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One Yonge: A Case Study for Complete Vertical Communities

央街一号：垂直社区一例



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Toronto | 多伦多

David Pontarini, Founding Partner of Hariri Pontarini Architects (HPA), focuses on building better cities through quality urban developments that channel the best aspects of their site and program into finely executed architectural and public realm designs. Over the past 30 years, he has built an award-winning portfolio of complex, variously scaled, urban high-rise and mixed-use developments in cities across Canada and the United States. Pontarini's design-led approach to smart development solutions contributes to his reputation as one of Toronto's leading architects, and to the recognition of HPA, by the RAIC, as winners of the 2013 Architectural Firm Award.

大卫．庞特里尼是哈里里庞特里尼建筑事务所（HPA）的创始人之一。他以建设优良的城市为首要建筑理念，充分融合地块与功能的优点以达到完善并高质量的建筑和公共空间设计。庞特里尼于过去三十年成功为北美洲多个城市提出多项高层混合用途建筑设计方案，并且得奖无数。亦因此他被誉为多伦多数一数二的建筑师。借此，加拿大皇家建筑协会（RAIC）于2013年为其建筑事务所颁发年度建筑事务所大奖。

Abstract | 摘要

The City of Toronto is experiencing rapid growth, with the second largest concentration of high-rise buildings under construction in North America, surpassing Chicago and coming in just under New York City. Provincial strategies have encouraged this intensification, including areas like the Yonge Street Corridor. This paper outlines the narrative of the One Yonge project by Hariri Pontarini Architects (HPR), which is located at the foot of Toronto's Yonge Street. The five-tower, mixed-use development has a footprint of 26,996 square meters, with its tallest structure rising to a height of 303 meters. One Yonge is being developed as part of a larger precinct plan organized by the City and Waterfront Toronto. As precedence, One Bloor East, which is located at the intersection of the city's two main subway lines, is a one-acre and 257-meter-high mixed-use residential building. One Yonge and One Bloor East are leading the development of successful models for vertical density in downtown Toronto.

Keywords: City Planning, Complete Communities, Intensification Areas, Toronto, Urban Planning, Yonge Street

多伦多市正经历着快速增长。它拥有的在建高层建筑已经超越芝加哥，仅次于纽约，居北美第二。安省发展战略鼓励这种集中增长模式，特别像央街走廊这样的地段。本文概述Hariri Pontarini Architects建筑设计所的“央街一号”项目。“央街一号”位于多伦多央街起始，是一个包含五座塔楼的多功能开发项目。占地26,996平方米，最高塔楼高度303米。“央街一号”属于多市湖滨开发规划的一部分，它的前期“东布鲁尔一号”项目，位于多市的两条主要地铁线的交汇点，是一座占地一英亩，257米高的混合用途的住宅楼。“央街一号 ”和“东布鲁尔一号”项目是引领多伦多市中心密集化垂直发展的成功模式。

关键词：城市规划、完整社区、密集化空间、多伦多、城市规划、央街

Toronto's Evolution

182 years since its incorporation in 1834, Toronto has come into its own. Of late the accolades have been heaped high, including being named "The World's Most Livable City" (Metropolis, 2015), "The Best Place to Live" (The Economist, 2015), and the highest rated North American city on the Sustainable Cities Index (Arcadis, 2015), along with a long list of other platitudes on many measures of prosperity. And yet Toronto can be thought of as an archetypal North American urban area, going through many of the same historical/developmental stages and struggles that typify North American cities.

Originating as an industrial port on the north shore of Lake Ontario, Toronto's early urban form reflected the grid of wharf-reliant industries. Similar to that of America's gridded cities arising from land apportioning and socio-economic functional flexibility, the former Town of York grew into its hinterlands and cottage communities along rail and light rail corridors, and later vehicular expressway networks (Figure 1). Not unlike the post-war

多伦多的进化

1834年建市后的 182年，多伦多声誉日隆。最近获得的多项褒奖包括评为“全球最宜居城市”（《大都会》杂志，2015年）和“最适合居住的地方”（《经济学人》杂志，2015年）。它在北美城市可持续发展指数，和各种繁荣发展的测评中位居第一（ARCADIS杂志，2015年）。多伦多其实可以被看做一个北美城市原型，与其它众多的典型北美城市相同，走过类似的历史发展和奋斗阶段。

起源于安大略湖北岸的一个工业港口，多伦多的早期的城市形态带有码头行业的烙印。与美国由于土地分派和社会经济分工而形成的城市网格布局相似，早期约克镇腹地和别墅社区是沿铁路和轻铁走廊成长而来，之后的发展又依附于行车的高速公路网络（图1）。和美国战后的郊区热没有太大的区别。依赖于郊外社区的汽车化，多伦多腹地以同心环的方式迅速发展。同时，与美国城市更新计划相似，多伦多大片街区进行了重建。而多伦多的社区和全体商业、制造业同样也经历了20世纪80年代美国的城市空心化一样的低迷期。

suburban boom in the United States, Toronto's hinterland quickly developed in concentric rings of largely car-reliant suburban communities. Concurrently, large swaths of Toronto neighborhoods were redeveloped in much the same fashion as the urban renewal programs underway in American cities. However, these Toronto communities and the commercial/manufacturing sectors in general experienced the same urban downturn that had hollowed out urban areas across the United States by the 1980s.

