

Height and Heritage

The Unique Challenges of Building Tall in Historic Cities

Post-Conference Report



CTBUH 2013

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Council on Tall Buildings and Urban Habitat

S.R. Crown Hall
Illinois Institute of Technology
3360 South State Street
Chicago, IL 60616

Phone: +1 (312) 567-3487

Fax: +1 (312) 567-3820

Email: info@ctbuh.org

<http://www.ctbuh.org>

Editor: Daniel Safarik and Antony Wood

Design and Layout: Marty Carver

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Rachel Coleman, Alinea Consulting, London
The Urban and Public Realm – Page 30

Sian Disson, World Architecture News, UK
Tall Buildings as Heritage – Page 24
Tall Sustainability in Historic Cities – Page 26
Beyond London – Page 48

Robert Lau, Roosevelt University, Chicago
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Developing High-Rise Living – Page 36

Philip Oldfield, University of Nottingham, UK
The Leadenhall Building Project Room – Page 44

Caroline Stephens, World Architecture News, UK
The Peter Wynne Rees Led Tours of London – Page 42

Dario Trabucco, IUAV University of Venice, Italy
Tall Sustainability in Historic Cities – Page 26

Richard Witt, Quadrangle Architects Limited, Toronto
The Urban and The Public Realm – Page 30

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For more information on the "50 European Icons" found on the cover of this report, please see pages 10–11. The background text on the cover lists significant European cities with a population over one million, where skyscrapers are built or proposed, as well as the 100 future tallest buildings in Europe (complete, under construction, and proposed).

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Conference Overview

Why London?

In the midst of two decades of unprecedented tall building development globally, Europe has increasingly embraced the skyscraper, even in cities traditionally seen as “anti-tall.” From London to Istanbul, Paris to Prague, Moscow to Madrid, many European cities are growing taller, recognizing the need for a more sustainable concentration of infrastructure, energy and carbon offered by denser cities.

The European context of these buildings is, however, often completely different to their counterparts in other parts of the world. The piecemeal growth of historic European cities has resulted in sites that are more restricted physically than those typical of a North American grid plan, or a rapidly expanding Asia new town. Plus there are often hundreds of years of architectural history as direct accompaniment to take into account. Tall buildings in Europe often have a completely different set of physical, social, cultural and environmental issues to respond to than the rest of the world.

The Council on Tall Buildings and Urban Habitat thus brought its 2013 conference to London – a city of both amazing modernity and historical wonder – to address these issues, share information and create a dialogue for advancing future projects.

We came to London to ask: What programs, ground floor interfaces and building expressions are appropriate for a European skyscraper? How tall is “tall” in a historical context? Should there be more sensitivity around height? Do these buildings really deliver the oft-stated sustainable advantages? Can they reduce, generate and store energy in ways to benefit the city as a whole? And how can these most modern of architectural wonders integrate into the historic city to act as mediators between the present and the past?

The conference assembled one of the strongest speaker lineups in the Council’s 44-year history, and gathered together more than 750 delegates for three days of information sharing and networking. The world’s leading tall building stakeholders debated and presented on issues surrounding the conference theme, “Height and Heritage: The Unique Challenges of Building Tall in Historic Cities.”

Across 20 sessions, three plenaries, two networking receptions, a formal conference dinner, 11 technical building tours and two urban tours, attendees were able to gain an insightful perspective on the context and challenges of building tall in historic cities and on strategies to help new cities grow sustainably. On the last day, technical tours allowed attendees to experience

firsthand the new built heritage of London rising amidst the 2,000-year history of the city. The lively discussions about economic, environmental planning and cultural constraints to create prosperous urban habitats crystallized into a new way of seeing for many delegates, whether their implications were encountered from a boat on the Thames, up close on foot, or an observation deck on high.

The conference played host to a number of important other CTBUH initiatives, including the awarding of research seed funding (see page 20) and the launch of two seminal tall-building design publications (see pages 16 and 34).

More than 40 media reports emerged from the conference, covering new innovation demonstrations, debates and presentations held at the conference.

