiative for wilding of public areas, nurturing a perception shift whereby the public can be encouraged to claim ownership through greening and reclaiming of infrastructure.

This is an opportunity and moment in history with the decline of the car, where public/private collaboration can facilitate the regreening of our cities with limited investment of expertise to facilitate and a ‘community gardener’ to support public maintenance.

An Infrastructure Delivery Plan is suggested whereby S106 highways expenditure could be rebalanced with a similar contribution to streets as there is for developer contribution to art.

A percentage of all existing car parks should also be re-greened under policy.

A link to law should be investigated to lever change in order to meet 2030 climate change obligations.

③ **The Panel calls on the NLA to continue to evolve Expert Panel input**

With a continued interest in the “healthy Londoner” there is a need to ensure ongoing relevance to an ever-changing environment and development of the group-by-group work to date by weaving of the more holistic Public Realm, Transport + Infrastructure and Wellbeing representations across the arguably more silo-ed typology related panels.

About the Public Realm Expert Panel

There is an evidenced need for providing streets, parks and pedestrian-friendly public spaces to improve people’s health and quality of life. Black Lives Matter and Extinction Rebellion have contested the democratic role of public spaces, demanding for a city that truly responds to the climate crisis, reconsiders representation in the public realm, and ensures equal access to all Londoners.

In 2023, this panel focuses on safety, diversity and wellbeing in the public realm; accessibility to and management of green and blue open spaces; and best practice in placemaking through new and existing public places that support London’s resilience and growth.

Chair: *Hazel Rounding, Shedkm*

Frank Anatole, Network Rail

Philip Askew, Peabody

Henrietta Atkinson, Ballymore

Anjna Farmah, Transport for London

Julia Finlayson, Argent

Katherine Fleming, The Northbank BID

Simon Glynn, City of London Corporation

Mark Gordon, Price&Myers

Sara Grohmann, Feilden Clegg Bradley Studios

Peter Heath, AtkinsRéalis

Cannon Ivers, LDA Design

James Lord, HTA Design

Sam Parry, LB Hackney

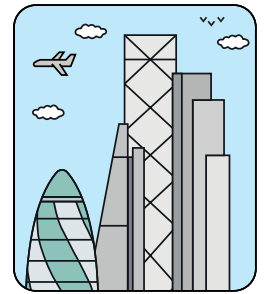
Elizabeth Randall, Grosvenor

Binki Taylor, Commission for Diversity in the Public Realm

Kathryn Timmins, Greater London Authority

Ruth Lin Wong Holmes, LLDC

NLA Expert Panel Whitepaper: Tall Buildings



Topic Focus Paper

The Panel has had four meetings in this cycle. Our discussions covered a range of topics relating to tall buildings including building/fire safety; increasing development costs; the continuing demand for Grade A office space; slower delivery rates for residential tall buildings; planning risk and uncertainty for tall buildings schemes; and, changing public and political attitudes towards development and specifically tall buildings.

The final Panel Meeting in September was used to refresh the Panel's thinking on the key topics of focus for the next iteration of the Tall Buildings Panel.

It has been suggested that in future the Panel may wish to refocus on 'Higher Density Development' rather than specifically 'Tall Buildings' this would allow further discussion on more mid-rise typologies at 10+ stories.

The Panel could take a proactive involvement with the next iteration of the London Plan in regard to how it frames 'tall buildings'. One significant concern raised by members of the Panel was that Boroughs find it very difficult to meaningfully allocate suitable locations for tall buildings in Local Plans and these challenges should be further explored.

The following are specific topics the Panel would like to explore further, and which complement the New London Agenda piece, are as follows:

How should the sustainability of tall buildings be assessed?

What should be measured in the assessment of the sustainability of tall buildings distinct from other lower density developments:

- ① A location and placemaking perspective—should we be factoring in: locational considerations such as land availability and access to local services and infrastructure / reducing the need to travel; how does a tall building component contribute to a wider area strategy or masterplan; how does the mix of uses within a single building or associate developments make for a more sustainable development; and what consideration is given to the lifecycle and future use of a tall building?
 - ② A technical perspective—traditional methods of construction and typical materials (concrete and steel) are carbon hungry and mean these buildings are assumed to be less sustainable but what innovations can be incorporated into and measured for a tall building scheme that make for a more sustainable, zero carbon development and does building at higher density allow for economies of scale in the use of, and drive innovation of, more expensive recycled technologies.
- How do we ensure that material specification and use of reused elements achieves the lowest carbon impact for all of London and the planet—not just for a single project?
 - Flexibility—how much flexibility on space-planning and type of usage should be built in to ensure a long life, and what carbon cost is acceptable to pay for this?
 - At planning stage, how should eCO2 be apportioned between schemes? There will always be building types and uses that are higher carbon impact than others
 - How should this be set out on a London level, to ensure that overall eCO2 reduction targets are being met year on year, but that a higher carbon allowance can be 'spent' on appropriate schemes?
 - A specific issue is the construction of cycle parking basements where the carbon impact of constructing a concrete basement generally undermines the environmental benefits of cycling.