Exemplifying North American urban trends, over the past two decades, Toronto has experienced changes in dwelling demands and resultant shifts in development modes. Transformations in employment sectors from traditional industrial manufacturing towards information and creative economies have been accompanied by diversifications away from the mid-century nuclear family. The resultant residential reurbanization has led to greater densities, increasingly vertical development, and a slew of planning legislations and frameworks to guide them.

Reurbanization

Now part of the conurbation including the Greater Toronto Area (GTA), the Greater Toronto and Hamilton Area, and the extended Golden Horseshoe secondary region of Southern Ontario, the GTA is the most populous metropolitan area in Canada. The growth that Toronto's downtown core has experienced in the last two decades has been astonishing. Macro-level provincial growth initiatives, such as the Ontario Places to Grow Act (2005), were enacted to target specific settlement areas including urban growth centers, intensification corridors, major transit nodes and other major opportunities. More recently, Ontario's Land Use Planning Review Advisory Panel has tabled a report entitled "Planning for Health, Prosperity, and Growth in the Greater Golden Horseshoe: 2015-2041," which directly responds to projected growth pressure on land use issues, environmental protections of large regional natural reserves, and a focused urban growth strategy. Of note are prescriptions that would require 60% of new residential development to occur within existing built-up areas of a municipality, as well as up-zoning along transit corridors for strategic densities. At the municipal level, City of Toronto planning frameworks have had the effect of making urban reuse, redevelopment and intensification abundantly attractive to inter-generational, regional, and international migrants seeking multicultural and diverse urbane communities. The result has been a marked shift from population growth in the suburbs to the downtown core (Figure 2). Increasingly this has led Toronto planners and architects to study modes of intensification, especially vertical density, in a wide range of contexts. From typological guidelines – such as the Tall Buildings Study (2010) produced by Urban Strategies Inc. and Hariri Pontarini Architects, and the Tall Buildings Design Guidelines (2013) by the City of Toronto – to

作为北美城市发展趋势的例证，在过去的二十年里，多伦多见证了居住需求的变化，相应地改变了发展方式。当大量就业机会从传统的工业制造业转向信息和创意经济产业，随之社会家庭开始脱离世纪中期基本模式而变得多样化；因此引发了重归城市潮，导致了市区居所密度增加，促进了高层项目的发展。与此同时也使得政府通过了许多相应的规划立法和指导框架。



Figure 1. Urban growth patterns and transportation corridors overlay map of the City of Toronto, 1857, City of Toronto Archives, Series 88 File 13 (Source: Ellis, J (1857) Plan of the City of Toronto, Canada West, Fleming, Ridout & Schreiber.)
图1. 1857年多伦多市地图与当今城市增长模式和交通走廊图示，多伦多市档案馆，88系列13号文件（来源：Ellis，J（1857）多伦多市平面图，西加拿大，Fleming，Ridout & Schreiber）

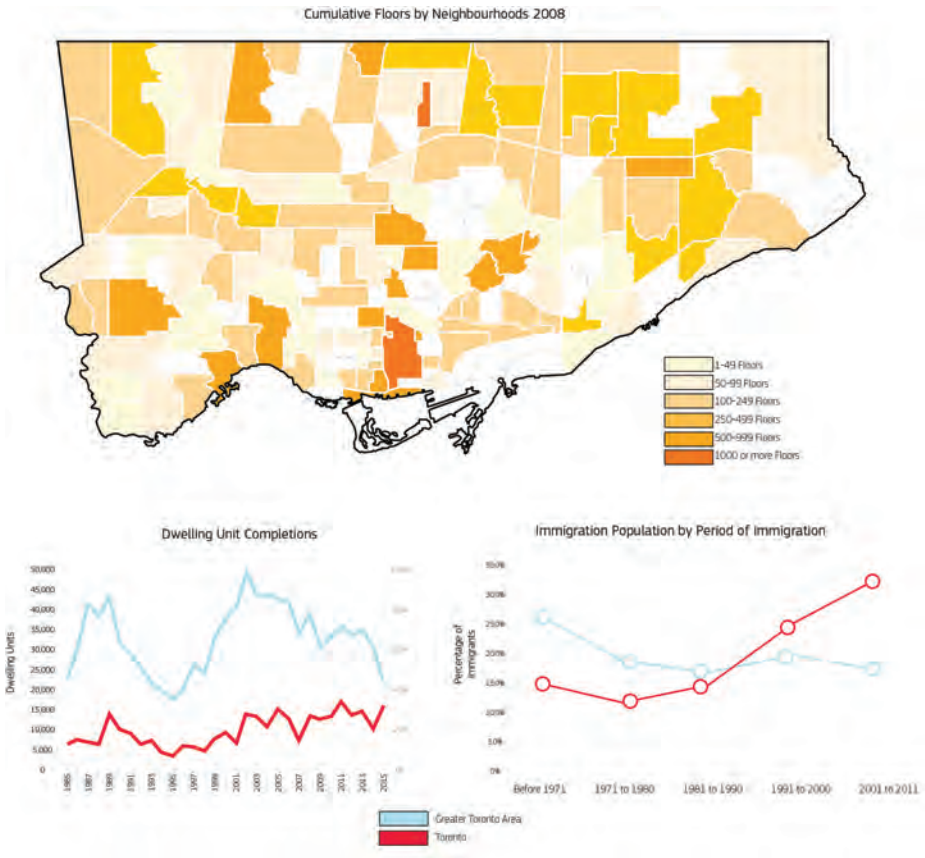


Figure 2. Demographic and spatial development trends, Greater Toronto Area (sources: Krawczy, Bob (2009) [Map], Canada Mortgage and Housing Corporation (2015) Toronto & GTA Dwelling Unit Completions [Online], 2011 National Household Survey (2013) 2011 Immigrant Population by Period of Immigration [Online])
图2. 大多伦多地区人口与空间发展趋势（来源：Krawczy，Bob（2009）[地图]，加拿大房贷和住房公司（2015）及多伦多GTA住宅区落成情况[在线]，2011年全国家庭普查（2013年） 2011移民时期的移民人口［在线］）



