

The Changing Nature of Real Estate Investment and Delivery

Why the financing of built development should
support investment in green infrastructure

Summary Report

16 January 2020
The Bartlett Real Estate Institute, UCL

The Changing Nature of Real Estate

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The Bartlett Real Estate Institute, UCL



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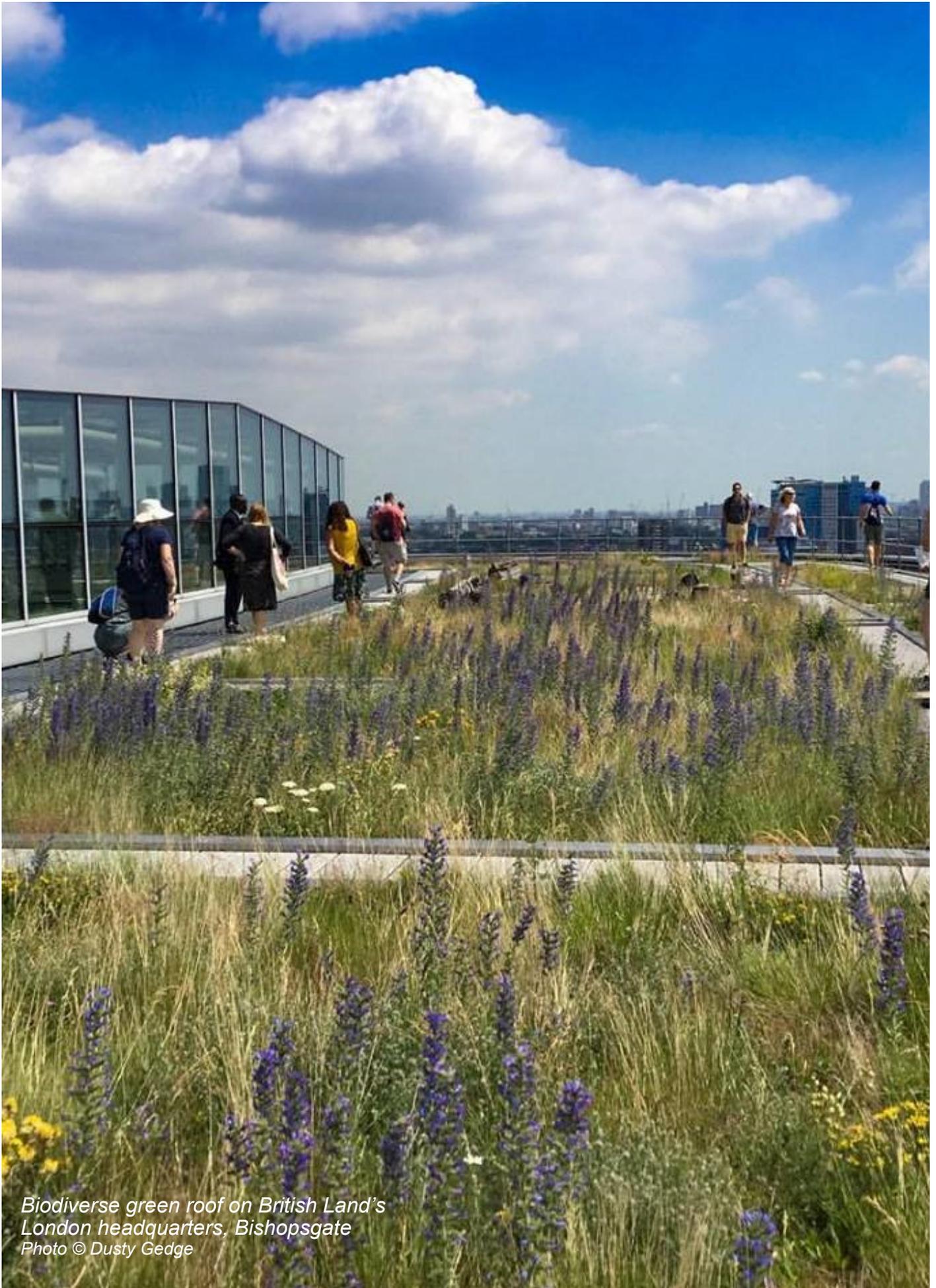
Blanche Cameron, The Bartlett, UCL

Peter Massini, Green Infrastructure Lead, GLA

*Cover photo: Cannon Street Station green roof park
Photo © Dusty Gedge*

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*Biodiverse green roof on British Land's London headquarters, Bishopsgate
Photo © Dusty Gedge*

Part 1 Context

Greening cities to adapt to the impacts of climate change

This report provides a synopsis of an event which brought together experts in the world of real estate finance and delivery with green infrastructure policy makers and practitioners, to address a key question facing urban areas:

'We know we need to green our towns and cities for climate adaptation, resilience and health – but who will pay for it?'