Overview of Sessions

The **opening plenary** of the conference set the stage for the overall theme of the conference, “Height and Heritage.” **Peter Wynne Rees**, Planning Officer for the City of London, offered the unique perspective of 28 years of experience managing the skyline of the financial district and a solid thesis about the core purpose of dense city centers: fostering gossip and interchange that eventually turns into commerce.





The Historic Brewery hosted all plenary sessions, multi-track themes, panel discussions and the exhibition during the first two days of the conference.

Carmine Bilardello, Senior Vice President of construction insurer Willis Group, gave an owner's rationale for locating in the center city and building tall: simply put, it's where employees want to be. **Richard Pilkington**, representing top sponsor Oxford Properties, presented on one of the City's most important projects, The Leadenhall Building.

Attendees of the **second day's morning plenary** heard from three equally significant heavyweights of "London Tall." Though their approaches differed, the combination of the three presenters painted a full-figured picture of the motivations for, and ongoing consequences of, the shapely icons that now dominate the London skyline. **Irvine Sellar**, founder of Sellar Property, proved his mettle by lodging Europe's tallest and sharpest building – The Shard – in the heart of London's historic South Bank. Sellar chronicled a 14-year battle to complete the UK's tallest

building with planning authorities, the teeming metropolis, and buried infrastructure shot through with ancient ruins. **Rafael Viñoly**, architect of 20 Fenchurch Street ("the Walkie Talkie") described how the building's unusual shape was a result of the design accommodating view corridors to and from St Paul's to protected locations such as Parliament Hill and Blackheath Point. **Kent Gardner**, CEO of Evans Randall, closed the session by describing the enormous value 30 St Mary Axe ("the Gherkin") had brought to its new owners as well as to London and the UK on the world stage.

The need to resolve height with heritage was the central theme of the conference overall. Two sessions, "**Tall Buildings vs Heritage**" and "**Tall Buildings as Heritage**" centered on – and questioned – the notion that tall buildings and heritage were inherently oppositional. In the first,

Paul Finch, Chair of the World Architecture Festival opened the session by presenting images of modern London, asserting that tall buildings have become part of its character. **Simon Thurley**, Chief Executive of English Heritage, argued that London's unique skyline was worth protecting. **Peter Murray**, Chairman of London's Centre for the Built Environment, expected that view corridors of St Paul's would continue to influence future developments for years to come. **Robert Tavernor**, professor at the London School of Economics and Political Science, presented an image of Siena, Italy, as an example of a city with a good historic environment. "A lively city life has traditionally been found in historic cities," he said.

In other cities, tall buildings are already an essential part of history, and thus form a critical link in understanding their heritage. **William Baker**, a CTBUH Trustee and structural engineering partner at SOM, argued that a tall building doesn't truly achieve its potential, nor does it truly become part of a place's heritage, until it is embraced by the public at large. **Talal Al Maiman**, CEO and Managing Director of Kingdom Real Estate and developer of the 1000-meter-plus Kingdom Tower in Jeddah, agreed that it was not possible to simply "create" heritage, but that such a designation must be earned over time by building public trust. **Stefan de Faÿ**, Deputy Managing Director, EPADESA / Paris la Défense Seine Arche, shared his perspectives on the pioneering La Défense development, Europe's introduction to tall-building clusters.

“In the midst of two decades of unprecedented tall building development globally, Europe has increasingly embraced the skyscraper, even in cities traditionally seen as ‘anti-tall.’”

Antony Wood, Executive Director, CTBUH

The Challenges of Tall in Historic Urban Fabric

The opening plenary of the CTBUH International Conference, "Height and Heritage," made it clear why the steering committee chose London as the venue this year.

The City of London has been at the center of the debate on "tall versus historic" over the past two decades, as witnessed by a number of now-evocative words; Gherkin, St Paul's, Cheese Grater, Prince Charles, Walkie Talkie.

Before the first plenary session got underway, Executive Director **Antony Wood** cited a few evocative words of one of Britain's most famous citizens and architectural observers. His Royal Highness Prince Charles had addressed the last CTBUH conference in London, in 2001, before the current burst of tower design and construction.

