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# The Network of Urban Spaces Surrounding Tall Buildings



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## Abstract

*This paper investigates the Network of Urban Spaces Surrounding Tall Buildings, the Tall Building as Place Makers how Tall Buildings meet the street. As contributing elements in the fabric of the City, Tall Buildings often have associated Urban Spaces which surround them. The Network of these Urban Spaces frames the public realm, and becomes the figure ground for the way we, experience our cities.*

*Urban Spaces range in scale from London's Pocket Parks, to neighbourhood scaled parks resulting from master plans like Battery Park City, to grand urban spaces such as Downtown Dubai's Lake Khalifa. This paper will highlight all scales of Urban Spaces and how each contribute to the quality of life for those that live, work and visit Tall Building Neighbourhoods.*

*This paper will also focus on the network created by a succession of open spaces and how Tall Buildings play a role in this larger network.*

**Keywords: POPS; Quality of Life; Quality Public Space; Tall Building Neighborhoods; Tall Buildings as Contributing Elements in the City, Urban Spaces**

Since the beginning of the 20th century, tall buildings have served as the landmarks of our cities, over reaching church spires and cathedrals as the dominant features on our cities skylines. At the same time, tall buildings started becoming the symbols of corporations' aspirations such as Woolworth, Chrysler and Metropolitan Life becoming early examples of corporations using their headquarters building's as icons. More recently John Hancock, Sears, Petronas and many other companies have used tall buildings as a way of advertising their brand on cities skylines.

Today tall buildings have become a worldwide phenomenon as places to work and to live and the quality of life of those that live, work and visit them has become increasingly important. In today's sophisticated urban areas, people are putting a greater emphasis on quality of life. To achieve this, the tall building must refocus itself as more than an edifice on the skyline. The tall building must also succeed as places of urban habitat.

The urban habitat of tall buildings involves the essential ingredients needed to improve the quality of life for those that live and work in tall buildings within urban areas. These ingredients include the social and economic factors that affect quality of life as well as the role of the tall building as place-makers. How successful tall buildings meet the street and how they contribute to the public realm will be the focus of this paper.

One of the key ways that tall buildings contribute to the public realm is by framing and creating opens spaces at their base. These spaces can range from pocket parks, like Paley Park in New York, to the grandiose spaces such as the Burj Khalifa Lake and the Dubai Fountain. These spaces demonstrate varying scales (small, medium, large, extra large) that serve a multitude of functions. Through a review of these diverse spaces one will understand how they contribute to the success of and humanize the tall building.



Figure 1. Poster for the CTBUH 7 Cities Winter Spaces walking tour (Source: City of Toronto Planning Department)

Beyond individual spaces, this paper will also introduce preliminary concepts and research that discusses the network created by a succession of open spaces and how tall buildings play a role in this larger network. To do this the research for this paper and associated speaking engagement has been bolstered by two global tours, one which has examined open spaces during the winter months and has taken place in seven cities (see Figure 1) and a second tour (being planned for September 2015) taking place during warmer weather in at least twelve global cities on four continents.

Observations of best practices during these walking tours have assisted in the understanding of the successful qualities of open spaces at varying scales. The latter part of this paper will conclude with preliminary lessons learned from the walking tours pertaining to the network of open spaces within the city. The importance of positioning open space (both interior and exterior) to form part of a connected public realm within the city was evident in all seven cities that the CTBUH walking tours took place in.

### Small Spaces

Small spaces such as London's Pocket Parks or Toronto's POPS are spaces less than 1,000 m<sup>2</sup> (10,000 ft<sup>2</sup>) which serve the public in a variety of ways. These spaces take on a variety of typologies from pedestrian connections, parkettes, plazas and piazzas. The case studies which follow outline a few small spaces and the varied role that they play in the overall urban network. These spaces succeed when the ground level functions of the tall buildings help to animate them, shops, restaurants and cafes with large windows (that can seasonally open up onto these spaces) help to animate these intimate urban spaces and make them convivial. Lobbies with large windows can also help to create a safe public spaces allowing visibility from inside out.

Small spaces succeed when they are convivial, welcoming and friendly and encourage people to occupy them. High quality finishes, seating, and greenery are all elements that contribute to the success of small spaces. Fountains and intimate water features can also help block out some of the urban noise of the city and create a calming atmosphere. In some areas it may be appropriate to accommodate children's play spaces. Waste baskets and dog stations are also important details to have in urban spaces as they accommodate a variety of demographics. Canopies and wind screens are also important to have to improve the micro-climate if these spaces, particularly in colder climates.