N.B. Held in January 2020, the content of the report has been augmented in light of the implications for the design and management of public space and green infrastructure in cities highlighted by the Covid-19 pandemic.

The need for change

Cities are engines of economic growth. Globally, over two thirds of the world's population will be living in cities by 2050; in Europe over three-quarters of the population will be urban.

But increasing populations, density and resource use combined with the impacts of climate change is contributing to environmental and public health challenges that question the current model of urban development.

The Covid-19 pandemic has brought some of the public health challenges into sharp focus. The lockdown highlighted the inequalities in the access to good quality public space, and green space in particular.

Consequently, policy makers and planners are adopting and promoting a green infrastructure approach – integrating vegetation, trees, soil and water into the urban fabric – adding to traditional parks

and green spaces to provide multiple services and benefits.

Green roofs and walls, rain gardens, street trees, swales and other nature-based solutions have all been shown to help cool the urban heat island, filter air and water pollution, reduce storm and surface water flooding, reduce energy demand and improve health, wellbeing and quality of life for citizens generally.

London's urban green infrastructure approach

London has been at the forefront of urban green infrastructure policy and practice through, for example, the establishment of the [All London Green Grid](#)¹ and the introduction of a game-changing green

roof policy in 2008 ([Green Roofs and Walls Technical Report 2008](#)²).

Subsequently, the publication of a [Natural Capital Account for London](#)³ in 2017 underlines some of the economic benefits of this approach; and in 2019 [Living roofs and walls – from policy to practice: 10 years of urban greening in London and beyond](#)⁴ reviewed the impact of a decade of urban greening policy and the benefits for London.

Now in 2020, the Urban Greening Factor introduced in policy UG5 Urban Greening in the new [London Plan](#)⁵ will further encourage green infrastructure delivery for climate change adaptation, resilience and health.

Through the planning process, all major developments will be required to provide urban greening integrated into the development. Furthermore, in response to the Covid-19 pandemic the [Streetspace Plan for London](#)⁶ has begun to accelerate the 'Healthy Streets' approach set out in the [Mayor's Transport Strategy](#)⁷.

The changing nature of real estate investment and delivery

Whilst city planners can provide the planning policy framework for a greener, healthier way of building better cities, the real estate sector has an equally important role to play because private investment is vital for achieving public policy objectives.

Many developers have already responded to the new planning policies. Green roofs, for example, are no longer a novelty; they are increasingly part of the standard palette of architectural solutions and building products.

However, to achieve a step-change in the delivery of nature-based solutions, the real estate sector needs to make investment decisions driven by economic demands and outcomes for businesses, tenants and residents, as well as environmental objectives and planning policy compliance.

The changing nature of real estate is beginning to make the business case undeniable. The focus will be more on what people and their organisations want (and will pay for) rather than relying on the increase in monetary value that occurs through simply owning a real estate asset.

To sustain long-term revenue, investors in real estate need to enhance the occupier's experience and be capable of adapting to the many changing needs and conditions that the future will present.

'Not only is there now increasing pressure from communities and environmentalists to seek alternative ways of building and managing places, but the nature of global money and investment has changed and this could make for some very different built landscapes in future.'

- Professor Yolande Barnes, Chair of The Bartlett Real Estate Institute, UCL⁸.

Event Speakers



Prof Andrew Edkins
Director, BREI, UCL



Shirley Rodrigues
London Deputy Mayor,
Environment & Energy



Peter Massini
Green Infrastructure Lead,
GLA



Roger Madelin
Joint Head, Canada Water,
British Land



Prof Yolande Barnes
Chair, BREI, UCL



Christine Murray
Editor, *The Developer*



Edward Vaughan Dixon
Head of ESG, Aviva
Investors Real Assets



Chantal Henderson
Commercial Finance
Director, Grosvenor Estate



Félicie Krikler
Director, Assael
Architecture



Chris Langdon
Investment & Development
Director, ENGIE (UK)



Dusty Gedge
President, European
Federation of Green Roof &
Wall Associations (EFB)
Director, Livingroofs.org

Part 2 The event

The Real Estate Debate: Green Infrastructure Means Business, chaired by Prof Andrew Edkins, took place at the 4th European Urban Green Infrastructure Conference (EUGIC www.eugic.events) in 2019, co-hosted by The Bartlett, UCL and Loughborough University London at Here East in the Queen Elizabeth Olympic Park.