Wood regaled the audience with Charles' cutting words for the progenitors of "commercial macho turned into adolescent fantasy," but acknowledged that the Prince had a point when he pleaded with developers and city planners to place "buildings with their heads in the clouds" firmly with "their feet on the ground."

"Are tall buildings the answer?" Wood asked. "Is Prince Charles' message then relevant to now?"

Peter Wynne Rees, Planning Officer for the City of London, gave a presentation that could hardly have been a more direct answer to that question. Celebrating the diversity and vitality of the 2,000-year-old City, Rees said that a medieval city, densely settled and laced with excellent transport networks, might be the ideal ground for skyscrapers – so long as they do not impede the very characteristics that make a city appealing in the first place.

Noting that over 90 percent of 380,000 City workers commute by public transport, Rees said, "How can we make buildings more sustainable? By building them in a sustainable place. If you build a 'sustainable' building in a place people reach mostly by car, you are wasting your time."

Criticizing edge-of-city developments, Rees maintained that older districts in city centers are the ideal ground where young and enterprising people can intersect accidentally while working – which is how partnerships and ideas form, and money is ultimately made.

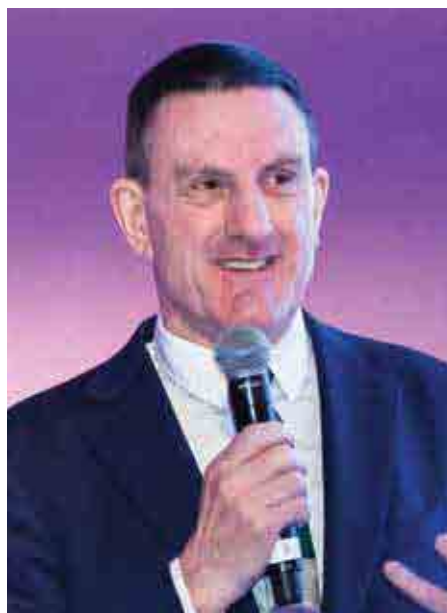
"If we are going to build beehives that poke through the clouds to accommodate people who need space, we have to do it carefully without messing up the gossip networks, because that is the compost where the flowers grow," Rees said. The best places, it seems, are those where unplanned interactions happen with frequency. Towers are fine, as long as they contribute to, rather than drain, the energy. Putting a tower in green field is like a morbid variation on "Field of Dreams"; build it and they'll come, but they will be the walking dead unless there is a real city that interchanges with its buildings meaningfully, he said.

"We've never tried to build the world's tallest building here," Rees said. "If that is all you do, people will be bored in three months. Don't build tall to change your fortunes, build tall because you are already successful and have run out of space. And when you do, do it well."

Of course, developments do need to make some kind of fortune, but the tables have turned somewhat. **Richard Pilkington**, Senior Vice President and Managing Director of Oxford Properties – joint developers of The Leadenhall Building with British Land



Antony Wood, CTBUH Executive Director, welcomes delegates to the 2013 London Conference



Peter Wynne Rees, The City Planning Officer, City of London, shares the diversity and vitality of London



Richard Pilkington, UK Managing Director, Oxford Properties, discusses the economic crash's impact on London



An overall view of London from the River Thames; new towers can be seen going up amidst the heritage landmarks in this historic city © Hilson Moran

– said the demise of pre-2008 financial bravado has meant that property investment is largely back in the hands of real-estate developers and occupiers with different priorities from bankers.

London, one of the world's top financial centers, was as shaken as the rest of the world by the crash. "Now, having emerged from global crisis, it is important for us to discuss what has changed," he said. "Banks are no longer a reliable source of funding; only well-capitalized investors can help. Investing and developing tall buildings in today's economic climate leaves no room for error." As such, the eccentric shapes of buildings in the British capital has less to do with the "look-at-me" iconic ambitions for which they are often pilloried in the press, than it does with the need to, first and foremost, be marketable, but also, to meet extremely constrained regulatory and financial conditions.

Rees concurred with this: "What we have is a set of rules that tell you what you can't do – obstruct St Paul's or the City Airport approach," all of these set constraints. But once you set those there is great flexibility. The Gherkin is a reaction to planning constraints and the site itself. Maximize open space, minimize height impact, and control the micro-climate."

