

Title: **The Space Between: Urban Spaces Surrounding Tall Buildings**

Author: James Parakh, Urban Design Manager Toronto and East York District, City of Toronto Planning Department

Subject: Urban Design

Keywords: Landscape
Public Space
Urban Design
Urban Planning

Publication Date: 2016

Original Publication: Cities to Megacities: Shaping Dense Vertical Urbanism

Paper Type: 1. Book chapter/Part chapter
2. Journal paper
3. **Conference proceeding**
4. Unpublished conference paper
5. Magazine article
6. Unpublished

The Space Between: Urban Spaces Surrounding Tall Buildings

空间之间：高层建筑周边的城市空间



James Parakh
Urban Design Manager Toronto and
East York District
多伦多及东约克区规划设计经理
City of Toronto Planning Division
多伦多市规划局
Toronto, Canada | 多伦多, 加拿大

James Parakh is an Architect and Manager of Urban Design for the City of Toronto Planning Division. During the last decade, he has led the urban design studio that has helped guide the review of all development in downtown Toronto and the surrounding urban areas – a portfolio that includes well over 250 tall buildings. Parakh also serves as Vice-Chair of the Urban Design Review Panel for Ottawa. His primary interest focus revolves around how tall buildings fit within their urban context, affect the public realm, and impact the quality of life for those that live or work within them.

James Parakh 是一位设计师和多伦多城市规划部的城市设计经理。近十年来，他领导城市设计工作室的各项设计工作，该设计室帮助指导多伦多市区和周边城区的开发设计评审，其中包括250多座高层建筑。Parakh也担任渥太华城市设计审查小组的副主席。他主要关注高层建筑如何与他们的城市文脉相适应，如何影响公众领域，以及如何影响工作和生活在其中的人们的生活品质。



Abstract | 摘要

This paper is intended to introduce the upcoming CTBUH technical guide titled “The Space Between,” which investigates the importance of publicly accessible spaces surrounding tall buildings. Urban spaces featured in the technical guide range in scale from London’s Pocket Parks, to Shanghai’s historic Xintiandi District. Also, neighborhood scaled parks resulting from master plans like Battery Park City in New York, as well as grand urban spaces such as Lake Khalifa in Dubai and Marina Bay in Singapore, are examples of urban spaces that frame tall buildings’ contributions to their urban pageantry. This technical guide will highlight all scales of the “Spaces Between,” and how each impact the quality of life for those that live, work, and visit tall building neighborhoods. The finished publication will be an output of the CTBUH Urban Habitat/Urban Design Committee.

Keywords: CTBUH Technical Guide Launch, Public Space, Quality of Life, Toronto Canada, Urban Design, Urban Habitat / Urban Design Committee

本文旨在介绍即将出版的CTBUH技术指南系列丛书中的“间隙空间”。该部分内容探讨了高层建筑周边公众可达空间的重要性。在技术指南中提及的城市空间尺度从伦敦的口袋公园到上海著名的新天地，同样还有如同迪拜哈利法湖和新加坡滨海湾一般的宏伟空间，这些都是城市空间另高层建筑形成壮丽景观的例子。该技术指南将强调间隙空间的所有尺度，以及每一间隙空间如何影响生活、居住和访问高层建筑的人们的生活和工作品质。编辑完成后的出版物将会是CTBUH城市人居和城市设计委员会的一项重要工作成果。

关键词：CTBUH 技术指南启动、公共空间、生活品质、加拿大多伦多、城市设计、城市人居/城市设计委员会

Introduction

This paper introduces the upcoming CTBUH Technical Guide, The Space Between: Urban Places Surrounding Tall Buildings. This guide will focus on a number of issues affecting the urban habitat of tall buildings, including the essential ingredients needed to improve the quality of life for those that live and work in tall buildings within urban areas. The paper will focus on a number of diverse case studies which feature open spaces – both interior and exterior – of various scales and typologies. Through this paper, we will explore the role of the tall building as a place-maker – how tall buildings meet the street and how they contribute to the public realm.

One of the key ways that tall buildings contribute to the public realm is by framing and creating open spaces. These spaces can be found at varying scales and serve a multitude of functions, ranging from pocket parks, like Paley Park in New York (Figure 1), to more grandiose spaces, such as Burj Khalifa Bay and the Dubai Fountain in Downtown Dubai. Through a review of these spaces, one will understand how open space contributes

介绍

本文介绍了筹备中的系列书籍《CTBUH技术指南》中的内容间隙空间：高层建筑周边的城市空间。指南将关注影响高层建筑都市栖地的一些问题，包括在城市范围里提高人们在高层建筑工作和生活质量的必要要素。本文将着重对有不同规模和类型的开放空间、内部空间和外部空间的案例进行研究。通过文章，我们将探讨高层建筑在场所营造中的角色，它们如何满足街道需求并对公共区域作出贡献。