Scoping out a research piece around perceptions of tall buildings.

This builds upon a consensus view from the Panel that there is limited factual evidence to which people can form an educated view on the good or bad impacts of a tall building. Reference points are often poorly designed or badly maintained 60s/70s built buildings. There is a generally negative narrative relating to planning applications or Local Planning Authority attempts to frame Tall Buildings Policies. The suggestion here is that a research piece be commissioned to gather data on recently constructed buildings from residents /users and from surrounding communities about the actual experience of being in or around these buildings and how that compares with objections or concerns raised at the application stage. Such considerations could include climate impact, overshadowing, access to facilities, pressure on local infrastructure, living amenity etc etc. LB Tower Hamlets have sought to understand this information in their Borough and see value in extending the scope to other parts of London. Can this piece help identify what the true public benefits of tall buildings are or if they could be contributing more?

Future Proofing and Retrofit

To what extent do current policies really push adaptability and retrofit? BREEAM incorporates some consideration of this but it isn't a significant enough part of the 'planning' assessment. Part of the problem is that there is insufficient information available to really understand the capacity for retrofit i.e. has the building really been designed with future uses and structural loadings in mind? Could the Panel secure information on the retrofitting of existing tall buildings to build an evidence base for this?

Several of these topics touch on other Panels' themes such as Planning, Circular Economy and Retrofit and more cross cooperation between panels should be encouraged.

There ought to be an opportunity to build on the above topics through the next year's programme including an opportunity to incorporate some of this thinking in the 10th Anniversary of the Tall Buildings Survey as well as through the wider programme.

About the Tall Buildings Expert Panel

London is now a city of tall buildings, a city traditionally associated with a low-rise, low-density character. In the past decade, major new clusters of tall buildings have emerged in areas such as Nine Elms, Elephant and Castle, the Isle of Dogs and the City of London. NLA has played a vital role in the debate on height and this Panel plays a key role in developing NLA's contribution, including placemaking and environmental impacts of towers, construction of towers post Grenfell, and attitudes to tall buildings for those living and working in the capital.

Chair: *Stuart Baillie, Knight Frank*

Luke Askwith, Gensler

Joanna Bacon, Allies and Morrison

John Bushell, KPF

Joon Chung, Prior + Partners

David English, Historic England

Peter Jackson, Skidmore Owings & Merrill

Joe Morris, Morris+Company

Ender Ozkan, RWDI

Gordon Roy, City of London Corporation

Sripriya Sudhakar, LB Tower Hamlets

Emma Talbot, LB Lewisham

Kevin Vinson, Otis

Russell Whitehead, Robert Bird

NLA Expert Panel Whitepaper: Technical Competency



Purpose

Advise on the development of the New London Agenda, a long-term project that will inform and influence the next Mayoral term. The New London Agenda should provide a framework for London's built environment community to act together and shape a better city for all.

Six core areas of focus for the New London Agenda, to help guide discussions and key priorities over the following New London Sounding Board meetings.

Six 'ways of working'

- ① Plan for the long-term.
- ② Think beyond boundaries.
- ③ Embrace diversity. Embracing the diversity and richness of place, people, and planet – understanding that London's diversity is its greatest strength.
- ④ Focus on health of people and planet.
- ⑤ Invest in innovation.
- ⑥ Prioritise partnership. Working together in partnership, enabling us to unlock new solutions and approaches to shaping places for the future.

Background

A core theme linking all Technical Competency EP discussions over the past 2 and a half years is not what we build but how we build. The starting point was Grenfell and how the built environment industry needs to change. The Grenfell Inquiry reinforced how far the industry needs to collectively change the whole system of design, construction and asset management.

'Centre of Excellence' or 'Built Environment Society'

Discussions from the first to this third round of the Technical EP have been marked by a consistent theme; technical excellence requires constant improvement of knowledge, skill and methods of design and construction. This influences virtually every activity and discipline throughout the built environment industry. There has been significant change in relation to legislation and the regulatory framework, however research backed data on best methods of sustainable, safe construction are uncoordinated, disparate and often contradictory. Therefore a marshalling proposition is the creation of a 'Centre of Excellence' acting as repository for best practice, research backed knowledge, a trusted source and voice for all things connected to the built environment, and a coordinating hub for information in relation to improving skills.

An important component of such a centre would be looking to the future; a place to discuss, explore and develop the skills, materials and technology that we need for the next 100+ years—much like for the world of science the mission, purpose and principles of the Royal Society: to recognise, promote, and support excellence in science and to encourage the development and use of science for the benefit of humanity. The Society has played a part in some of the most fundamental, significant, and life-changing discoveries in scientific history and

Royal Society scientists continue to make outstanding contributions to science in many research areas.

The built environment industry needs to emulate this professionalism and rigour of enquiry.