Rees noted that built quality had actually gone up since banks stopped dominating the property market. The past priorities of the financial markets had not been great for architecture.

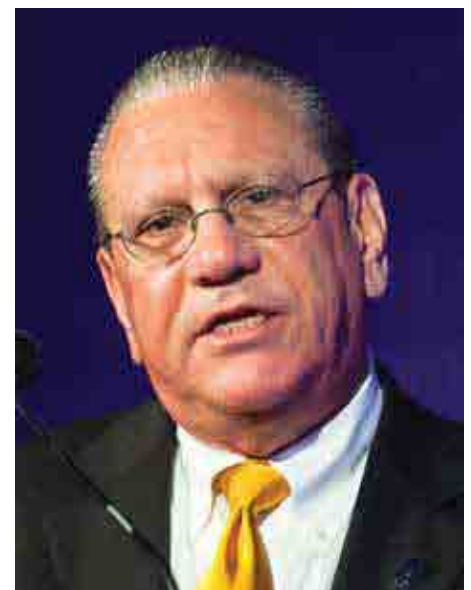
Investors with an interest in finding tenants, or moving in themselves for the long term, tended to build skyscrapers with more care, he said.

This wasn't to say marketing and commercial verve were unimportant, or that they cannot be a part of context or built heritage. This was the perspective of **Carmine Bilardello**, Senior Vice President of The Willis Group, the construction insurer responsible for the Willis Building at 51 Lime Street, London and which now occupies the Willis (formerly Sears) Tower, in Chicago.

Willis has faced some umbrage in Chicago, where it could be argued that Sears Tower was considered as much a part of the city's heritage and self-image as the Water Tower that survived the fire of 1871. What's

“Don't build tall to change your fortunes, build tall because you are already successful and have run out of space. And when you do, do it well.”

Peter Wynne Rees, The City Planning Officer, City of London



Carmine Bilardello, Senior Vice President, The Willis Group, offered a direct rationale for building tall in center cities: it's where people want to be



Tall Buildings vs Heritage



Paul Finch (Chair), Program Director, World Architecture Festival, argues that tall buildings give cities character



Robert Tavernor, Professor, London School of Economics and Political Science, provides insight on the ingredients of a lively urban environment



Simon Thurley, Chief Executive, English Heritage, believes that contemporary design makes cities indistinguishable



Peter Murray, Chairman, NLA – London's Centre for the Built Environment, argues for the value of the St Paul's view corridors.

This fascinating panel discussion trained expert attention on questions such as:

- Is the skyscraper an appropriate building typology for cities with hundreds – or thousands – of years of architectural history?
- Are there other ways to satisfy a city's need for floor space that do not have such a dramatic affect on the city skyline and urban fabric?
- Do the benefits of the skyscraper outweigh potentially adverse affects or should this building type be banished from historic cities?

Paul Finch, Chair of the World Architecture Festival, opened the session by presenting images of modern London, asserting that tall buildings have become part of its character. The eastern cluster of the city is prominent in the skyline, with the addition of The Shard across the Thames establishing a new point of reference to the south. The current political administration has promoted these new additions, Finch added.



Simon Thurley, Chief Executive of English Heritage, presented images of global cities with tall buildings, all of which were quite different from London. These were not only contemporary cities, divorced from any relationship with historic character; importantly, many of the subject cities were historic cities where the automobile and highways had devalued the pedestrian experience. The generic nature of contemporary design has a similar tendency to make cities indistinguishable from each other, Thurley said. London, by contrast, has a unique skyline, he argued, implying that it was worth protecting.

Robert Tavernor, Professor at the London School of Economics and Political Science, presented an image of Siena, Italy, as an example of a city with good government. "A lively city life has traditionally been found in historic cities," he said. London is also a good example and continues to enjoy a lively city center, he added. In addition, it also enjoys open green spaces that have been

preserved in parts of the city. A current debate centers on the development around St Paul's and its viewing corridors. "Most agree that these corridors should be preserved – but to what extent?" Tavernor asked.