Figure 3. Waterfront Toronto and City of Toronto Secondary and Precinct Plan Map (Source: City of Toronto Planning Division, 2016)
图3. 多伦多湖滨区和多伦多市详细分区规划图（资料来源：多伦多市规划局，2016）

fine-grain site-specific ordinances, studies and policies have flowed fourth from a wide swath of interests and players, barely keeping pace with the demand for growth.

The concept of *complete communities* permeates Toronto's Official Plan, Secondary Plans, Regeneration Area Plans, Precinct Plans policy structure, and Zoning By-Law provisions. Although the term is somewhat nebulous it has generally been used as a catchall to describe places that meet all people's needs for daily living throughout an entire lifetime through the provision of convenient access to an appropriate mix of employment, services, a full range of (affordable) housing, infrastructure, schools, recreation, open spaces, public transportation, and safe non-motorized travel.

As with other harbor cities, reurbanization trends are acutely felt in waterfront districts, and since the late 90s the renewal of Toronto's waterfront lands has been of particular concern and contention. Faced with the redevelopment of large swaths of former industrial and rail lands, the Toronto Waterfront Revitalization Corporation, now known as Waterfront Toronto, was created in 2001 as an intergovernmental-funded corporation with a 25-year planning and private sector engagement mandate to revitalize an area roughly four times the size of Monaco. Paralleling the work of this agency a Central Waterfront Secondary Plan (CWSP) was adopted by the City in 2003, providing local development policies to guide growth and by-law provisions. Within the Secondary Plan, site-specific Precinct Plans have been, and are currently being, created to provide further specialized frameworks for development. Broadly, the goals of the CWSP are to: a) remove barriers / make connections, b) build a network of spectacular waterfront parks and public spaces, c) promote a clean and green environment, and d) create dynamic and diverse new communities. Within that schema, the enacted East Bayfront (2005), North Keating (2010) and West Don Lands Precinct Plans (2005) have already laid out guidelines for the implementation of public infrastructure as well as the built-form for developments such as the athletes' village for the 2015 Pan/Parapan Am Games (Figure 3).

The Lower Yonge Precinct

At the time of this writing, the Lower Yonge Precinct Plan (LYPP) is days away from review by the Toronto and East York Community Council. If adopted, the LYPP will be brought into effect for the parcels of land bounded by Yonge Street to the west, Lower Jarvis Street to the east, the Gardiner Expressway and Lakeshore Boulevard to the north, and Queen's Quay Avenue East to the south (Figure 4).

Once industrial waterfront landfill, the neighborhood is in close proximity to Toronto's main rail hub, Union Station; the Gardiner Expressway; Toronto's underground pedestrian PATH system (the world's largest underground shopping complex with 30 km of enclosed shopping arcades and pedestrian walkways, connecting more than 50 buildings/office towers as well as parking garages, six subway stations, two major department stores, eight major hotels, and Union Station); and major sports, entertainment complexes, and tourist attractions. The site is located at the foot of Toronto's main arterial road, Yonge Street, which bisects the city.

Currently, two complexes dominate the Lower Yonge Precinct; the Toronto Star tower on the northeast corner of Yonge and Queen's Quay, and the LCBO (Liquor Control Board of Ontario) provincial lands (on which sits

重归都市

现在，多伦多集合城市群包括大多伦多地区（GTA），大多伦多和哈密尔顿地区，以及金马蹄延伸出来的安大略省南部附属区域；其中GTA是加拿大人口最多的大都市区。多伦多闹市中心在过去二十年经历的增长是惊人的。几项宏观省级发展计划被通过，例如安大略发展法案（2005年）规定了各方面的具体目标，包括城市增长中心、集约化走廊、重要的中转枢纽等重大发展机遇。最近，安大略省土地利用总体规划审查咨询小组提交了一份题为《大金马蹄地区健康、繁荣、发展的规划：2015年至2041年》的报告，直接回应了关于预期的发展对于土地的压力问题，规划了大面积地方自然保护区的环境维护和中心城市发展战略。值得注意的是以下规定：新住宅开发的60%必须在城区现有的建成范围内。交通走廊的分区规划要达到规定的战略密度。在市政一级，多伦多市的规划框架制订了市区再利用，再开发，和集约化的方针，要建设能充分吸引不同年龄层，不同地区的居民，以及向往着多元文化城市社区的。这些规划导致了外国移民人口增长明显地呈现从郊区到市中心核心地带转移（图2）。也使得多伦多的规划师和建筑师，越来越多地研究集约化模式，尤其是各种用地环境中的垂直密度。从类型学的参考纲领，如城市策略规划公司和Hariri Pontarini Architects建筑设计所提出的《高层建筑研究》（2010），多伦多市的《高层建筑设计指引》（2013年），到细化至建筑地本身的具体条例、研究、和政策，由利益相关集团和参与者源源不断地提出，以期保持与需求增长的同步。