高层建筑对公共区域的主要贡献方式之一是构架和创造开放空间。这些空间的尺度从口袋公园（图1），如纽约的佩雷公园，到Burj Khalifa湖以及迪拜市中心的迪拜喷泉这样的宏大空间。不同尺度的开放空间具有不同的功能。通过回顾这些空间，我们将了解开放空间如何塑造成功的高层建筑，与公共区域的连接如何使这些区域成功。在独立的开放空间之外，本文还将着重介绍由一系列开放空间构建的空间网络，以及高层建筑在这个庞大的网络中所起到的作用。



Figure 1. Paley Park, New York (Source: James Parakh)
图1. 纽约佩雷公园 (来源: James Parakh)

to the success of the tall building, as well as the interface with the public realm. Beyond the individual open spaces, this paper will also focus on the networks created by a succession of open spaces and the role tall buildings play in this larger network.

Small Spaces

Small spaces such as Toronto's POPS (privately owned publicly-accessible spaces) are spaces of less than 1,000 square meters (10,000 square feet) that serve the public in a variety of ways. These spaces take on several typologies, from pedestrian connections, to parkettes, to plazas and piazzas. The case studies that follow outline a few small spaces and the different roles that they play in their overall urban networks. These spaces succeed when the ground level functions of the tall buildings help to animate them with elements like shops, restaurants, cafés, and large windows (which may seasonally open up onto these spaces). Small spaces are beneficial when they are convivial, welcoming, friendly, and encourage people to occupy them. High-quality finishes, seating, and greenery are all aspects that contribute to the success of small spaces.

300 Front Street West, Toronto, Canada

300 Front Street West is a 52-story residential building in Toronto designed by Rudy Wallman Architects. As part of the approval process, the City of Toronto Planning/Urban Design Board collaborated with developer Tridel Corporation to create a 9,000-square-foot open space at the corner of Front Street and John Street. The space is designed by landscape architect Claude Cormier + Associates (Figure 2).

小空间

以多伦多的POPS（私有但公共可达的空间）——小于1000平方米（10000平方英尺）的空间为代表的以各种方式服务大众。这些空间以人行道连接、小公园、集市场所和广场的多种类型呈现。下面的案例研究列出了几个小空间在整个城市网络发挥的不同作用。这些空间在高层建筑地面功能的激活作用帮助下成功，商店、餐馆和咖啡馆的大窗户（可季节性的向这些空间开放）有助于激活这种亲密的城市空间并使它们变得活跃。成功的小空间是活跃、热情、友好的同时鼓励着人们的使用行为。高品质的饰面、座椅、绿化都是小空间成功的因素。

Front Street West 300号是一座位于多伦多的52层住宅楼，由Rudy Wallman建筑师事务所设计。作为批准过程的一部分，多伦多的城市规划/城市设计人员与开发商Tridel公司合作在Front街和John街的拐角处设计了一个9000平方英尺的开放空间。该空间由Claude Cormier + Associates景观建筑事务所设计（图2）。

这片城市栖息地的对角线被公共艺术活动加强，为了给这样的活动提供场地，方案为此对角线进行了设计。它周围的花岗岩长椅为人们提供了座位和休息的地方。为适应多伦多日益增长的狗的数量（预计新建的公寓楼每层有5-7只狗），这片公共可达的空间里设置了狗站作为遛狗者的便利设施。

该公园的边界由功能积极的立面和大窗户限定。公园的北面是零售商店，西面是一

个有管理人员的双层接待大厅，它作为“公园的眼睛”提升了区域的安全感。

2015年Tour Carpe Diem被CTBUH奖项评审委员会认可入围都市人居奖决赛，它由多层的冬季花园组成，这个城市的室内空间连接城市各层，同时提供气候控制的“人居空间”造福了塔的使用者和周边的社区。

Tour Carpe Diem, La Défense

卡佩蒂姆大厦是拉德芳斯商业区迈向行人友好型城市和环保型建筑体系的重要一步。卡佩蒂姆大厦是位于法国巴黎拉德芳斯商业区中心的办公大楼。卡佩蒂姆大厦位于香榭丽舍大道的延伸段上日渐崛起的商业区Dalle，它将作为这里首座连接商业区和周边城市Courbevoie历史城市肌理的建筑。作为行人友好型城市和环保型建筑体系的建筑，它是修正金融区的原始规划中连续性分裂的第一步，成为该地区另一个重要的城市栖息地。

一个大型的室外楼梯将Dalle与库尔布瓦的邻近街区相连接。位于建筑底部的下沉冬季花园进一步改善了建筑周边的环境。作为拉德芳斯混凝土沙漠中的绿洲，冬季花园拥有奇花异草、青铜雕像和绿篱墙壁。

CapitaGreen, Singapore

CapitaGreen被评审团选为2015年CTBUH亚洲和澳大利亚地区最佳高层建筑。CapitaGreen位于新加坡中央商务区，靠近市中心扩展的滨海湾区域。一楼走廊提供了不受天气影响且有遮蔽的城市栖息地，它和城市的周边公共区域相连接，并提供穿过场地的内人行道联系。



Figure 2. View of 300 Front Street, POPS, Toronto (Source: James Parakh)
图2. 多伦多私有公共空间——湖畔明珠景观 (来源: James Parakh)

The urban habitat is designed to accommodate diagonal connections through the site, accentuated by public art. Perimeter granite benches allow visitors with seating and places to rest. To accommodate Toronto's growing dog population, estimated at five to seven dogs per floor of new condominium construction, dog stations are located in this publicly accessible space to serve as an amenity for dog walkers.