Third Round Lines of Enquiry

The third round of the Technical Competency EP began on familiar themes in relation to improving skills, education and the development process.

Three subgroups developed specific lines of enquiry linked broadly in relation to these themes. Flowing out of each sub group are recommendations to inform the New London Agenda Sounding Board, and falling into 'ways of working' themes as follows:

① ***The future of the design team, and specifically the role of design management in an ever expanding and increasing specialist consultant/construction team. (Invest in innovation. Prioritise partnership) Liam, Chris, Kin, Simon***

The process of design is changing rapidly, and the advent of AI as tool will accelerate this change. Design specialists are now a standard feature across the built environment industry, and the role of coordinating this expanding field will be down to a 'design manager'. Traditionally this would be the role of the Architect, and could still be, however the increasingly complex and accelerated design and construction process requires specific skills. Could this role evolve?

Not much further development on this theme has taken place during this round, however the future of the design process and skills required is an important topic, in particular to address innovation.

② ***Procurement and how this could better support collaborative working and better quality outcomes. (Prioritise partnership) Andrew Parker.***

A traditional or design and build contract, procured via a single stage competitive tender process where the lowest bidder is most likely to be successful runs the risk of lack of collaboration in problem solving, and priority given to cost over quality outcomes.

Hackitt: *"the primary motivation is to do things as quickly and cheaply as possible rather than to deliver quality homes which are safe for people to live in."*

On complicated construction projects the number of unanticipated events that require decisions are higher and the risk allocation, blame culture created by the tender process and consequent contracts does not encourage efficiency or good final outcomes.

The solutions lie in fostering a collaboratives, risk sharing procurement fundamentally fostering a change in culture and approach to the design and construction process.

Hackett: *"Changes to the regulatory regime will help, but on their own will not be sufficient unless we can change the culture away from one of doing the minimum required for compliance, to one of taking ownership and responsibility for delivering a safe system throughout the life cycle of a building."*

Traditional procurement approach has been used for 150 years and so change presents a serious challenge, not least to developers whose investors and banks do not have a long-term interest in ensuring the quality and long-term efficiencies that collaborative procurement can achieve.

A more collaborative procurement process is therefore likely to only suit clients and projects whose primary focus is the long-term value of the end product. That means those schemes where the client is the long-term owner and is invested in the quality of the product over a longer period. If such schemes and clients can be targeted for understanding the benefits of collaborative working, then a track record of success can be established.

③ ***Material reuse in buildings (Planning for the long term, Focus on health of people and planet). Lucia Berasaluce, Liam Bryant, Balazs Bicsak, Graham Hurrell***

In order for materials to be reused more widely there needs to be a reliable and trusted method of certification; a 'material passport' that would support 'golden tread' principle.

Key questions that were explored included:

What does good look like?

Is it replicable/ scalable?

Is it process or behaviour driven or both?

How do we demonstrate value and most importantly measure this over time?

The main aim of a Material Passport would be:

- Facilitate reuse potential and recycling
- Aid maintenance and upgrades
- Account for embodied carbon

The above aims can only be achieved through a system where the performance and suitability for reuse of materials and components can be relied upon, and therefore de-risked for specifiers, building owners and tenants. The forthcoming EU Carbon Border Adjustment may push the UK into adopting a similar strategy to reduce carbon intensive construction materials. The current data on materials whilst extensive, is consistent with incomplete information particularly in connection with information for evaluating of reuse potential.

A solution therefore is to start the process of a standardised certification for building materials and components—a 'golden standard'. This would require data capture and the format of this would naturally evolve over time as the process is more widely adopted.

Conclusion

Recommendations for the Sounding Board:

'Centre of Excellence' or 'Built Environment Society' (All six 'ways of working')

The NLA has created an incredible collective of industry experts within 15 thematic panels. It is not such a great leap for this to develop into as sort of Society of Built Environment that promote and support excellence to encourage the development and use of built environment knowledge for the benefit of humanity.

This would address the core aim of supporting a binding framework for London's built environment community to act together and shape a better city for all. More immediately, it would address all six of the 'ways of working'.

Procurement and how this could better support collaborative working and better quality outcomes. (Prioritise partnership)

In the context of public procurement, those nations that have moved towards collaborative procurement did so progressively, via target cost contracts where overspend was shared between employer and contractor.

As the GLA contemplates self delivery, and Homes England take on more power within strategic land development, this would be a positive step towards a more progressive quality based construction strategy.

Material reuse certification (Planning for the long term, Focus on health of people and planet).

A similar system exists, but not currently in the UK. Interviews with Danish manufacturer Madaster and others that have been using this tool will be a starting point for the certificate platform which would be cloud based for ease of access and updating, and include categories such as basic material properties, expected lifespan, durability, disassembly guide, and circularity information. The certification would be linked to the building along with test results and structural design calculations forming part of a comprehensive Building Manual.

An important first step to progress this would be to define a consistent standard for material definitions.