“完整社区”的概念已经渗透到多伦多的法定规划，附属规划，重建区计划，区域政策架构，和城市分区法律规定。尽管这个概念并没有严格的定义，它通常用来描述可以满足所有居民一生日常生活需要的、包罗万象的一个地方；它提供就业、服务、（经济实惠）的住房、基础设施、学校、娱乐场所、开放空间、公共交通、和安全的行人区。

与其他港口城市一样，重归都市的趋势首先波及临水地区。自90年代末以来，多伦多湖滨土地的重建一直受到特别的关注和争议。面临大片前工业和铁路用地的重建，2001年政府投资创建了“多伦多湖滨复兴公司”，即现在的“多伦多湖滨”公司， 投入了为期25年的前景规划，邀请多家私营部门参与，准备振兴这个有4倍摩纳哥大小的区域。与此机构平行，多市在2003年通过了《中心湖滨二次开发计划》（CWSP），制订了地方发展政策和法律规定。在二次开发计划中，建筑地特许的规划已经制订或正在制订中，为开发设立进一步的专门框架。概括地说，CWSP的目标是： a）清除障碍，接通连系；b）建立壮观的湖滨公园和公

a warehouse and large retail store) on the middle block between Freeland and Cooper Streets. Grade level parking and a parkette make up the balance of the area. The creation of the LYPP represents the collaborative effort of many individuals and organizations throughout a comprehensive consultation process that engaged a variety of stakeholders over a period of years (see Figure 5).

At an even finer level of focus, the proposal of a mixed-use development at 1 Yonge Street – the western two-block, nine-hectare site within the Lower Yonge Precinct – has been a four-year iterative process that has worked in parallel with, and helped inform, the City's work on the LYPP.

The narrative that has suffused the *One Yonge* project since its inception exemplifies the challenges faced in the creation of a successful *complete community* at a dense and vertical scale thus far unseen in Canada's most populous metropolitan area. Contiguous work by planners, architects, and a vast array of other interests has been intrinsic in bringing forth a refined and ambitious plan, and can be understood as a benchmark for



Figure 4. Waterfront Toronto Tower Location Plan Map (Source: Lower Yonge Urban Design Report, Principles and Recommendations, 2014)
图4. 多伦多湖滨区高层建筑分布规划图（来源：《下央街城市设计报告，原则和建议》2014）



Figure 5. (Top) Toronto Skyline, 2005 (Bottom) Artists's Rendering View of Toronto Skyline (2016) including 1 Yonge Project
图5. 2005年多伦多天际线（上） 2016年多伦多天际线含央街一号（下）（来源：http://news.nationalpost.com/toronto/toronto-skylines-absolute-transformation-captured-by-two-photos-taken-13-years-apart（2016年5月10日）

共空间网络；c）增进整洁的绿化环境；d）创建有活力的、多样化的新社区。在该计划中，东湖湾（2005年），北基廷（2010），和西唐地分区规划 （2005年），对公共基础设施的建设以及建筑造型，如2015年泛美运动会兴建的运动员村（图3），给出了指导意见。

下央街专区

在撰写这篇文稿期间，多伦多及东约克社区委员会即将对“下央街专区规划蓝图”（LYPP）进行评审，如获通过，LYPP将正式对西到央街，东至下查维斯街，南达皇后码头大道东段，北抵湖滨大道和贾丁纳高速公路之地段进行规划管理（图4）。

下央街专区曾是堆填而成的海滨工业区，它邻靠多伦多铁路枢纽联合车站、贾丁那高速公路、多伦多地下通道（PATH）（一条世界最大，长达三十公里，连接包括联合车站、八间大酒店、两间著名百货公司、六个地铁站、停车场以及高达五十余栋商住大厦等的地下网络）、主要体育娱乐中心以及旅游景点。项目用地位于分割多伦多城市东西的主干道——央街的起点。

下央街专区现存两栋综合建筑，它们分别是位于央街和皇后码头大道东北角的多伦多星报大楼，以及座落在弗里兰街与库柏街之间的安大略省酒类管理局（LCBO）（包括大型零售商店和仓库）的省属土地。地面停车场和具有娱乐设施的小公园平衡了该地区的使用需求。“下央街专区规划蓝图”的制定代表着众多人士和团体多年来与多方利益相关组织深入磋商的成果（图5）。

这项位于下央街专区西面，总面积达九公顷的“央街一号”混合用途发展构思，在这四年间与政府推行的LYPP计划并行发展。

“央街一号” 是一项极富挑战性的发展例子，它尝试实在加拿大人口稠密的城市建造成功的高密度垂直完善社区。城市规划师、建筑师和众多利益团体透过共同合作提交了一个精炼而具野心的蓝图，这个过程更可以被视为参与、协商和实践的基准。设计过程复杂性带来必不可少的对实用性的考虑，从宏观的角度来看，这个地段对于整体多伦多海滨区和央街走廊包括富有象征意义的城市轮廓线、地标、节点和门户性是极其重要的（图6）。本文章会继续探讨“央街一号”方案的演变，如何在履行并超越规划框架的前提下，以建筑的语言回应场地以及上述设计主旨。