Peter Murray, Chairman of London's Centre for the Built Environment, continued the discussion of the historic character of London. While some of it was damaged during World War II, the City has retained its character, Murray maintained. The view corridors of St Paul's will influence the future developments in the city for years to come, he said.

When the panel opened for discussion, the panelists predominantly concerned themselves with how to allow flexibility in development. It is impossible to predict how much new development is required and where it will be located in a city, the panelists agreed. Limiting development may produce negative results for the city's economic health; however, letting development run rampant has many negative side effects for sustainability and civic cohesion.

All panelists agreed that quality design is one key ingredient of successful developments. There are numerous nondescript cities across the globe where "cookie-cutter" developments predominate. Public input on the type and nature of projects has produced positive results for London and limited the "cookie-cutter" effect. While the public debate has prolonged the timeline of projects, Thurley said he believes the results can justify the extra time used.

"Height, in and of itself, is not a negative," Thurley said. "Depending on how tall construction is designed and positioned in relation to its city context, it can produce very positive results." ■

Technical, Building and City Tours Lend New Meaning to “Height and Heritage”



Map of London streets and the River Thames showing all tour destinations

As part of the London Conference, attendees were offered 13 tours of prominent buildings throughout the metropolis, including many that were the subject of conference presentations.

Developed by British Land and Oxford Properties, **The Leadenhall Building (“the Cheese Grater”)** is an exceptionally complex, 52-story engineering project undergoing construction in the heart of the City of London. The project team of Laing O’Rourke, Arup and Rogers Stirk Harbour + Partners explained how they have overcome extraordinary technical challenges through the implementation of innovative design and construction methods, driven by focusing on offsite manufacturing of building components. While there were several engineering challenges, the manufacturing and installation processes proved to be the highlights of the tour.

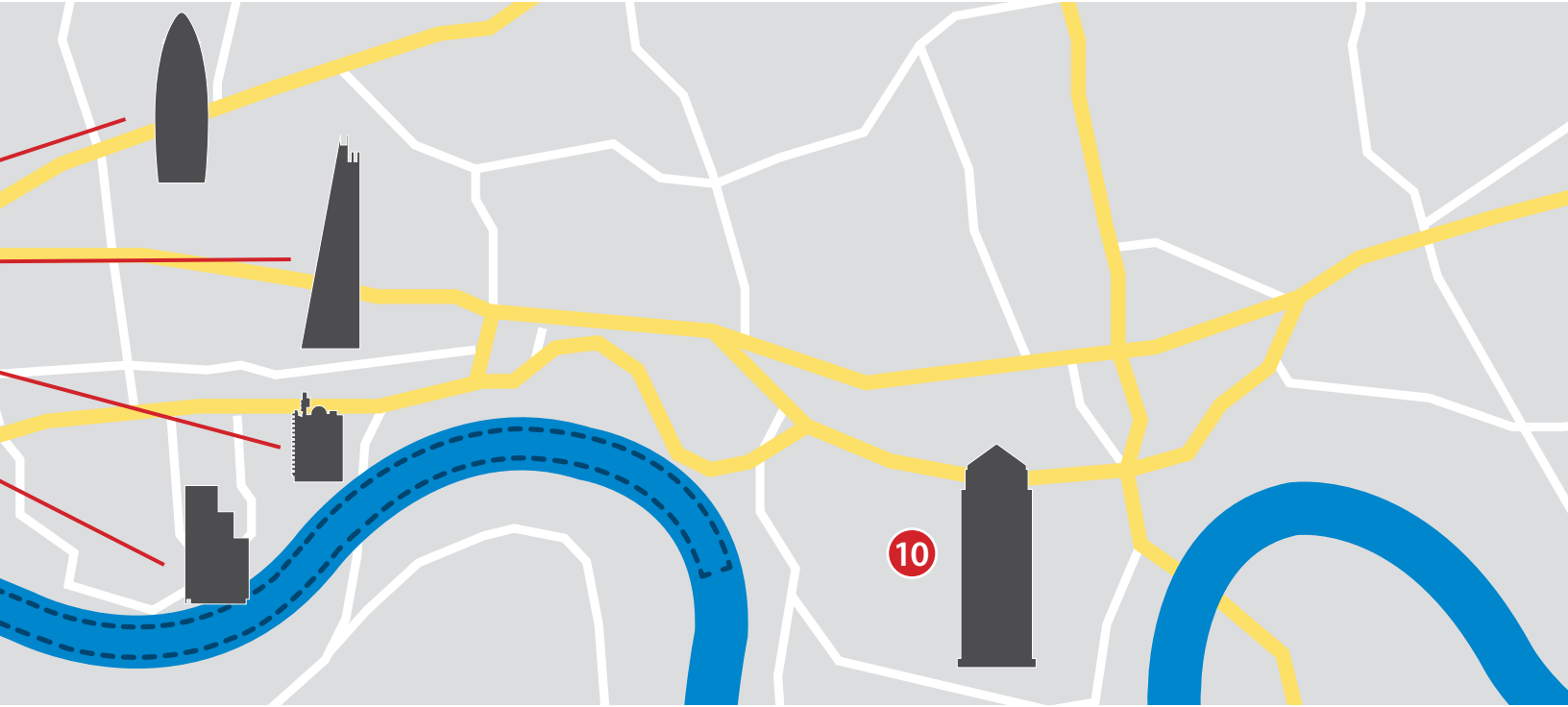
The Leadenhall’s nearby neighbor, **30 St Mary Axe (“the Gherkin”)** played host to