About the Technical Competency Expert Panel

In the aftermath of Grenfell, the relationship between architects, project managers and contractors' roles in the delivery of buildings is under question. In a world dominated by BIM the building team need to understand how different elements of their buildings go together. This Panel will share thought-leadership on improving technical competency in the detailed design and delivery of buildings in London, and advise NLA on the development of a new technical programme. Topics of focus will include fire safety and material performance, building regulations and procurement, modern methods of construction, digital collaboration, and training and education.

Chair: *Arita Morris, Child Graddon Lewis*

Lucia Berasaluce, Haptic Architects

Balazs Bicsak, Price & Myers

Liam Bryant, Webb Yates Engineers

Peter Caplehorn, Construction Products Association

Chris Charlton, Stride Teglown

Nattasha Freeman, SHEQ, Turner & Townsend

Graham Hurrell, WICONA

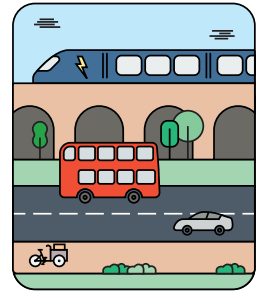
Kin Kay Lee, PDP London

Festus Moffat, JRA

Andrew Parker, Forsters

NLA Expert Panel Whitepaper:

Transport & Infrastructure



Reducing motor vehicle use remains the main priority for future transport and infrastructure policy and investment. This is essential to addressing a range of socio-economic and environmental issues, including reducing carbon emissions, improving health, tackling inequalities, and supporting local high streets. Less motor traffic unlocks the potential for transformational changes to our streets and public spaces. This is not just a numbers game. It is a recognition that the way we travel (and sometimes are forced to travel) can have a significant impact on the experience of living and working in the Capital.

There needs to be an explicit aim of making London a city where anyone can enjoy a high quality of life without the need to own or regularly use a car.

A wide range of factors influence car ownership and use, and many people will continue to own and/or use a car for a variety of trips, including some for which there is no viable alternative. However, we must work towards creating a city where anyone can live car-free or significantly reduce their car dependence, regardless of where they live and without compromising their quality of life or limiting access to family, friends, leisure activities, services or job opportunities. This will be more straightforward to achieve in some parts of London (where attractive alternatives already exist) compared to others, particularly those with lower density of settlement which favours car use and have comparatively poor public transport provision. This aim and the approaches to achieving it that are outlined below are focussed on enabling households to reduce car use and the number of cars they own; they are not an attempt to eliminate car use and or ownership in its entirety.

Achieving the goal of a London with reduced car dependency means focusing on outer London while continuing to invest in central and inner London.

The biggest opportunities (and the biggest challenges) for reducing car use and dependency are in outer London. While there is a need to continue investing in central and inner London, a renewed focus on outer London is needed. This includes improving cycling and public transport connections and exploring how to expand the availability of new transport options such as dockless cycles and e-scooters to less densely developed parts of the Capital. It also requires improvements to bus and rail services more generally, including investing in stations to create accessible hubs at the heart of local communities. Access to shared vehicles for trips that can only realistically be made by car needs to expand, for example increasing affordable access to car clubs. The transition to electric vehicles supported so that reaming motorised vehicles are cleaner and quieter.

Significant changes to the way streets are used and designed is required. These changes have the potential to cause pain for some; this needs to be recognised and mitigated, but it will be impossible to avoid entirely. The scale and pace of change required means there is a risk of unintended impacts that, if not identified and addressed, could disadvantage some people. However, we need both sticks and carrots. Measures to make driving less convenient and attractive need to sit alongside measures to make the alternatives more convenient and attractive. This includes investing and maintaining streets of all kinds, including residential streets, to make them better places to walk, wheel, cycle and spend time. It will be essential to ensure that policies do not inadvertently create social equity problems and that mitigating measures are made available for those who may be disproportionately affected (for example those that rely on a car, taxi or private hire vehicle for door-to-door journeys).

Alongside investing in improving streets, public spaces, and transport connections, we need to invest in research and technology to ensure no one is unfairly disadvantaged because of measures that seek to encourage and enable more trips to be made by walking, cycling, public transport and other forms of shared transport.

A smart approach to London-wide road user charging is likely to present the best opportunity to disincentivise non-essential motor vehicle trips at a city-wide scale and create opportunities to reallocate street-space while making essential travel, such as deliveries and servicing, more efficient. This approach would generate income to invest in making alternatives to the car more attractive, while allowing appropriate discounts where necessary, for example for some disabled people who need to use a car.

The way we travel is to a large extent determined by the way we use our land. As London continues to grow and evolve, we need to continue to maximise the potential for planning and development to reduce car dependency.

At all scales, development can help reduce the distances people need to travel and influence the modes of travel they choose for those journeys. Large scale developments can be the catalyst for (and the funders of) public transport and other social infrastructure that serves existing as well as new communities. Within existing communities, new developments can provide space for local services, and help foster population densities to support new and existing services and retail. Protecting commercial uses on local high streets means that people can continue to walk to shops, cafes, pubs and restaurants.