The park is framed by surfaces with active uses and large windows. To the north is a retail store and to the west is a double-height lobby with a concierge, providing "eyes on the park" and thereby increasing the sense of safety.

Recognized by the 2015 CTBUH Awards Jury as a finalist in the Urban Habitat Award category, Tour Carpe Diem incorporates a multi-level winter garden, which is an urban interior space that links various strata of the city while providing a climate controlled "people place," well utilized by both the occupants of the tower and the surrounding neighborhood.

Tour Carpe Diem, La Défense

Tour Carpe Diem is an important step forward in the evolution of La Défense towards pedestrian-friendly urbanism and environmentally responsible architecture. Tour Carpe Diem is an office tower located in the heart of La Défense, Paris, France. It is the first building in La Défense to connect the raised Esplanade – known as the Dalle – that continues the access of the Champs-Élysées to the historic urban fabric of the surrounding city of Courbevoie. As a pedestrian friendly and environmentally responsible piece of architecture, it represents a first step in repairing the disruptive continuity of the original master plan for the financial district, making it an important addition to the area's urban habitat.

A monumental exterior staircase links the Dalle to an adjacent neighborhood within Courbevoie. A sunken winter garden at the base of the tower further enhances the surrounding area. Designed as an oasis within the concrete desert of La Défense, the winter garden features exotic plants, bronze statues, and green walls.

CapitaGreen, Singapore

CapitaGreen was selected by the 2015 CTBUH Awards Jury as the Best Tall Building in Asia and Australia. The project is located within Singapore's central business district and in close proximity to the extended downtown Marina Bay. The ground floor loggia offers a weather-protected and shaded urban habitat linking to the cities surrounding the public

realm, and provides mid-block pedestrian connections through the site.

The Langham Xintiandi & Andaz Xintiandi, Shanghai, China

Synthesizing old and new, the Langham Xintiandi and Andaz Xintiandi hotels convey a fashionable sensibility that extends and enhances the character of the historic Xintiandi district. The two hotels raise the standards for modern, high-rise buildings in historic urban districts with their innovative design, diverse program mix, and sensitive connection to the surrounding context. The development responds sensitively to the district's low-rise architectural fabric and provides visitors with the full gamut of amenities expected by international travelers. The towers are well set back behind a series of public plazas and outdoor cafés, which knit together the new public spaces with the existing ones. The use of public space together with lower-scaled podium buildings creates a seamless transition from one urban precinct to another.

Medium-Sized Spaces

Medium-Sized Spaces are defined in this paper as open spaces larger than 1,000 square meters, but less than an acre (0.4 hectares). These spaces often form the central open spaces for two or more tall buildings and provide amenities such as recreation spaces, hard surfaces, landscape, outdoor seating or children's play spaces.

One of the most loved spaces ever created at the base of tall buildings is New York's Rockefeller Centre's Plaza and Channel Gardens Promenade. These open spaces form the heart of the 22-acre complex that consists of 19 commercial buildings between 48th and 51st streets. The disposition of buildings frames these open spaces which are animated by shops and cafés and the famous seasonal skating rink. This urban habitat is also home to one of the most famous Christmas trees in the world. Public art plays an important role in the space with the commissioning in 1933 of Paul Manship who created the bronze gilded statue of Prometheus.

Roppongi Hills, Tokyo, Japan

The largest private-sector urban redevelopment in Japan's history, Roppongi Hills is one of the most influential mixed-use neighborhoods in the world and a model for urban development (Figure 3).

Offering a unique composition of indoor and outdoor spaces for working, entertainment,



Figure 3. Tai Chi Garden, Roppongi Hills (Source: KPF Architects)

图3 六本木山的太极花园 (来源: KPF Architects)

朗廷新天地和上海安达仕酒店

将新与旧结合，朗廷新天地和上海安达仕酒店传达继承和提高了新天地历史街区特点的一种时尚感。这两个酒店以创新设计提高了历史街区的现代高层建筑的标准，多种功能混合，及与周边环境良好的融合。该项目与该地区的低层建筑肌理巧妙融合，并为游客提供了全方位设施，满足国际旅行者的期待。塔楼退到一系列公共广场和露天咖啡馆的后面，将新公共空间与现存空间织补。公共空间结合较低层裙房建筑的使用创建了一个从城市街区到另一个的无缝连接。

中型空间

中型空间在本文中被定义为大于1000平方米小于一英亩（0.4公顷）的开放空间。中型空间往往是两个或两个以上高层建筑的中央形成的开放空间，它提供诸如休闲空间、硬质铺地、景观、户外座位或儿童游乐场所的设施。