The panel discussion between developers, investors, policy makers and others explored some of the issues around green infrastructure and the real estate sector and began to decipher some of the blocks and challenges to delivery.

It was clear that implementation costs, the likely return on investment, and reputational risk were some of the major challenges to adopting a green infrastructure approach to new development and retrofitting green infrastructure to the existing built environment.

It was also clear that these are issues which needed to be explored and discussed by the real estate sector themselves, rather than by those trying to influence the decisions taken by the sector.

Consequently, the event aimed to address in more detail some key issues:

- ◆ **What financial instruments and mechanisms exist or are needed to support green infrastructure investment?**
- ◆ **How can investors, developers and real estate owners and managers participate?**
- ◆ **What barriers and challenges exist? What solutions need to be shared?**
- ◆ **How can we finance green infrastructure for a climate-adapted, healthy and resilient city?**

More than a hundred professionals from across the real estate sector – asset managers, investors, insurers, developers, as well as housing and regeneration policy makers and decision-takers – attended the event to explore these questions, with thought leaders from real estate development, finance, insurance and asset management, as well as green infrastructure designers and urban ecology advocates.

Session 1 – Setting the scene

Prof Andrew Edkins, Director of [BREI](#), UCL, chaired the first session, exploring the environmental challenges faced by cities, the drivers for real estate investment, and how green infrastructure will be essential for a resilient future.

Shirley Rodrigues, Deputy Mayor for Environment & Energy opened the event, setting the London context and the very real value of nature and green infrastructure to London for addressing a range of future challenges, and how the Mayor has been promoting green infrastructure and nature-based solutions approaches in policy as part of his ‘Good Growth’ agenda (see page 8).

Peter Massini, Green Infrastructure Lead at the GLA, set out the scenarios London will be facing within the next twenty years, including an increasing population, increased densification, more severe and frequent weather events and the risk to public health and economic activity that this entails.

He explained how the [London Environment Strategy](#) (Chapter 5), the [London Plan](#) (Chapter 8) and the [Mayor’s Transport Strategy](#) (Chapter 3) have set out a bold policy framework that identifies green infrastructure as a key tool for addressing these challenges.

Roger Madelin, Joint Head of the [Canada Water Development](#) at British Land, set out that, as a developer, he recognised the increasing importance of green infrastructure for successful developments and liveable cities, setting out some of the aims for improved greening of public space, more green roofs and better integrated vegetation into developments at Moorgate, Paddington, Euston and Canada Water.

He summarised the business case for taking this approach:

“Financially, why are we doing it? Because we are confident at British Land... that having very good public realm and making that greener is a good thing. People like it, and their customers like it...for all the reasons that you know – trying to keep the temperature down, keep the environment feeling fresher and cleaner.”

Good Growth

- ◆ means building a more inclusive city and an inviting place to live, work and visit. This will help improve the health and wellbeing for all Londoners.
- ◆ plans for a balanced mix of young and old, of people from different cultures and backgrounds, of housing tenures and workplaces.
- ◆ supports and enriches a city’s public and civic spaces along with the streets and routes that connect them. It takes a contextual approach. This allows for vitality and change whilst sustaining and strengthening the character of London’s existing neighbourhoods.
- ◆ allows Londoners to benefit from living actively. It uses the ‘Healthy Streets’ approach to reduce car dependency and enable people to walk, cycle and use public transport instead.
- ◆ helps the city to work more efficiently by reducing car dominance. This helps make the best use of public space and ensures that essential freight traffic can help London’s businesses to thrive.
- ◆ prioritises high-density, mixed-use developments to create a compact city in which communities are well connected. It means people do not have to depend on cars to get around and ensures the best use is made of scarce land.
- ◆ is a partnership between the public and private sector. It takes a long-term approach to investment to yield the wider benefits of change.
- ◆ ensures that London remains resilient to our changing climate and is green and healthy. It means clean air, easy access to green space, more efficient buildings supplied by cleaner energy, and a move towards zero emission transport.
- ◆ enables everyone to fulfil their potential, by providing inclusive access to transport and other public services. It ensures that all communities see the benefits of growth and enables broader public participation in how the city changes.

Fig. 1: The Mayor’s [Good Growth approach](#)⁹

Professor Yolande Barnes, former Head of Global Research for Savills, and Chair of BREI, proposed that we can't afford not to work with nature.