Finally, as with most (all?) other aspects of the New London Agenda, there is a need for strong leadership, a compelling vision, and clear communications around the need for change and the benefits it can deliver. There is also a need to find the resources required to deliver policy changes.

We need leaders who can make tough decisions in the face of opposition while listening to all sides (including from those that are less vocal). People need to be able to understand why decisions are being taken, why they might need to change their travel habits and how, ultimately, their lives might be better as a result. The equalities and socio-economic impacts of policies need to be clearly explained and the way in which they are being implemented must be fair and equitable. Not everyone will be convinced, or benefit to the same degree, but in an age of culture wars and social media echo chambers clear and compelling vision and communication of that vision will be key to making the case and dispelling the myths.

Potential measures and interventions that could be developed as case studies:

- Work done as part of bids for GLA and TfL Architecture and urbanism framework on enabling active travel in an outer London borough and by Public realm, landscape and green infrastructure panel on reimagining London's inner ring road.
- Walking and cycling route mapping, e.g., Open Street Map and Enfield Journeys and Places.
- Extending both docked and dockless cycle hire, plus car clubs and sharing.
- On-demand shared services to complement public transport, e.g., minivans in South East Asia and Uber Pool.
- Joined up approach to provision of social infrastructure and other services to reduce car dependency, e.g., school provision and reviewing catchment areas.
- Use of technology, e.g., apps, to better communicate potential cost and time savings.
- Cycle facilities, etc in new developments.
- Car free developments and policies.
- Expansion of bus lanes and new Superloop orbital services.
- Wider regional considerations of outer London alongside surrounding counties.

About the Transport & Infrastructure Expert Panel

The Mayor of London has launched ambitious new plans that will dramatically transform London's streets to accommodate new cycle lanes and space for walking. This Panel focusses on the future of mobility and modal share of streets for all users, as well as the impact of transport infrastructure in unlocking growth and accessibility across the capital.

Chair: *Bruce McVean, City of London*

Mike Axon, Vectos

Neil Baker, Weston Williamson+Partners

Vanessa Bold, Gardiner & Theobald LLP

Anthony Dewar, Network Rail

Ayako Henson, HOK

Alexander Jan, CPA

Kosh Kar, GLA

Bosco Lam, WilkinsonEyre

Neill McClements, Grimshaw

Hazel Needham, Expedition Engineering

Annabel Precious, Civic Engineers

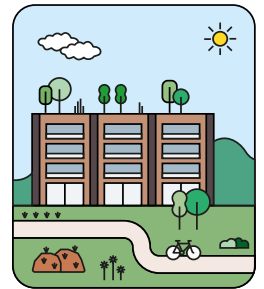
Mandar Puranik, LB Ealing

Laura Putt, Transport for London

Sophie Thompson, LDA Design

Chris Williamson, Weston Williamson

NLA Expert Panel Whitepaper: Wellbeing



We have defined wellbeing as follows: If health is the outcome, wellbeing is the means.

As built environment professionals, we must look beyond treating health (or even preventing health problems) and focus on health creation. We therefore believe that a 'health creating city' should be the overarching vision for London, delivered through a scalable and measurable framework approach (versus detailed standards), and connecting directly to local context.

Our vision is that London should be a global exemplar of a Health-Creating City—a city where the built environment positively promotes and contributes to the health (physical, mental and social) and wellbeing of both people and planet, laying the foundations for a future wellbeing economy.

A plethora of frameworks, guidelines and standards already exists, and we have explored the currently available options through high-level comparative analysis. Despite the growing focus on wellbeing, we found several key issues are being ignored, particularly with respect to the unintended consequences associated with the decarbonisation of our existing building stock. Londoners spend up to 90 per cent of their time indoors; we must therefore prioritise our internal environments.

A holistic wellbeing framework is needed, to allow best practice design criteria to be established, and relevant case studies to be identified and showcased. We have explored the addition of a Built Environment overlay to the GLA's 'London Wellbeing and Sustainability Measure' (an interactive tool for policymakers and all Londoners), due to be launched in Spring 2023. We hope there may be an opportunity to further hone this toolkit (building in the best aspects other standards) to meet the specific needs of the built environment and to identify exemplars from London and beyond.

To translate into real benefit, wellbeing outcomes must be identified early in the design process. These must then be formalised in a charter with specific, meaningful KPIs identified and measured at each stage of a project. Vital aspects, often overlooked, include needs-based approaches, embedding accessibility and mobility, co-design, participatory stakeholder engagement and post-occupancy evaluation. Health inequality is one of the greatest challenges of our time, and any framework for London must address key health problems that Londoners experience, especially within minority and underrepresented groups.