纽约洛克菲勒中心广场和Channel花园长廊是最受人们欢迎的高层建筑底部空间之一。这些开放空间形成了的22英亩综合体的核心，该核心由位于48街和51街之间的19座商业建筑组成。建筑布局限定了这些开放空间，被商店、咖啡厅和著名的季节性溜冰场激活。此城市栖息地同时拥有世界上最著名的圣诞树之一。1933年 Paul Manship 受委托创造了这里的青铜镀金雕像普罗米修斯，这样的公共艺术在空间中起着重要的作用。

六本木新城，东京，日本

六本木新城是日本历史上最大的私营企业的城市再开发，是世界上最具有影响力的混合使用社区以及城市发展模型之一（图3）。

leisure, learning and creating, this 28-acre “city within a city” provides a new heart and urban habitat to the Tokyo Metropolitan area.

ICE Condominiums, Toronto, Canada

ICE is a three-tower complex that is transforming the former Railway Lands at the foot of Toronto’s York Street. Each tower has a distinct personality that reflects its program. The (yet-to-be-built) office tower – modernist, rational, transparent – incorporates innovative “double-skinned” building technology that controls solar gain (Figure 4).

Two slender residential towers have sculpted, highly articulated profiles that frame views of the Lake. Despite the substantial increase in density, existing view corridors through the site are preserved.

A seven-meter-high open spaces anchor the base of each tower, linked by a network of public promenades, open-air walkways and a new landscaped urban plaza. A raked podium – the first of its size in Toronto – links the towers and extends out to the property line, providing year-round weather protection to this enriched urban habitat. Shaped openings in the podium allow light to filter into the plaza, and provide room for the future growth of a grove of young trees.

The open space will consist of granite paving, landscape and public art. The functional role of the public art is that it will serve as seating in this open space. The design of the seating takes inspiration from elements of the nearby elevated Gardiner Expressway.

The southern edge of this development is lined by a parallel interior / exterior promenade. The interior spaces forms part of Toronto’s PATH system, a 30-kilometer network of retail concourse which connects many of the buildings in the financial center. The exterior space continues the southern linear park which provides a pedestrian connection as well as a green buffer to the adjacent overhead expressway.

Comcast Center Philadelphia

The 1.25-million-square-foot headquarters for the Comcast Corporation rises 58 stories, with typical floor plates ranging between 23,000 and 28,000 square feet. A 975-foot-high faceted obelisk, the tower, designed by Robert A.M.Stern Architects is clad in silver high-performance glass with ultra-clear, low-iron glass at the building’s corners and crown.

Comcast Center and its south-facing, half-acre plaza straddles the underground tracks and concourse of Suburban Station, Philadelphia’s primary commuter rail gateway. A 120-foot-high light-flooded public winter garden connects the concourse with its shops and food hall to the tower and plaza above. The winter garden features a double-skin glass curtain wall with sunscreens and louvers which optimize daylight and views while moderating daily and seasonal thermal performance. The winter garden houses Humanity in Motion, a commissioned installation by American sculptor Jonathan Borofsky.

这座28英亩的“城中城”为人们的工作、娱乐、休闲、学习和创作提供了一个独特的室内外组合空间，同时为东京都会区提供了一个新中心和城市栖息地。

ICE Condominiums, 多伦多, 加拿大

Ice是位于多伦多York街角的一个三塔综合体，场地之前属于Railway Lands。每座塔都有一个鲜明特征来体现它的功能。（尚未建成的）办公楼具有现代主义、理性、透明的特征，同时采用可控制太阳辐射得热的“双层表皮”建筑技术（图4）。

两座细长的住宅楼采用高度铰接的雕刻式立面，形成湖景框景。尽管密度大幅增加，但现存的穿过场地的观景长廊被保留了下来。

每座塔底部都有一个7米高的开放空间，与公共长廊网络、露天走道和新景观城市广场相连。多伦多第一大规模的倾斜裙房与塔相连并延伸出建筑红线，同时裙房常年向这一丰富的城市栖息地提供气候控制。裙房的开口使光线透入广场，并为一片小树提供了未来生长空间。

开放空间将由花岗岩铺装、景观和公共艺术组成。公共艺术的功能是它将为这个开放空间提供座位。座位的设计灵感来源于附近高架Gardiner高速公路的元素。

这一开发项目的南部边缘是一个平行的内部/外部长廊。室内空间是与许多金融中心的建筑相连的30公里零售商场网络，形成了多伦多PATH系统的一部分。外部空间是南部线性公园的延续，它不仅提供了行人通道，还为相邻高架高速公路提供了一个绿色缓冲区。

康特卡斯中心, 费城

125万平方英尺的康卡斯特公司总部共58层楼，普通楼层的总面积介于23000平方英尺和28000平方英尺之间。建筑像一座975英尺高的刻面方尖碑，由Robert A.M.Stern建筑事务所设计，建筑物的转角和顶冠的玻璃采用超清晰、低铁的镀银高性能玻璃。