300 Front Street West in Toronto is a 52 story residential building designed by Rudy Wallman Architect. As part of the approval process, City of Toronto staff collaborated with the developer Tridel Corporation to create a 9,000 ft<sup>2</sup> POPS (privately owned publicly-accessible space) open space at the corner of Front Street and John Street. The space is designed by landscape architect Claude Cormier + Associates. Accessible to condominium owners and neighborhood residents alike, the park serves as a link between private and public zones in the metropolis. The open space provides much needed breathing space for an intersection across from Toronto's dome stadium, where thousands of spectators gather for sporting and entertainment events. Dog stations are other amenities found in

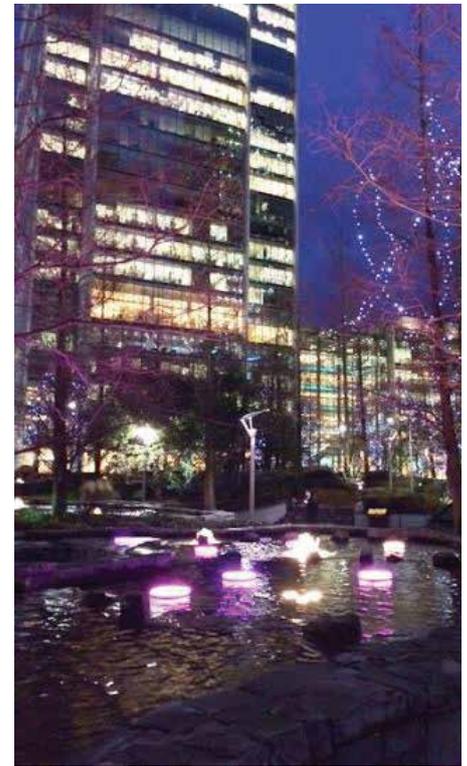


Figure 3. Winter Lights Festival, Canary Wharf London, UK (Source: City of Toronto Planning Department)

this POPS to help support the growing pet population which the downtown supports. The dog stations as a programmatic element contributes to this space being used 365 days a year. A five story glass screen that was secured at the approvals stage is used for building identification signage, but its sole purpose was to block the westerly prevailing winds as evidenced in early wind tunnel testing.

POPS are also defined by the City of New York as "an amenity provided and maintained by a developer for public use." In New York City, developers of surrounding buildings receive bonuses for density or other incentives in exchange for providing these publicly accessible spaces. New York POPS, which are privately financed, designed and developed, must comply with particular design standards concerning way finding, visual openness to the street, lighting, seating, landscaping, pedestrian circulation, grade in relation to the sidewalk, sanitation, and accessibility. The private owners are responsible for ongoing programming, maintenance, and security. The New York Winter Spaces Tour visited a number of POPS including: One Bryant Park Urban Garden Room, the Brookfield Place Pavilion, the Brookfield Place Winter Garden, The Rink at Brookfield Place, and the Conrad Hotel Atrium.

In winter cities the role of climate controlled interior public spaces becomes increasingly important. The 45,000 ft<sup>2</sup> (4,181 m<sup>2</sup>) Winter Garden – at Brookfield Place in New York is an indoor public atrium, public arts and event space. Originally the Winter Garden was