Given the immense and often untapped potential benefits, it is crucial that an approach to placemaking is developed to support wellbeing, with long-term stewardship and ownership of place being key. But whose responsibility is this? The dimensions of health and wellbeing encompass a blend of physical, psychological, and socio-economic factors and within the context of London, at least eight pivotal elements are pertinent:

- ① Social licensing, community agency & community governance
- ② Environment (light / air / thermal / traffic / hygiene etc.)
- ③ Vibrancy
- ④ Active lifestyle and travel
- ⑤ Safety & security
- ⑥ Equality & diversity
- ⑦ Affordability
- ⑧ Access to support

Recommendations:

- Develop a 'Health Creating Framework' for London that ensures the wellbeing of future generations comprising:
 - defined wellbeing pillars for health creation
 - a focus on the built environment
 - measurement through a wellbeing economy lens (criteria to be defined)
 - best practice scalable guidance for the sector.
- Clear ownership and accountability across the GLA, and the appointment of a GLA Built Environment Wellbeing Champion or Deputy Mayor for Health & Wellbeing (to include both buildings and the spaces/places between).
- Improvements to planning submission guidance in relation to Health Impact assessments to address how projects are meeting the 'London Wellbeing and Sustainability Measure', and NLA to introduce a legacy award which looks a project completed over a minimum 2 years ago and can demonstrate positive impacts to Wellbeing through Post Occupancy Evaluation.

About the Wellbeing Expert Panel

Understanding the impact of the places we live, work and spend free time on our physical and mental health is important. This Expert Panel shares thought-leadership on the relationship between the urban environment and mental health; physical wellbeing—improving air quality, physical activity and health outcomes for all Londoners; and social sustainability—understanding how the design of the physical environment links with infrastructure to support social and cultural life, social amenities and systems for citizen engagement.

Chair: Romy Rawlings, Vestre

Shaun Andrews, Nexus

Diaa Bahopia, Sweco UK

Carrie Behar, Useful Projects

Phil Coffey, Coffey Architects

Ruth French, Ryder Architecture

Amira Hashemi, Frasers Property

Richard Hywel Evans, Studio RHE

James Mark, Therme Group

Linda Monckton, Historic England

Nivene Powell, EcoWorld London

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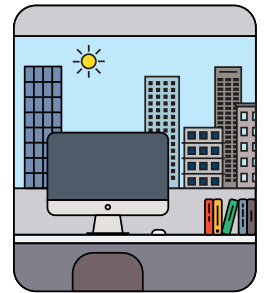
Natalie Thomson, Buckley Gray Yeoman

Lisa Woo, LB Enfield

Taryn Swales, EcoWorld London

Chris Donkin, London Sport

NLA Expert Panel Whitepaper: Work



Vision

“Together, we shape a better city – we have identified three key headings to use as a lens to shape this work: taking collective responsibility, providing clarity and building trust”

Goal

Any new policy to adhere to three main criteria.

- Define the process: set parameters within the London Policy plan to encourage consistency and set standard within London Boroughs. Any new policy and clearly worded to avoid confusion or misinterpretation.
- Set the targets: review the London Plan Policy frameworks to provide clear and achievable targets championing consistency across All the London boroughs.
- Quantify those targets: define the parameters for what is needed to meet the targets set.

Policies, People and Planet

① ***Workplaces must re-establish themselves as destinations boasting a quality experience that enhances the cultural platforms of the business, justifying employees' commutes and contributing to the city's placemaking.***

- Office policy should focus on places that are easiest to access via sustainable, affordable public transport, and focused on the end-user journey experience.
- Commute should be convenient and enjoyable and include active travel with a shift towards walking, running, cycling and personal micro-transport.
- A strong relationship with a strategic London-wide transport policy is required.
- Consideration of childcare facilities, to create a more diverse workforce and enhancing the capacity of the workforce to maintain sustainable economic growth.
- Building on, and better referencing existing detailed design guidance such as the London cyclist design guide. Consideration should also be given to future forms of transport, arrival, and delivery e.g., drones, and driverless cars.
- A renewed focus on the user journey has the potential to facilitate a stronger return to the office in a Post-COVID world

Policy Recommendation: there must be a renewed focus on the User journey, ensuring strategic clustering to support critical public transport, in addition to a doubling down on active travel. Policy (and guidance) should consider this from strategic location, logistics, service (including childcare etc.), site layout and form to detailed design and focused wider highways/public realm works.

② ***Workplaces must place the occupier and employee at the centre, focusing on the human experience in all aspects of its design.***

- Policy should treat offices as attractive destinations, and enablers in developing distinctive and diverse places which add richness to the human experience.