基础工作与须知

经过多个机构和参与者的讨论，2013年所初次提交的方案中对央街一号的楼面面

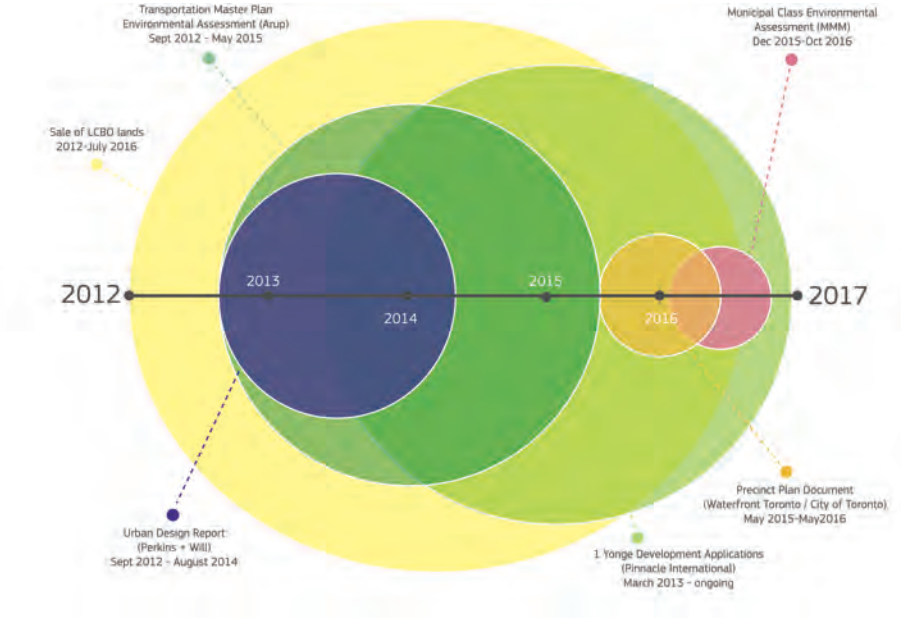


Figure 6. Lower Yonge Precinct Plan: Flow Chart of Phases (Source: Lower Yonge Precinct Plan Report, 2016)
图6. 下央街分区计划：阶段流程图（来源：《下央街分区计划报告》，2016年）



Figure 7. Photograph From the Urban Design Workshop (Source: Urban Design Proceedings Report for the Lower Yonge Precinct, 2014)
图7. 城市设计研讨会（来源：《下央街分区城市设计报告》，2014年）

engagement, collaboration, and practice. While this process has been as necessarily pragmatic as it is complex, the importance of the site to Toronto's Waterfront and Yonge Street corridor demands also a macro-scale approach that takes into account emblematic issues of skyline, landmark, nodes, and gateways (Figure 6). The remainder of this paper will examine the *One Yonge* project and how it has evolved to meet and exceed the progression of planning frameworks, while providing an architectural response befitting a site of such tenor.

Groundwork and Guidance

Since early submissions in 2013, the primary measures of Floor Space Index and Gross Floor Area that have helped define the number, massing, floor plate area, and height of the proposed towers at One Yonge have been refined based on the compiled input of a complex network of agencies and actors. Of particular value were a series of public urban design workshops, which resulted in the Urban Design Workshop Proceedings Report in September of 2014 (Figure 7). This report summarized the findings of an intensive two-day workshop that saw participants (including staff and representatives from the City of Toronto Planning Division, Waterfront Toronto, and other pertinent interests in public and private development, design, and planning fields) deliberate on a wide range of topics including: macro-level street configuration, neighborhood integration, park-system,

积指数和总楼面面积所界定的楼层数、体量、楼面面积和建筑高度进行了细致的调整。过程中，以来自一连串公开的城市设计研讨会的经验最为宝贵。其成果包括2014年9月推出的《城市设计讨论会进程报告》（图7）。这份报告总结了这个为期两天的研讨会所取得的成果。参与这个研讨会的各方分别来自多伦多城市规划局、多伦多湖滨公司以及其他对公共或私人发展、建筑设计和规划有兴趣的个人。而讨论所覆盖的题目则包括宏观街道配置、社区整合、公园系统、交通形态、微观气候、实验性建筑、主街道和中层裙楼的体量的建筑形态等等。

设计团队更进一步根据《交通总规划环境评估书》和《LYPP城市规划增补报告》所提供的丰富而全面的建议于2015年各季度多次提交设计方案。这些报告提出调整街道网络的方案，包括重设和延伸27米宽的港湾街，使其平分整个用地，以及建筑退让所提供的公共空间、缓冲空间、休憩用地和塔楼占地面积比率（TAR）等规则。此外，报告亦对方案的建筑高度的缩减作出一致的决定，重点包括面向安大略湖和城市东部低密度区的部分。虽然这些指导原则并没有对塔楼的高度、楼与楼之间的距离、和密度作出最终的决定，但它却迅速地为使“央街一号”方案成为标志性建筑提供了规划框架。

从以往的高层建筑基准研究、《高层建筑指引》和《央街走廊密集化报告》所积累的经验，设计团队迄今对宏观的设计难题提出了相应的对策。而设计位于央街和布鲁尔街交汇点的垂直完善社区“布鲁尔东街一号”更为团队如何掌握建筑密度提供一定的经验。设计师不仅利用一贯雕刻沿街建筑的手法以丰富户外公共空间，更透过裙楼与塔楼错落有致的梯台和露台配置使绿化能够连绵地过渡到行人道这个效果。对于地面和两个主要地铁站以及地下商店网络的连接，设计师亦赋予了周详的考量。“布鲁尔东街一号”落成之前，即2013至14年之间，每天使用央街和布鲁尔街地铁交汇车站的乘客高达404,310人次，为多伦多之最；而根据《多伦多城市规划局公开数据》，以8小时计算，地面的行车量和行人数目分别为31,600架次和51,392人次，属市内第9大繁忙路段。“布鲁亚东街一号”是一个楼高257.3米 / 76层的建筑项目，在131,557平方米的总建筑面积中，它容纳了789个住宅单位和8,912平方米的商业零售面积。成功地令它融入这个本已成熟的重要地区将为垂直发展带来广泛和切实可行的经验（图8）。