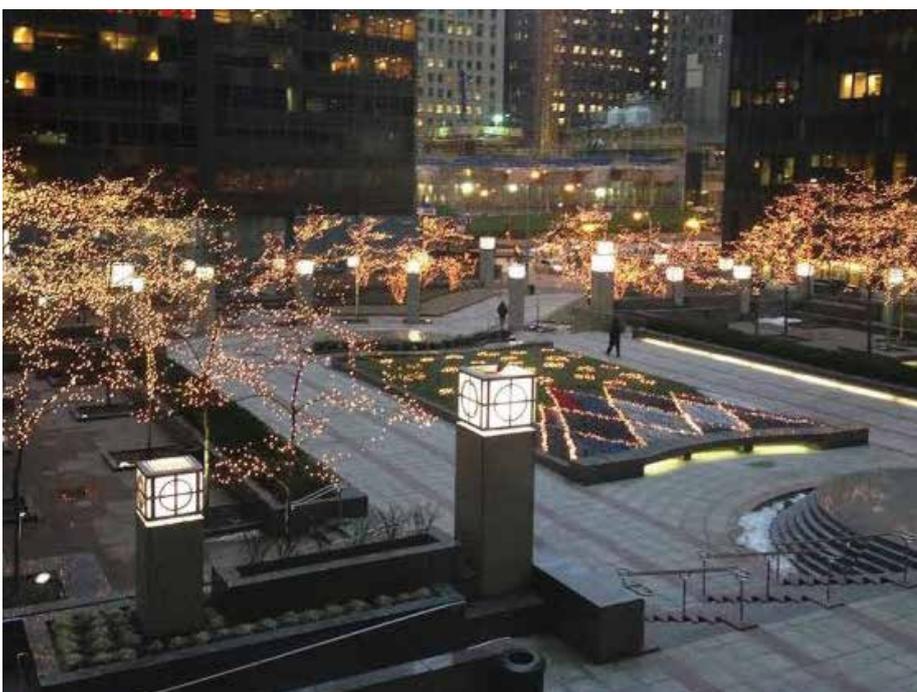


Figure 2. Prudential Centre Plaza Chicago (Source: City of Toronto Planning Department)

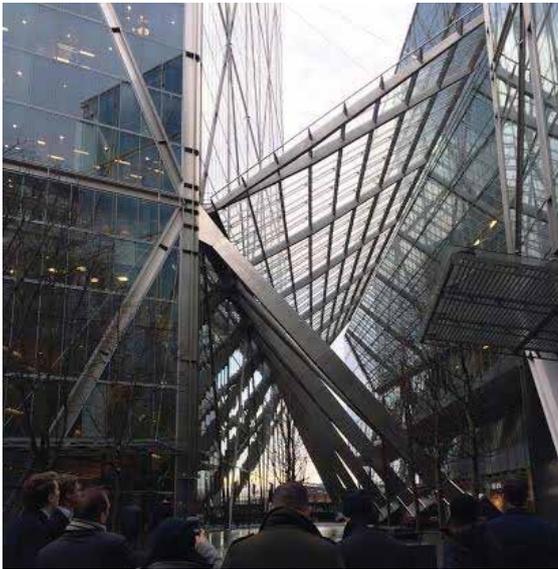


Figure 4. 201 Bishopgate, London, UK (Source: City of Toronto Planning Department)



Figure 5. Allen Lambert Galleria Brookfield Place (Source: City of Toronto Planning Department)

constructed in 1986, partially destroyed in the 9/11 attacks in 2011 when the North Tower of the World Trade Center fell on the building, and are now under renovation. The Winter Garden includes an adjoining 25,000 ft<sup>2</sup> (2,323 m<sup>2</sup>) “Hudson Eats” food court. During the winter, the Winter Garden and other spaces host a wide variety of concerts, arts expositions, special events and more passive activities.

Other interior / exterior public spaces can be found in Ottawa, Canada at World Exchange Plaza. World Exchange Plaza, which was built as a Public Private Partnership (PPP) on a city-owned site. A cinema complex was included to keep the building active past 5:00 PM. A public plaza in this location was part of the brief for the competition, staged in the late 1980s. The Plaza is positioned on the eastern part of the site in order to maximize sunlight. Lined with outdoor cafes, benches and seating, the space becomes a lively venue for urban pageantry and summer time

concerts. In winter months, the landscape design features evergreen trees, indigenous to Canada which help ameliorate the microclimate from winds and help improve the comfort of the space. The landscape is seasonally decorated with “winter white” lights forming a place which is visually appealing throughout the year.

Winter light festivals are also seen in Toronto, New York and London as ways to animate public spaces when the temperature is cold and trees lose their leaves. The 7 Cities Walking Tour (#CTBUH7Cities) visited Canary Wharf during their festival (see Figure 3) and Chicago’s Aon Plaza (see Figure 2).

Small spaces also take the form of linear walkways. The new pedestrian walkways created as part of Toronto’s Ritz Carlton Hotel, designed by KPF architects, connects two city parks; David Peacaut Square and Simcoe park. These important pedestrian connections are lined with restaurants and landscape to create a simple, well designed

walkway and are part of a larger network of pedestrian spaces in the city.

Connections linking London’s 201 Bishopgate (see Figure 4) and Broadgate Towers or the Entrance to 20 Fenchurch Street continue this pattern of having major pedestrian spaces linking important public streets and allowing entrances to tall buildings. Large windows overlooking these spaces provide safety and visibility from the inside. Spaces are well landscaped with places for people to sit. The spaces at Bishopgate allow the additional protection from the elements with a large glass and steel canopy.