郊区车站是费城主要通勤铁路网的门户，康卡斯特中心及其朝南的面积约半英亩的广场横跨了该车站的地下轨道和大厅。一个120英尺高的光线充足的公共冬季花园将包括商店和美食堂的大厅与上部的塔和广场相连。冬季花园的特色包括遮光的双层玻璃幕墙和优化采光、视野的百叶窗，此百叶窗同时也能调节日常与季节性热性能。花园委托美国雕塑家Jonathan Borofsky完成了Humanity in Motion 装置。

大空间

在这本书中，大空间被定义为大于一英亩的高层建筑群中心的开放空间。通常，这



Figure 4. Rendering of ICE Condos, POPS, Toronto (Source: Architects Alliance)
图4. 多伦多私有公共空间——ICE公寓效果图（来源：Architects Alliance）

Large Spaces

Large Spaces are defined in this paper as spaces larger than an acre and are the central open spaces for a community of tall buildings. Often these spaces are formed as part of a new master plan or community.

Toronto's most famous public place is Nathan Phillips Square. The starting point for the Toronto 7 Cities winter spaces walking tour (#CTBUH7Cities). The three-acre (1.2-hectare) square forms the forecourt to Toronto City Hall and is named after a former mayor. The square was designed by City Hall's architect Viljo Revell (who won an international design competition) and opened in 1965. The square is the site of art displays, weekly farmers markets and the winter cavalcade of lights festival. A summer time reflecting pool is converted to a skating rink in winter. The square attracts an estimated 1.5 million visitors annually.

One World Trade Center, New York, N.Y.

Winner of the 2015 CTBUH best Tall Building of North America award, One World Trade Center establishes a new civic icon for New York City. It is a memorable architectural landmark for the city and the nation, and connects seamlessly to the city with linkages to an extensive underground transportation network and public space. Extending the long tradition of American ingenuity in high-rise construction, the design solution is an innovative mix of architecture, structure, urban design, safety, and sustainability (Figure 5).

One World Trade Center rises from the northwest corner of the 16-acre (six-hectare) World Trade Center site.

Jing An Kerry Centre, Shanghai, China

Located in a fast developing residential area in Shanghai, Jing An Kerry Centre is focused on creating accessible space, incorporating flexibility in its function which can serve the neighborhoods growing population and meet the needs of residents and users. The development serves multiple functions from residences, retail, transit and office, all in one complex designed to accommodate the cities growing population, but built to a human scale (Figure 6).

The project site is of historical significance in that it is one of Mao Zedong's early residences. Along with the historic value of the Mao residence, the complex brings a lot of modern conveniences with its pedestrian friendly and highly accessible public spaces.

些空间会作为新总体规划或社区的一个部分形成。

多伦多最著名的公共场所是弥敦菲腊广场。它是Toronto 7 Cities冬季空间步行游览的起点(#CTBUH 7 Cities)。3英亩(1.2公顷)的广场形成了多伦多市政厅的前院并以前市长名字命名。广场是由市政厅的建筑师Viljo Revell设计(他获得过国际设计竞赛奖)并于1965年开放。广场是艺术展、每周的农贸市场和冬季灯光节的场地。夏季时的倒影池在冬季会变成溜冰场。该广场每年会吸引大约150万名游客。

世界贸易中心, 纽约市

世界贸易中心荣获2015年CTBUH北美最佳高层建筑奖, 成为了纽约市新地标。它是城市和国家的一座纪念性地标建筑, 并与纽约庞大的地下交通网络和公共空间无缝连接。该建筑的设计解决方案继承了历史悠久的美国高层建筑独创性, 是一个结合建筑、结构、城市设计、安全和可持续性的创新设计(图5)。

世界贸易中心建于世界贸易中心遗址的西北角, 占地16英亩(6公顷)。

静安嘉里中心, 上海, 中国

静安嘉里中心位于上海一个高速发展的居住区, 它致力于创造可达空间并与灵活的



Figure 5. The One World Trade Center Memorial and Park (Source: James Parakh)

图5. 世贸中心一号楼的纪念碑及公园(来源: James Parakh)

功能相结合, 以适应社区快速增长的人口并满足居民和用户的需求。该开发项目提供了住宅、零售、运输和办公的多种功能, 并将其融合在一个综合体内以服务城市不断增长的人口, 但依照人尺度建造(图6)。

该项目的场地具有历史意义, 它是毛泽东早期的居住地之一。结合毛泽东故居的历史价值, 综合体的人行友好和有高度可达性的公共空间为人们带来了许多现代生活的便利。



Figure 6. View of the Jingan Kerry Centre with its plaza (Source: KPF Architects)

图6. 静安嘉里广场外观图(来源: KPF Architects)