In a summary of her article [Green infrastructure means business](#), Yolande highlighted some key changes that will affect real estate finance and investment in the years ahead:

“Green infrastructure and the industry response cannot be separated from the considerable disruption on other areas of real estate that we are seeing in the 21st century, characterised by fundamental changes in the nature of capitalism and money. The need for long-term income streams has completely changed investment criteria and aims. Today, the rising costs of energy and maintenance are eroding returns. There has also been the realisation that other forms of infrastructure, such as green and blue, will become more fundamental to the success of real estate...”

“The world has aligned with the money – form has followed finance... the automobile and the carbon economy have caused us to build great big buildings in single uses, so they fit into global portfolios on big grids. This has created a land-trading economy...”

“Asset prices are fully inflated and are not going anywhere without rental growth. That's a really fundamental change for the 21st Century and I think it means something very different in response from investors, from finance, from the world of money – and consequently has an impact on what we need to build and how it resolves in the urban form. We've just heard from Roger how footfall can increase through investment in green infrastructure...”

“And it means ongoing stewardship, seeing infrastructure in a much broader sense...and it needs ongoing stewardship and management. Real estate becomes a service not just a series of capital transactions on land. And I think it's in this way that we have to think about how we invest... including in green infrastructure.”

Session 1 – Discussion

How do we encourage investors to be more aware of the benefits of green infrastructure, especially in the light of risks to built environment assets?

And how can we prove the uplift in economic benefit and positive return on investment?

Roger Madelin argued that investors are increasingly aware of enormous global risks and the need for radical change, and that this will encourage investment in safer -bet, longer-term developments that are designed and managed to be resilient to the impacts of climate change.

But Yolande Barnes suggested that we should not underestimate ingrained institutional real estate behaviour as a barrier to the changes required:

“The question isn't, ‘Does it add value?’ It's ‘Why isn't everybody doing it?’

“I think the answer lies in the way the real estate sector organises itself. If the way you make money is serial capital trading, the long term doesn't matter; what matters is what you can trade it for today. And the whole industry is geared towards backward-looking valuations.

“My prognosis is that's going to change and quite quickly and the thing to do is to alert developers to the very real risks coming towards us, because their investment funding is going to be turned off if they don't meet these criteria.

“Capital values are falling, rents have fallen by about a third – that seems to have hit the real estate industry really suddenly, but we have known that the environmental issues are there.

“It is inevitable that there is money to be expended by real estate owners unless, in some cases, you want your asset literally under water.”

Session 2 – Provocations from real estate insurance, finance, investment and design

Chaired by **Christine Murray**, Editor-in-Chief of [The Developer](#), this session unpacked the issues in more detail, with real estate investment, development and green infrastructure leaders, followed by discussion with participants.

Edward Vaughan Dixon, Head of ESG at [Aviva Investors Real Assets](#) reinforced the notion that climate risk, in particular, will drive future investment decisions and the need to explore and develop tools and mechanisms within the sector that could help unlock investment in green infrastructure.

Edward outlined that, of the approximately \$92Tr global investments in assets under management, around a third or \$30Tr, is invested in ‘sustainable’ or ‘green’ investments.

Around \$1Tr of the \$92Tr is ESG finance, targeted at investments with a direct correlation between environmental, social governance and corporate governance issues and the financial performance of the fund.

Economists say we need about \$6-8Tr investment every year to 2030 to keep temperature rise below 2°C. Edward said this was likely to be a huge underestimate, with maybe 3 or 4 times that being needed. Some investment will start to move by itself, driven by regulation. But it could move a lot faster.

He pointed out that much of the \$92Tr of investment under management is money invested by all of us in pensions, insurance, and so on.

We should all be asking how our money is being invested—there is a role for everyone in getting more investment faster into sustainable projects such as green infrastructure.

Chantal Henderson, Director of Commercial Finance for the [Grosvenor Estate](#), indicated that financial reporting being devised by the [Task Force on Climate-Related Financial Disclosures \(TCFD\)](#) will require asset valuation to include how resilient an asset is to climate risk.

This could prove to be an important lever to mobilise funds for investment in more carbon-neutral and resilient development, including opportunities for investing in green infrastructure solutions.

Within two years, TCFD will require listed companies in the UK to disclose the impacts of climate change under the +2°C scenario, in their financial statements.

“So, if your board and your auditors don’t care right now, they will absolutely care if you’re listed in two years’ time. My advice to you is to prepare for that journey of disclosure and to start talking to them about it now because otherwise they won’t be able to get bond financing, they won’t be able to raise money, they won’t be able to get their accounts signed off.”

Félicie Krikler, Director of [Assael Architecture](#), showed how landscape-led masterplanning can provide the key to good development design, delivery and value.