Integrating new spaces into the traditional historic fabric of the city is often challenging. Small spaces can help create a transition between varying scales of development as witnessed in the Xintiandi district of Shanghai. Xintiandi is an affluent car free shopping, eating, and entertainment district.

The district is composed of an area of



Figure 6. Jing'An Temple Wheelock Square, Shanghai (Source: City of Toronto Planning Department)

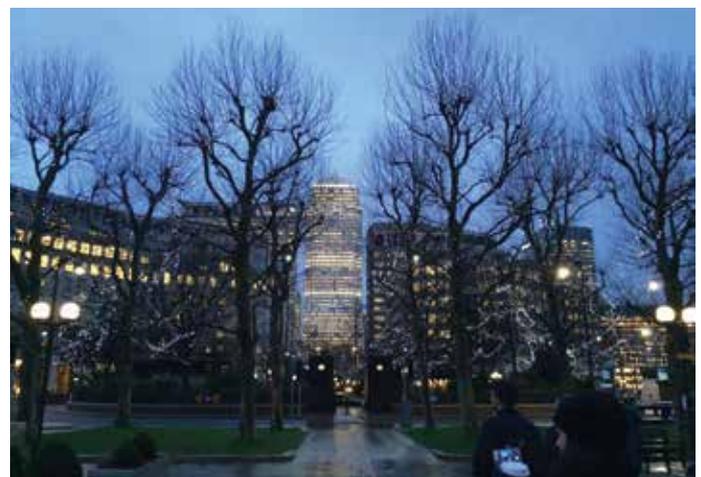


Figure 7. Canary Wharf, London, UK (Source: City of Toronto Planning Department)



Figure 8. Nathan Phillips Square Skating Rink Toronto City Hall (Source: City of Toronto Planning Department)



Figure 9. Aerial View of Millennium Park (Source: City of Toronto Planning Department)

reconstituted traditional mid-19th century houses on narrow alleys, some adjoining houses which now serve as book stores, cafes and restaurants, and shopping malls. Most of the cafes and restaurants feature both indoor and outdoor seating. Xintiandi has an active nightlife on weekdays as well as weekends.

The recently completed Andaz and Langham hotels by KPF extend the public realm of Xintiandi with new open spaces, outdoor cafes, landscape and fountains. The hotels respond to their historic contexts with a warm-gray stone cladding and low-rise podiums that engage the historic neighborhood at street level. In addition to scale and materiality, the podiums of the new buildings include many of the amenities, shops and cafes found in the adjacent historic neighborhood which helps to create a seamless transition from old neighborhoods

to new developments at their periphery.

### Medium Spaces

Medium Size Spaces are defined in this paper as open space larger than 1,000 m<sup>2</sup> 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, and 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 cafes and the famous seasonal skating rink. This space 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.

A new master-planned community called Fort York Neighborhood is emerging just west of downtown Toronto. Central to the master plan is June Callwood Park. The 0.4 hectare (1 acre) \$2.6 million park includes a reflecting pool, lighting, granite paving and benches, a hedge maze, bright pink rubberized benches and surfacing, and a variety of tree species.

The new park honours the late June Callwood, a Canadian journalist, author, advocate and activist, through its design and art installation. The City of Toronto led an open, two-stage international design competition, including public participation, that resulted in the firm gh3 winning the competition. The design uses Callwood's comment, "I believe in kindness" and physically maps its voiceprint throughout the park, making it a spectacular view from the upper floors of the buildings which overlook the park.

Another interior public space visited during this year's #CTBUH7Cities tour was the Allen Lambert Galleria at Brookfield Place in Toronto (see Figure 5). The galleria forms an important part of Toronto's Path system connecting to Union Station. The PATH system is a 28 km contiguous underground shopping concourse. The parabolic, arched shape roof structure designed by Spanish architect Santiago Calatrava emulates Ontario's tree-lined streets. The six story high space connects two major office buildings and an exterior park. Dining in the restaurants which are located within the glass enclosed galleria gives the appearance of being outside. The experience is welcoming in the middle of winter, when daily temperatures can be well below zero Celsius.

Often open space can be used to celebrate heritage buildings. Open space may frame heritage buildings to give them more prominence within the urban landscape. Wheelock Square in Shanghai was experienced as part of #CTBUH7Cities overlooks a plaza which contains the restored Jing'An Temple (see Figure 6).