Lakeshore East Park, Chicago

Lakeshore East Park is a 2.4-hectare park centrally located in the master planned Lakeshore East development in Downtown Chicago. Surrounded by 17 high-rise buildings, the majority of which are recent constructions, the space provides important benefits to one of the city's densest residential areas. The Lakeshore East development was proposed in the early 2000s with the goal of dramatically enhancing the livability of the downtown area. Prior to construction, the site was home to a nine-hole golf course, but has since become an epicenter for high-end condominium and apartment towers. In the first phase of construction for the development in 2005, the park was completed prior to any of the nearby towers, establishing a verdant focal point whose purpose was to serve the needs of residents, visitors, and tourists alike. The park is rectangular in plan and bound by a one-way local street that loops around the perimeter. Several curvilinear cement pathways bisect the site, providing scenic connections between nearby pedestrian access points. An assortment of trees, plants, and groundcover establish distinct "outdoor rooms" that encourage exploration and allow moments of privacy and solitude despite the bustling urban activity that defines the surrounding district.

Extra Large Spaces

These are spaces defined in this paper as spaces of citywide significance that form the central focal points within their urban centers.

Marina Bay, Singapore

Marina Bay is adjacent to Singapore's Financial District in the southern part of Singapore, and lies to the east of the Downtown Core. The area surrounding the bay itself, also called Marina Bay, is a 360-hectare extension to the adjacent Central Business District (Figure 7).

The URA (Urban Redevelopment Authority) Master Plan for Marina Bay aims to encourage a mix of uses for this area, including commercial, residential, hotel and entertainment. The Helix Bridge links Bayfront to Marina Centre, where the Youth Olympic Park is located. The Promontory @ Marina Bay will be used as an interim event space and public space used for activities such as theatres and carnivals.

Large Urban Spaces can accommodate activities and programs of citywide significance such as museums, galleries and festivals. In Singapore, Marina Bay is the home



Figure 7. Marina Bay, Singapore (Source: James Parakh)
图7. 新加坡滨海湾 (Marina Bay) (来源: James Parakh)

of Singapore's Formula One Grand Prix. It is the first ever Formula One Grand Prix to be staged at night, with the track fully floodlit. Since its inception, The Float @ Marina Bay has hosted events such as the National Day Parade, New Year's Eve Countdown, Singapore Fireworks Celebrations, as well as served as a spectator stand for the inaugural Formula 1 Singapore Grand Prix. The world's largest floating stadium played host to the Opening and Closing Ceremonies of the inaugural Summer Youth Olympic Games in 2010.

Burj Khalifa Bay and the Dubai Fountain

Downtown Dubai is a large-scale, mixed-use complex under development in Dubai, United Arab Emirates. It is the home of some of the city's most important landmarks including Burj Khalifa, the Dubai Mall, and Dubai Fountain. It covers an area of 2 square kilometers (0.77 square miles), at an estimated cost of US\$20 billion (Dh73 billion) upon completion.

The complex is situated along Sheikh Zayed Road, across from Al Wasl locality on the northwest. It is bounded to the south by Business and to the northeast by Financial Centre Road, which separates it from Zabeel 2 and Trade Center 2. It is connected to the Dubai Metro via the Burj Khalifa/Dubai Mall Metro Station. The First Interchange, which is in its last phases of construction, will guarantee the free flow of traffic to and from the area.

The Dubai Fountain is the world's largest choreographed fountain system set on the 30-acre manmade Burj Khalifa Lake, at the center of the Downtown development in Dubai, United Arab Emirates. It was designed by WET

东湖岸公园, 芝加哥

面积约2.4公顷的东湖岸公园位于芝加哥市中心东湖岸开发总规划的中心。周围有17座高层建筑, 其中大部分是新建筑, 东湖岸公园为芝加哥最密集的住宅区之一提供了重要的福利。东湖岸的开发于本世纪初提出, 旨在显著提高市区宜居程度。施工前, 该场地是一个九洞高尔夫球场, 但现在已经变成高端公寓大楼聚集区的中央地带。在2005年项目建设的第一阶段, 东湖岸公园先于附近所有高层建筑完成, 建立了一个满足居民、访客和游客共同需求的初步焦点。公园的平面是长方形的, 并被一条单行道环绕。几条环形水泥路等分场地, 为附近的行人入口提供景观连接。树木、植物和地被植物的搭配组合建立了不同的“室外空间”, 尽管附近是喧闹的城市活动, 这样的空间鼓励着探索行为并提供人们私密和独处的时刻。

超大空间

在本文中将它们定义为在其城市中心形成中央焦点且具有城市意义的空间。

滨海湾, 新加坡

滨海湾是邻近中心城区东部、紧邻新加坡南部的金融区。此区域占地360公顷与中央商务区相邻, 也是它的延伸, 其周边的海湾也被称作滨海湾 (图7)。

市区重建局的滨海湾总体计划旨在促进一个包括商业、住宅、酒店及娱乐的混合区。螺旋桥将海湾舫和青年奥林匹克公园所在地滨海中心相连。滨海湾中央岬将成为临时活动空间, 或是举办像是剧院或嘉年华等活动的公共空间。



Figure 8. Toronto City Hall, as seen from Nathan Phillips Square (Source: James Parakh)
图8. 从弥敦菲腊广场观望多伦多市政厅 (来源: James Parakh)

Design of California. Illuminated by 6,600 lights and 25 colored projectors, it is 275 meters (902 feet) long and shoots water up to 152.4 meters (500 feet) into the air accompanied by a range of classical to contemporary Arabic and world music.[1] It was built at a cost of AED 800 million (USD \$218 million).