a delighted group, who learned about its multiple green features, including operable windows and multi-story atriums, which set a new standard for high-rise design in London and beyond. The most spectacular spaces in the building are the 39th floor restaurant and 40th floor bar, where no columns or mechanical equipment obstruct the view. The glazing has been carefully engineered to provide views out without admitting harmful UV rays. This feature makes the building particularly well-suited to its environs, despite the initial controversy over its shape.

Set to complete in 2014, **20 Fenchurch Street (“the Walkie Talkie”)** is easily recognizable by its floors which grow in size as they go up, culminating in a large viewing deck and “sky garden” that will be open to the public. The tour included plant rooms, entrance lobby, a typical floor and the under-construction sky garden. Although the roof structure, an extension of the fins that hug the curves of the tower, were still being put in place, it didn’t

take much imagination to see why the strap line on the site hoarding of the building “with more on top” was adopted. Most evident from the tour was the degree to which BIM technology had been used by the project team, from concept through to detail design, and then into construction, showing how using this technology enabled lettable space to be maximized. The building is designed to a density of occupation of one person per eight square meters throughout.

Elsewhere in the Central London cluster, the **Heron Tower** welcomed a delegation into its atrium, roof, plant, office and restaurant spaces. Stretching 230 meters into the London skyline, the 46-story building, which was completed in 2011, is the tallest completed building in the City of London. It provides 36 stories of exceptional office space with bars and restaurants on the ground and uppermost floors. The unusual side-loaded core design shades the southern elevation. This single decision contributed to more than half of



Tour 1. The Leadenhall Building © Steven Henry



Tour 2. 30 St Mary Axe © Steven Henry



Tour 3. 20 Fenchurch Street © Tansri Muliani

The Council on Tall Buildings and Urban Habitat is the world's leading resource for professionals focused on the design and construction of tall buildings and future cities. A not-for-profit organization based at the Illinois Institute of Technology, Chicago, the group facilitates the exchange of the latest knowledge available on tall buildings around the world through events, publications, research, working groups, web resources, and its extensive network of international representatives. Its free database on tall buildings, The Skyscraper Center, is updated daily with detailed information, data, images, and news. The CTBUH also developed the international standards for measuring tall building height and is recognized as the arbiter for bestowing such designations as "The World's Tallest Building." This document is a review of the seminal CTBUH London Conference, which took place over three days in the UK capital in June 2013.



Council on Tall Buildings and Urban Habitat

S.R. Crown Hall
 Illinois Institute of Technology
 3360 South State Street
 Chicago, IL 60616

Phone: +1 (312) 567-3487
 Fax: +1 (312) 567-3820
 Email: info@ctbuh.org
 www.ctbuh.org