### 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



Figure 10. Rideau Canal skating rink, Ottawa Canada (Source: City of Toronto Planning Department)



Figure 11. Fulton Street Connection designed by Santiago Calatrava (Source: City of Toronto Planning Department)

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 3 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 (see Figure 8).

A few blocks away from Toronto City Hall is The Cityplace neighborhood which consists of 20 residential towers ranging from 20 floors to (planned) over 70 floors. The neighborhood is located at the western edge of downtown Toronto and is home to over 10,000 residents. With an easy walking distance to the City's Financial District and entertainment district, the neighborhood is popular amongst a younger demographic of home owners. The towers in this neighborhood have been spaces apart a minimum of 25 meters to allow views of the

surrounding skyline and Lake Ontario. The central 8 acre (3.25 hectare) Canoe Landing Park is the central park for the neighborhood. The park is home to a number of public art installations by famous Canadian artist Douglas Coupland including the perched red canoe which gives the park its name. The park includes hard surfaces, children's water play spaces, a soccer field, dog run and, in warmer months, is home to the Cityplace farmers market.

Coal Harbour is a neighborhood in Downtown Vancouver overlooking Vancouver Harbour and the spectacular North Shore mountains beyond. Harbour Green Park, which hugs the neighborhood, provides a green interface to the waterfront, includes a section of the sea wall, a recreational amenity that surrounds the entire downtown peninsula. The sea wall weaves together strong connections to other green spaces, plazas, and destinations throughout the inner city for pedestrians and bikes, and provides an important relief from the dense urban landscape it adjoins.

Jack Poole Plaza, located along the sea wall, was built for the Olympic celebrations coinciding with the extension to the adjacent Convention Centre. It is a key space of celebration, hosting numerous events year-round. It stays active and lively during cold months with: heated patios that line the edges, an orientation that allows for a significant amount of sunlight, colorful lighting, quality building materials, active and passive programming, and interesting features, including art, history, and a spectacular view of the waterfront and North Shore mountains.

### Extra Large Spaces

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

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 city wide significance such as museums, galleries and festivals. In Singapore, Marina Bay is the home 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.

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 the world's tallest building, the Burj Khalifa, Dubai Mall, and Dubai Fountain. It covers an area of 2 square kilometres (0.77 mi<sup>2</sup>), at an estimated cost of US\$20 billion (Dh73 billion) upon completion.

The complex is situated along Sheikh Zayed Road, The Dubai Fountain is the world's largest choreographed fountain system set on the 30-acre man-made Burj Khalifa Lake, at the center of the downtown development in Dubai, United Arab Emirates. It was designed by WET Design of California. The Dubai Fountain can spray 22,000 gallons (83,000 liters) of water in the air at any moment. More than 6,600 lights and 25 color projectors have been installed. During the end of 2010 the fountain had received a new element, fire, which outlined the fountains (the fire was temporary for the 2011 New Year's celebration). The Dubai Fountains project water in the air in many different combinations and patterns. The beam of light from the fountain can be seen from over 20 miles away.

Visited this year as part of the 7 Cities Winter Spaces Chicago walking tour (#CTBUH7Cities) was Millennium Park. Millennium Park is a public park located near the Loop in Chicago, Illinois, USA. It is a prominent civic center near the city's Lake Michigan shoreline that covers a 24.5 acre (99,000 m<sup>2</sup>) section of northwestern Grant Park. The area was previously occupied by rail yards, and parking lots. Today, the park is one of the city's top tourist attractions and has been a catalyst for downtown renewal.

Millennium Park has free admission and features the Jay Pritzker Pavilion designed by Frank Gehry Partners and Cloud Gate designed by artist Anish Kapoor. It attracted a new generation of investment and residential construction. The park reminded people of the value of a major public investment. People around the world see Chicago's Millennium Park as an exemplar of that model and are really interested in it (see Figure 9).

### 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, how a tall building grounds itself, which is primarily the subject of this paper.

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 (see Figure 10). 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 introduced by this paper and expanded upon in our in-progress technical guide titled Urban Spaces Surrounding Tall Buildings which will be completed in 2016.

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 Centre / Fulton Centre Concourses are larger pedestrian networks that took pedestrians into a climate controlled environment. Similarly, Shanghai's Plaza 66, Ottawa's World Financial Centre (see Figure 11), Toronto's Brookfield Place Galleria and London's Canary Wharf winter gardens offered block long interior connections which link together streets and became 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 public 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 subsequent technical guide titled 'Urban Spaces Surrounding Tall Buildings.'

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