把以上的经验应用于“央街一号”，央街和延绵的湖滨地段的交汇通道得到特别关注。作为该地块的重要交叉路口，尽管央街和皇后码头大道的行车和行人次数仍未能与央街和布鲁亚街相提并论，它仍能成为连接区域高速公路网的主要区域行车大道（图9）。而LYPP和CWSP为针对本区

transportation and morphology, as well as micro-level climatic, experiential, massing (particularly high-street and mid-rise podium typologies) and character concerns.

With this rich and varied spectrum of guidance, the groundwork was set for further submissions in the spring, summer, fall and winter of 2015 by the design team, informed by recommendations set out by the Transportation Master Plan Environmental Assessment and the Urban Design Report supplementary to the LYPP. The reports stipulated high-level street grid adjustments (namely the reorientation and continuation of a 27 meter wide Harbour Street, bisecting the site into two distinct parcels), built form setbacks emphasizing the public realm, various easements, open spaces, and tower area ratios (TAR). Additionally, a consensus was adopted early in the process that defined the general parameters of tower height reduction; specifically, lowering heights towards Lake Ontario as well as towards the easterly lower-density development precincts. These principles, while not solidifying absolute tower heights, separations or densities, presented a framework quickly coming into focus that identified the site as one supportive of an iconic development.

Bringing to bear the lessons learned from benchmark studies on Tall Buildings, the Tall Buildings Guidelines, and the Yonge Street Intensification Corridor, the design team has been uniquely responsive to macro-site concerns presented thus far. The experience of designing a notable vertical complete community at the significant intersection of Yonge and Bloor streets, One Bloor East, has especially informed the team on various integrative approaches to density. Here, fine attention was paid to public realm sculpting through not only street level elevations, but also undulating recessions of terraces and balconies in the podium and tower, allowing light and visual connections with continuous planting areas to permeate down to the pedestrian experience. Connections below grade to the two major subway lines and an underground retail network were also given close consideration. To offer some context, before the realization of the development, the Yonge/Bloor subway interchange facilitated the most number of passenger trips of any station (404,310 per day, 2013–14), and the street level intersection was the 9th busiest with 31,600 vehicles and 51,392 pedestrians counted over an 8 hour period (City of Toronto Planning Department Open Data, 2016). Successfully integrating the draw and added density load of a 76-story development – at a height of 257.3 meters with 789 residential units, 8,912 m^2 of commercial/retail area, and a total construction area of 131,557 m^2 – to an already mature and prominent location has offered a breadth of insights into pragmatic vertical development (Figure 8).

Applying this to the One Yonge site, the context of intersecting corridors (Yonge Street and the continuous Waterfront domain) has been given special consideration. Although the site's main intersection, Yonge and Queen's Quay, does not currently match the pedestrian and vehicular volume of Yonge and Bloor (2,320 and 19,338 respectively, 2013) it does reflect the current nature of the site as a primarily vehicular regional thoroughfare with connections to the regional expressway network (Figure 9). The goals set out by the CWSP and the LYPP with respect to local non-vehicular, transit, and pedestrian connectivity have required a "complete streets" approach to the site design, which has also been consolidated with other site concerns such as open space, parklands, privately owned public space, recreation and larger circulatory connectivity. Transitioning between these two conditions has been of special concern to the design team (Figure 9).

内的非机动车、公共交通和人行道等系统的连接而提出的“完整街道” 概念则被进一步用来回应开放空间、公园、私有公用用地（POPS）、娱乐设施、以及大型循环路网等议题。如何把以上两点合而为一是设计团队特别关切的地方（图9）。

互动应答

如前所述，“央街一号”方案与市里的“下央街分区计划”同步进展。这意味着各种关于方案建筑形式的互动设计和彼此回应。经过历时5年对建筑造型的不断修改，“央街一号”最终于2016年二月提交分区规划方案，以及于2015年12月向多伦多滨水设计审查小组提交设计方案。该审查小组是由建筑、景观设计、工程和规划部门的领导人组成的咨询机构，指导并公告多伦多湖滨的振兴规划。这些方案必须根据不断发展的规划框架变动，从而见证了围绕该项目的阐释和各有关方面意见的涨落。

关于街区街道布局规划问题，设计小组接连提交了两份文件（《MP运输》和《城市设计指引研究》）给LYPP， 恰与“多伦多湖滨”建立公园绿地网络的愿望契合。被广泛接受并受到赞赏的方案是在弗



Figure 8. One Bloor East artistic rendering and construction progress photograph (Source: Hariri Pontarini Architects, 2016)
图8. “东布鲁尔一号”建筑效果图和施工进度照片（来源：Hariri Pontarini Architects建筑设计所，2016年）



Figure 9. (top) Lower Yonge Precinct (existing and proposed) Transportation Study, (bottom) Existing Queen's Quay West streetscape and proposed Queen's Quay East streetscape and public realm (Sources: Hariri Pontarini Architects courtesy BA Group Transportation Consultants, 2016. Lower Yonge Precinct Plan Report, 2016)
图9. 下央街分区（现有和拟建的）交通运输研究（上）现有的皇后码头西大道街景和建议的皇后码头东大道街景和公共空间（下）（来源：Hariri Pontarini Architects建筑设计所，感谢2016年BA运输集团顾问团准许使用；《下央街分区计划报告》，2016年）