She highlighted that landscape architects have a crucial role to play in showing clients that a better-quality scheme is achievable and can also deliver on impending new statutory requirements such as [Biodiversity Net Gain](#).

Chris Langdon, Investment and Development Director at [ENGIE UK](#), discussed the opportunities and challenges of climate-adapted regeneration programmes, with examples of restorative landscape approaches to improve higher-quality living and working environments, such as [proposals for the Rugby power station site](#).

Dusty Gedge, President of the [European Federation of Green Roof & Green Wall Associations](#), and Director of [Livingroofs.org](#) gave his perspective with 30 years of changing the landscape of London's real estate, through policies like the London Green Roofs and Walls policy, which has resulted in over [1.5 Million square metres of new green roofs](#) in the past ten years.

Dusty asked the question: everyone wants to be carbon neutral by 2030 – but how will we do it?

The word on everyone's lips, he said, is embedded carbon. He asked the room to consider how to produce a financial tool or mechanism that could represent how green roofs can be carbon negative on installation as well as providing the other recognised benefits of green roofs?

“Can we create a carbon-based financial mechanism to retrofit green infrastructure in London and other cities?”

Conclusion

The event identified some key policy, regulatory and market-led changes already in place and emerging over the next few years that could have profound implications for the real estate sector.

It also revealed that many of those responsible for the delivery of new development have already recognised that green infrastructure has an important role to play in meeting public policy objectives and the demands of tenants and residents.

However, there is still work needed to convince investors of the business case for green infrastructure and that it can be a significant factor in ensuring the generation of long-term income streams. Investors need to be able to understand that the green infrastructure component of a real estate development is not simply adornment to satisfy a landscaping condition but is an integral part of the development that helps to ensure its

resilience and high occupancy rates - and thus adds value.

The impact of climate change has loomed large as the major risk to investors and has become a driver for including more functional green infrastructure in the built environment to both mitigate the risk of harm to new development itself and to contribute incrementally to increasing the resilience of the city. But the impact of Covid-19 pandemic has highlighted another challenge that may result in a fundamental shift in way we design and manage the built environment. As more people and businesses embrace the idea of a more dispersed and networked way of working and living, the idea of a '[15-Minute City](#)' is beginning to gain traction and is a direct challenge to the traditional urban planning model whereby residential areas are separated from business, retail, industry and entertainment.

Too often, green infrastructure is viewed simply as landscaping that is required to soften and beautify new development. As the challenges of climate change and Covid-19 become more apparent, real estate investment will need to recognise that functional green infrastructure, designed and managed to improve resilience and improve health and well-being, is essential to creating and maintaining asset value. The Bartlett Real Estate Institute, UCL and the Greater London Authority plan to continue exploring these questions.

If you are involved in development, finance, insurance or green infrastructure in the real estate sector and would like to share insights and responses to any of the ideas explored by this workshop, do get in touch.

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References

¹ The All London Green Grid: <https://www.london.gov.uk/what-we-do/environment/parks-green-spaces-and-biodiversity/all-london-green-grid>

² London Green Roofs and Walls Technical Report 2008 <https://www.london.gov.uk/sites/default/files/living-roofs.pdf>

³ Natural Capital Account for London <https://www.london.gov.uk/what-we-do/environment/parks-green-spaces-and-biodiversity/green-infrastructure/natural-capital-account-london?source=vanityurl>

⁴ Living Roofs and Walls—from policy to practice: 10 years of urban greening policy in London and beyond <https://livingroofs.org/wp-content/uploads/2019/04/LONDON-LIVING-ROOFS-WALLS-REPORT-2019.pdf>

⁵ London Plan Chapter 5 Urban Greening Factor Policy <https://www.london.gov.uk/what-we-do/planning/london-plan/current-london-plan/london-plan-chapter-five-londons-response/poli-9>

⁶ Streetspace Plan for London <https://tfl.gov.uk/travel-information/improvements-and-projects/streetspace-for-london>

⁷ Mayor's Transport Strategy <https://www.london.gov.uk/sites/default/files/mayors-transport-strategy-2018.pdf>

⁸ 'Why green infrastructure means business' <https://bartlett100.com/article/why-green-infrastructure-means-business.html>

⁹ What is Good Growth? <https://www.london.gov.uk/what-we-do/regeneration/advice-and-guidance/about-good-growth-design>

Event resources

Films of speakers' presentations and interviews with some of the key participants are available here:

<https://www.ucl.ac.uk/bartlett/real-estate/news/2020/feb/changing-nature-real-estate-investment-and-delivery>

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