Toronto's PATH System

A different kind of urban space, Toronto's PATH system is a 30-kilometer pedestrian network that connects buildings within Toronto's financial district. The largest such network of its kind in the world, PATH promotes walkability in Downtown Toronto, via a climate controlled pedestrian environment of shops, public spaces and amenities while avoiding pedestrian conflicts with vehicular traffic. PATH exists below, at and above grade, linking office, residential, government, hotel and tourist functions in Canada's largest city, which is also the fourth largest city in North America (Figure 8).

The PATH system links tall buildings within Downtown Toronto's financial District in a climate controlled environment creating not just retail concourse, but also urban spaces such as the Santiago Calatrava-designed Brookfield Place Galleria and Heritage Court as well as the Toronto Eaton Centre. Creating indoor public space can be a real benefit to the urban environment when outdoor temperatures are -20 degrees Celsius (Figure 9).

大型城市空间可以为城市范围意义的活动和项目提供场所，例如博物馆、画廊和节日。在新加坡，滨海湾是新加坡一级方程式大奖赛的主场。这是一级方程式大奖赛史上第一次在轨道完全照明的情况下于夜晚举办。自成立以来，滨海湾浮动舞台已举办了多场活动，如国庆节巡游、新年夜倒计时、新加坡焰火庆典，它还曾作为首届新加坡一级方程式大奖赛的观众站。这个世界上最大的浮动体育场举办了2010年首届夏季青年奥林匹克运动会的开幕式和闭幕式。

哈里发湖和迪拜喷泉

迪拜中心是位于阿拉伯联合酋长国迪拜的一个大型多功能的综合体项目。它是迪拜最重要地标的聚集地，包括Burj Khalifa、迪拜购物中心和迪拜喷泉。它占地2平方公里（0.77平方英里），预计造价为200亿美元（73亿多哈币）。

综合体位于Sheikh Zayed路，西北方Al WASL地区的对面。它由南面的商业街和东北面的金融中心路限定，金融中心路将它从Zabeel 2和Trade Center 2分开。它是通过Burj Khalifa / 迪拜购物中心地铁站与迪拜地铁相连接的。The First Interchange 处于其施工阶段最后一期的建造，它将保证该地区来去交通自由通畅的流动。

迪拜喷泉是世界上最大的精心设计的舞蹈喷泉系统，它位于阿联酋迪拜市中心30英亩的人造湖Burj Khalifa湖上。它由加州

WET设计事务所设计。其照明由6600盏灯和25个彩色探照灯承担，喷泉长275米（902英尺），伴随着一系列从古典到现代的阿拉伯和世界音乐，向上的水花可达空中500英尺（152.4米）。[1] 喷泉耗资8亿AED建造（2亿1800万美元）。

多伦多PATH系统

多伦多的PATH系统是一种不同的城市空间，是与多伦多金融区内建筑物相连的30公里人行道网络。PATH在此类网络中是世界上最大的，它通过商店、公共空间和设施的气候控制的步行环境提升了多伦多市中心的可步行性，同时避免人行与车辆交通的冲突。PATH在加拿大最大城市、也是北美第四大城市的多伦多，连接了城市的办公、住宅、政府、酒店和旅游等功能（图8）。

PATH系统与多伦多市中心金融区的高层建筑通过气候控制的环境相连，它创造的不仅是零售广场，还有城市空间，如卡拉特拉瓦设计的Brookfield Place 艺术馆、遗产法庭以及多伦多伊顿中心。在室外温度是零下20摄氏度的情况下，室内公共空间对城市环境非常有益（图9）。

城市空间网络

高层建筑应该被视为城市肌理的元素。高层建筑组成了城市的天际线，成为我们辨识城市的唯一“明信片”。我们的地标建筑为方向标记提供重要的交叉点，门户或节点。高层建筑往往被划分为三段：底部、中部和顶部。顶部在建筑物的天际线构成“明信片”景象方面进行考虑，中部在面对其他建筑和基础有一定距离的部分进行考虑，而就高层建筑如何成立的方面，底部本身才是本技术指南的主题。

在我们城市地区的图像地面上，街道、人行道、公园和开放空间提供了将城市连接在一起的组织元素。高层建筑都必须考虑整体，无论是地标建筑、形成街墙的建筑或限定开放空间的建筑。作为建筑师、规划师和城市设计师，我们必须时刻提醒自己高层建筑作为场所营造者的机会。满足街道需求和进行开放空间限定是所有高层建筑设计的重要依据。