An Iterative Response

As previously mentioned, the scheme for One Yonge has gone through a progression in tandem with the development of the City's Lower Yonge Precinct Plan. Intrinsic to this have been the various iteration of submissions, building from and responding to one another, over a five-year span culminating in the most recent February 2016 rezoning submission and the December 2015 submission to Waterfront Toronto's Design Review Panel, an advisory body of leaders in architecture, landscape design, engineering and planning that guides and informs the revitalization of Toronto's waterfront. While these submissions have been continuously refined based upon evolving planning frameworks, they offer insights into the ebb and flow of the narrative surrounding the project and the input of various concerned actors.

Block and street grid planning carried out in the two adjoining documents to the LYPP (The Transportation MP and Urban Design Guidelines studies) have intersected with Waterfront Toronto's desire to create an appropriate parkland network. One widely accepted strategy has been to propose a "central park" area on the southern end of the tract between Freeland and Cooper Streets, to be complimented with widened and planted streetscaping throughout and especially along the two major arteries of Yonge and Queen's Quay. As a response to this, various iterations of a mid-block connection privately-owned public space (POPS) or path have been proposed as a major narrative feature in various forms throughout the design process. The development of this mid-block path had, in previous iterations, taken the form of a diagonal route from the northwest to the southeast corners of the northern block, terminating across from the central park. Opening at both ends in expansive pubic plazas, the outdoor covered walkway would provide additional grade-level fine-grain retail opportunities not unlike Les passages couverts of Paris, as well as interesting visual connections through the site. In the November 2015 submission, as a response to input from the City, this pedestrian path has since been reconfigured and scaled to travel along a north–south axis, originating

里兰街和库珀街之间的道路南端划出一个“中央公园”地区，拓宽并种植景观植物，尤其是沿着央街和女王码头大道的两大动脉。因此经过讨论，各种形式的街区衔接、私有公共用地（POPS）或行人道成为整个设计过程中的一大主线。街区间连接路径，在前期的几次设计中采取自西北向东南倾斜的途径，到中央公园对面终止。两端开口设计成公共广场，户外有盖人行道为地上小型零售商铺提供额外的空间；类似巴黎拱廊街的建筑形式，带来贯穿场地的有趣的视觉联系。2015年11月方案提交之后，市政府将这条步行道重新配置，变成沿南北中轴线行进，由地块西北角扩大的公共广场起，设计了位于二层的路径连接到联合车站PATH系统的南延端点。此方案和2015年12月之后再次引入的一个波形露天篷，代表了各方对街道景观和公共领域的极端重视，并激活了沿北部地块周边的地上零售功能（图10）。

对应北部地块的不同功能，南部地块的商业、办公、服务首层布局包括了一个大拱廊街和一个两层高的“冬季花园”中庭。拱廊和中庭将地块分成较小规模的体量，并延续南北人行道，连接到女王码头大道。此外，多伦多星报大楼南侧和西侧的底层建筑立面将后缩形成一个凸面结构，提供地面上的露天走道，增加平面布局的渗透性和生动感。

坐落于“央街一号”的东南方，是历史悠久的雷德帕斯糖厂码头。代表多伦多工业历史的最后遗存，这处工厂的历史意义已远远超出了它的生产功能。然而，由于可能违反环境噪声条例，它是否继续运作已被质疑。为了调和这个问题，办公室、商业“缓冲区”的设计成就了“央街一号”南部街区的整体规划。工作部门的需求和公共价值领域的扩展，形成了新的体量策略——将湖滨全景绿化平台提升到南侧塔楼顶层。

多伦多央街沿线建筑高度，重要节点和道路交叉口的关系，以及颇受欢迎的塔楼和裙楼的建筑形式，在一直不断地被加以研究（图11）。出于对LYPP细节的关注，适当的建筑高度轮廓研究已经从塔楼距离、楼板面积限制问题，转向确定塔楼楼板面积与（从街道角度）楼间的可见天空的关系，并由此来确定在给定地块可以建成的塔楼数量。根据这一考量，建筑高度的重要性让位于地面行人对中层裙楼层和天空的感受程度。对高层体量不断的细化修正进一步体现了这一战略，从而导致对塔楼体量更深入细致的分析。这一点可以通过项目设计发展过程中体量策略的变化看出，同时满足对建筑结构的考量，特别是楼板面积大于目前各种规划指定的750平方米超高层塔楼。