- Blur the boundaries between work and leisure and to deliver on the user experience 'at work', making it complement the 'at home' and tying it more closely to 'at leisure'.
- Remote working contributes to social isolation for many, workplaces that add real social value would also help to tackle loneliness. There needs to be more than one reason to come to work.
- Policy should deliver office spaces which are focused on human well-being. Objective measures for this have emerged akin to those sustainability measures adopted by policy, such as BREEAM and the WELL Standard.
- Accessibility Consultants should be engaged to ensure a safe and positive experience. This will benefit the wider population.
- All users should have access to the outside, views, and nature (gardens, terraces).
- Range of retail, to allow for a more enriching and diverse experience. Able to facilitate necessary and experiential shopping.
- Offices should have a purpose in the community and add social value to their place in the city.
- Local councils/boroughs to engage the local community to define what a new office development should comprise of. This would help deliver the right product to the local 'office' market.
- Cultural and F&B would allow for social engagements to be matched with workdays.
- Opportunities for learning and development to deliver professional and personal advancement through active collaborative learning experiences.
- Also consider integration of sports and fitness leisure, both public and for the office user, including gyms and spa facilities in addition to the 'incidental' workout (encouraging stair use by-design, informal sport and exercise in roof gardens or the wider public realm).

Policy recommendation: we expect a certain ratio of space dedicated to public and cultural uses co-created through the planning process, as determined by the local council and via public participation. Tenants are to adopt an agreed well-being standard (such as WELL), with a monitoring clause to report on the status every 4 years.

③ ***Workplaces must create permeability & transparency at the street level, encourage exploration and provide green space outside and inside where possible.***

- Modern office design has shifted from focusing on space efficiency to nurturing collaboration, education, culture, and community.
- Engaging with an inclusive community has a fundamental impact on the way people relate to their workplace.
- Integrating buildings into the wider, social structure through public spaces and participating street-level design fosters a sense of belonging.
- Careful and targeted curation of public open space; retail, food and beverage, health, social and cultural offerings are key to the enrichment and activity of a 24/7 city.
- This mix of different uses works best within a space that is accessible, green, and safe.
- The ground floor streetscape of buildings needs to be both inviting and active but also respond to the wider city movement patterns and connectivity, encouraging permeability and inclusiveness whilst balancing the provision of amenities with logistical requirements.
- Buildings that connect with and add to the local community will prosper.
- Any future policy should encourage mixed / hybrid use developments extending the lifespan / day / weekend occupation of the development—enterprising leasing structure to be encouraged in the New London Plan to begin to develop greater flexibility in building uses and 24/7 leasing strategies.

Policy recommendation: new office developments should enhance the surrounding public realm and ensure the new internal public realm as an active presence, engaging us with the programme and curation of the wider public realm.

④ ***Workplaces must be agile in response to the impact of the changing work week.***

- Choice and mobility in how and where people work has become a post-pandemic expectation.
- Hybrid working, the 4-day work week and the economic downturn have impacted decision-making when it comes to the 'rightsizing' of office space.
- Workplace design should be informed by appropriate strategy and stakeholder engagement to ensure that this rightsizing supports a positive working experience for occupiers through the appropriate provision of space.
- Flexibility and efficiency in floorplate configuration are critical, as is modularity and simplicity /ease of reconfiguration for tenants.
- Consideration to be given to spaces being more than 'single use' in nature and designed to cater for a variety of uses, allowing for flexibility in use and choice over time.
- Occupiers are considering agile design and planning concepts as a response to possible rise of the shorter work week, landlords should consider the implications for flexible leasing options
- Developers could consider the provision of 'buffer zones' or 'just in time' workplace zones within the building to allow occupiers to expand and contract in a more fluid way to cater for ad hoc fluctuations in population.
- Any future policy should encourage mixed / hybrid use developments extending the lifespan / day / weekend occupation of the development – enterprising leasing structure to be encouraged in the New London Plan to begin to develop greater flexibility in building uses and 24/7 leasing strategies.

Policy recommendation: Landlords should consider flexible leasing options to support occupier demand for flexibility. New office developments should consider more 'fluid' occupation scenarios, with expansion and contraction buffer zones to support the occupier on an 'as needed' and agile basis.

⑤ ***Affordable Workspace in both New and Refurbished Developments. Providing affordable and interesting workspaces is crucial to ensuring that cities such as London are at the forefront of the tech and creative industries, and therefore a draw for national and international talent.***

- Incorporation of affordable workspace, especially where it has a clear function as step-up incubator and growth space for industries with a wider social remit for workplace diversity and enriching the experience through collaboration.
- Workspace to be allocated on a project-by-project basis, suggest a reduced value of 2.5–5 per cent GIA and 27–33 per cent of market rent on a sliding scale depending on the size of the development.
- Often affordable workspace is allocated in the 'back' areas of the development and in some cases are unlettable or unsuitable for the local needs.
- Client should be required to establish the best workplace or community space requirements for the area through engagement with a viability and public benefit assessment.
- If it is established that a clear-cut community use would be of more value than affordable workplace, the rates payable, where appropriate, should follow the same discount of the rents payable under the affordable criteria.
- Ability to allocate an allowance of 2 per cent of GIA at zero rent for development in excess of 100,000 sq ft for community use or community infrastructure. Where evidence proves there is no demand, then the policy will be revert to affordable workspace under the proposed discounted rates.
- If none of the above criteria are achievable, and it can be proven that neither community nor affordable workspace is needed or feasible then payment of a levy can be implemented for use in the borough or surrounding borough to develop off site community or affordable opportunities.
- Retrofit criteria should be as defined above but set against its own size/area allowance that considers constraints in refurbishment.