任何城市中的高层建筑设计都必须首先来自对城市文脉的分析，以确定建筑如何融入公共区域。城市中心的成功依赖于它们的可步行性。CTBUH的UH/UD委员会由本刊介绍正在研究高层建筑、高质量的公共空间和城市网络之间的相互关系。

CTBUH 的7座城市冬季空间游

（#CTBUH7Cities）观察到互联空间可以成为连接内部和外部空间网络的方法。芝加哥的步行桥、多伦多的PATH系统或纽约世界贸易中心/富尔顿中心广场这些更大

The Network of Urban Spaces

Tall Buildings should be thought of as elements contributing to the fabric of the city. As a composition of tall buildings, a city's skyline is the single "postcard" image that we identify our cities with. Our landmark buildings provide orientation marking important intersections, gateways or nodes. The tall building has often been considered by its tri-partite division of: base, middle and top. Top, in terms of the buildings presence on the skyline contributing to that "postcard" vista, middle in terms of facing distance to other towers and base, in terms of how a tall building grounds itself, which is primarily the subject of the forthcoming technical guide.

In the figure ground of our urban areas, the streets, sidewalks, parks and open spaces provide the organizing elements, which connect the city together. With this in mind the tall building must be thought of holistically, either as landmark buildings, buildings which form the street-walls or as buildings which frame open space. As architects, planners and urban designers, we must always remind ourselves of the opportunity to think of tall buildings as place makers. How buildings meet the street and frame open space is an important design consideration with any tall building.

Planning the design of any tall building within a city must first come from an analysis of the urban context to determine how the building fits into its public realm. The success of our urban centers relies upon their walkability. How the tall building, high-quality public spaces and the urban network relate to each other is the subject of the research being conducted by the CTBUH UH/UD Committee and introduced by the publication.

The CTBUH 7 cities winter spaces walking tour (#CTBUH7Cities) observed how interconnected spaces should be thought of as a network connecting both interior and exterior spaces. Chicago's Pedway, Toronto's PATH system or New York's World Trade Center concourse are larger pedestrian networks that took pedestrians into a climate controlled environment. Similarly, Shanghai's Plaza 66, Ottawa's World Financial Centre, Toronto's Brookfield Place Galleria and London's Canary Wharf winter gardens offered block-long interior connections that link together streets and become an amenity for their adjacent tall buildings.

In cold weather cities, where temperatures can routinely drop well below 0 degrees Celsius (32 Fahrenheit), the addition of interior public spaces, gallerias and winter gardens

form an important part of the public realm. Most #ctbuh7cities tour routes were designed to not exceed 400 meters (approximately 1,300 feet) of travel distance outside before going into an interior space. In all case this was a comfortable distance where tour participants could brave the elements before warming up. Well designed interior public spaces, which are designed to feel welcoming and publicly accessible, are vital ingredients to have in cold weather cities.

Another key finding from our tours was experiencing a variety of spaces with differing scales, characteristics and personalities which created a rich pedestrian experience and enhances the quality of life for those that experience them. Creating people places at various scales contributes to the success of our cities and contributes to walkability. Open spaces have a variety of functions and are used throughout the year. Thinking about the winter functions of places will help to improve how tall buildings can contribute to the city.

How tall buildings ground themselves and the open spaces they creates are important considerations in the urban design of high-rise developments. One which the CTBUH UH/UD Committee hopes to raise awareness of through this paper and forthcoming technical guide.

的人行网络，都将行人置于气候控制的环境里。类似的，上海的66广场、渥太华的环球金融中心、多伦多的布鲁克菲尔德广场和伦敦金丝雀码头的冬季花园在提供街区长度的室内连接的同时，为周边的高层建筑提供舒适性。

在温度通常会下降到摄氏0度以下（32华氏度）的气候寒冷的城市，增设的室内公共空间、长廊和冬季花园成为构成公共区域的重要组成部分。#ctbuh7cities的旅游路线设计从室外进入室内的最长距离不超过400米（约1300英尺）。这是一个在所有的情况下都舒适的距离，参与者即使在热身之前也可以勇敢地面对这个距离。精心设计得温暖而可达性强的室内公共空间对于天气寒冷的城市是至关重要的。

我们观光团的另一个重要发现是各种各样不同尺度、特点和个性的空间可以为体验者创造良好的体验并提高其使用者的生活质量。创造不同尺度的人性场所有助于城市的成功和其可步行性的提升。开放空间有多样的功能，可在全年得到使用。关于地方冬季功能的思考将有助于增加高层建筑可为城市作出的贡献。

高层建筑立于地面的基点和它们创造的开放空间是城市高层建筑设计中需要重要考虑的因素。这正是CTBUH UH/UD委员会希望通过本文提高的意识，也是筹备中的技术指导的要义。



Figure 9. Map of Toronto's PATH System (Source: City of Toronto)
图9. 多伦多的地下城地图 (来源: City of Toronto)