- Policy should be introduced to allow developers to set up direct lease agreements with eligible occupiers, for example start-up companies, charity organisations and community use, nonprofit. Usually written into 106 agreements but should be standard and easier to implement.
- Introduction of greater flexibility post planning to change class use within the affordable area.
- Set a London wide base build criteria for affordable workspace to encourage quality, suitability, and value of spaces.
- Guidance should be set for minimum floor to ceiling heights, daylighting targets with the additional appropriate criteria for the proposed use, covering both new build and retrofit with definition between the two.
- Areas designated as affordable workplace to be subject to turnover caps on leases to ensure retention of affordable space within the developments.

Policy recommendation: clear definition and achievable criteria to provide viable affordable workspaces and social community uses within both new and refurbishment projects.

⑥ ***Retrofit vs newbuild should have clear and separate criteria to consider equally the viability, sustainability and operational aspects for both retention, refurbishment or new development.***

- All new development on sites, with an existing building, will be required to provide clear justification for full or partial demolition. A consistent clear approach is needed across boroughs as is currently inconsistent.
- Approach development in the right way, setting targets for reuse, circular economy, operational footprint and/or of new buildings to encourage the industry towards greater change and innovation.
- If appropriate, the introduction of sustainability criteria within the DRP, to determine the true merits of recycling existing product vs newbuild to ensure that the social and environmental offer, is meaningful and beneficial to the development and surrounding areas.
- Opportunity to create an SRP (Sustainability Review Panel) that is GLA referable for developments where LAs are uncomfortable with the story around limitations of design when setting levels of sustainability/longevity/flexibility.
- Committees and LAs should review and give sway to developments that focus on flexibility, sustainability and community uses alongside design. The London Plan needs to provide clear guidelines for good practice within these criteria, to empower Local Authorities to make informed decisions.
- Clear statements on flexibility, future proofing, and adaptability to be included within the planning application. Workplace buildings could be a very flexible building commercial typology if they meet criteria of a class A office occupier i.e. with clear spans and high floor to ceiling dimensions, natural light etc. This could be enhanced to ensure that change of uses can be accommodated if required.
- Any new development should try to ensure that change of use can be accommodated within the lifecycle where possible.
- Long term targets to be set to quantify the use of recycled and repurposed materials used in buildings, with an aspiration to reuse materials if appropriate/where possible.
- Targets needed to be implemented to phase out the use of certain polluting practices that are still used in construction. For example, diesel generators, VOC high paints, construction waste to landfill.
- Long term targets are to be set for the use of recycled and repurposed materials. Standards for fit out to be developed so all buildings have a demountable and reuse strategy within the next 5–10 years to develop and push the circular economy into industry standard practice. This could allow for development of a nationwide database of materials for reallocation, repurchase and reuse.
- Shorter term demountable and circular economy targets for fit out to be developed to discourage waste and replace scenarios.
- There needs to be a requirement to provide clear statements on flexibility, future proofing and adaptability to be included within the planning applications, to minimise future demolition with the New London Plan setting clear targets for the lifespans of buildings.

- Review scope for possible Incentives for Reuse, Refurb, Reimagined schemes—for example percentage tax breaks for recycled content/materials saved from savings in business rates.

Policy Recommendation: Consistent and defined approach to construction, delivery, flexibility and sustainability of new build workplace environment in London. The New London Plan needs to set future targets with regards to building longevity, circular economy, demountable components within construction, focusing on future goals and achievable milestones to set clear targets and criteria for the benefit of new build vs retrofit.

About the Work Expert Panel

The way we work in the capital is changing, requiring workspaces that are agile and responsive to flexible and hybrid working patterns. This Panel considers what the future holds for London's office space, taking into account changes in worker behaviours and travelling patterns. They contemplate how adaptive reuse could be applied to existing office buildings and consider the benefits of mixed, hybrid use developments for connecting workspaces with local communities and economies. Looking long term, the panel explore how office requirements, space standards, and consideration of flexibility, sustainability and wellbeing can effectively future proof workspaces.

Chair: *Katrina Kostic Samen, KKS Savills*

Jason Balls, EPR Architects

Jane Clay, Gensler

Matthew Dillon, Arup

Ben Eley, City of London

Shelley Frost, Cumming Group

Matthew Holloway, Grimshaw

Puja Jain, British Land

Victoria Shin, Transport for London

Sascha Lewin, W.RE

Jason Margrave, Quintain

Clive Nichol, Fabrix

Steven Skinner, HB Reavis

Chris Waite, Lifschutz Davidson Sandilands

Amanda Whittington, Feilden Clegg Bradley Studios

Laura Woolcock, KKS Savills