整个北部裙楼分布着一系列错落的梯台式造型，作为对地块具体条件的呼应。大的楼间距（30米以上），为构建不同高度的

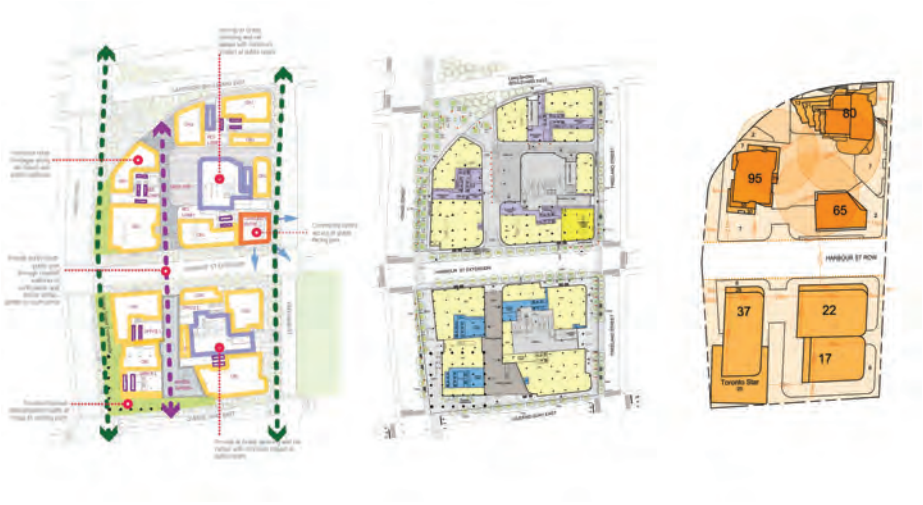


Figure 10. (left) Conceptual program and circulatory diagram, (center) architectural ground level plan, (right) height, separation, relationship, and terracing scheme, One Yonge (Source: Hariri Pontarini Architects, 2016)
图10. 方案功能和流线图（左）建筑地面平面图（中） “央街一号”的高度丶间隔丶相互关系丶和梯台设计图（右）（来源：Hariri Pontarini Architects建筑设计所，2016）

at an enlarged public plaza at the northwest corner of the site, and featuring a potential second-story connection to a southern extension of the PATH system from Union Station. This scheme, and the one following in December 2015 that reintroduced an undulant open-air canopy, represent a sharpened focus on the streetscape and public realm, and the activation of grade-level retail along the perimeter of the northern block (Figure 10).

Mirroring the porosity of the northern block, the southern block's commercial, office, and service ground floor plan includes large gallerias and a two-story "Winter Garden" atria that divide the block into smaller-scaled massing, continuing the current north–south pedestrian path connection south to Queen's Quay Boulevard. Additionally, the south and west grade elevations of the long-serving Toronto Star tower will be pulled back by one structural bay in order to provide an open-air promenade as well as added permeability and animation at the ground plane.

Situated to the southeast of One Yonge is the historic Redpath Sugar Factory wharf. Representing the last vestige of Toronto's industrial past, the factory holds a historic cachet that increases its value past that of its function. However, its continued operation had been put into question due to possible violations of the Ministry of the Environment noise codes. To mediate this, the creation of an office/commercial "buffer zone" has resulted in the wholly commercial programming on One Yonge's southern block. This admonition of employment sectors and public realm enlargement has produced a massing strategy that elevates large waterfront panoramic green terraces atop the southern block towers.

The developing relationships between building heights at important nodes and intersections along Yonge Street has been studied continuously as Toronto's skyline proliferates with the favored tower-and-podium typology (Figure 11). Overlain on the fine-grain concerns of the LYPP, this study of appropriate height profiles has lead away from a tower-separation / floor plate size restriction rationale, towards a tower area ratio that formulates the correlation of tower floor plates to open-sky view (from street level) governing how many towers may be located along a singular block within a given context. Under this rationale, absolute height is less a concern than the pedestrian's perception of openness above the ground and mid-rise datum levels. The continuing refinement of a series of upper-level massing setbacks lends further to this strategy and adds a finer level of form differentiation to the tower volumes. This can again be seen in the progression of the massing strategies through the development process and allows for structural considerations necessary in supertall towers, namely floor plates larger than the 750m^2 currently prescribed by various planning guidelines.

Dispersed throughout the podium levels on the northern block are a complex series of sculpted terraces and balconies that respond to specific conditions across the site. Vast interstitial spaces, created by (a minimum of) 30-meter tower separations, have produced opportunities to create varied elevated green amenity terraces that take advantage of views and connections throughout the site (see Figure 10). These sculptural terraces and balconies transition into the residential towers above, and take their visual aesthetic and connectivity cues from the precedent of the One Bloor East project, as is especially the case with the most recent iterations of Tower Two. This rhythmic undulation of balcony projections interspersed between curtain wall planes has been proven to meet and exceed

绿化休闲平台创造了机会，从而充分利用整个地块中的景色以及联系。这些梯台过渡到住宅塔楼，正如二号塔楼的设计，视觉美感从“东布鲁尔一号”建筑群延续过来。这种玻璃幕墙与阳台穿插形成的波动韵律已经证明是令人满意的，并且超越了从市场、审美、体验、和效率等人们对高层建筑的评价标准（图11）。

与“东布鲁尔一号”相似，有关“央街一号”项目的建筑天际线研究、地标性、门户形象和标志性地位的议题，因其倍受瞩目的建设前景而不可避免。建筑轮廓，塔楼顶部的建筑语言，二者对城市现有的和未来潜在天际线的关系，均根据多伦多核心市区多样性的思维解决。带有显著文化意义的商业塔楼，凭籍当代可持续发展技术，同时遵循保存历史建筑的优良传统，维护和改造着多伦多的人文景观。

“央街一号”：由点到面

想像一个完全建成的，与纽约哈德逊水岸区“美国最大的房地产开发项目”（Kwok，2015）规模相当的完善的垂直社区。这将是考验多伦多的规划和设计队伍活力和效率一桩非常重要的事业。主要目的是希望建设“下央街分区计划”和“央街一号”所积累的宝贵经验可以成为日后项目参与和协作的基准。

目前“央街一号”方案包括：北部地块在8层的多用途裙楼上建设三个住宅塔楼（95层塔楼，建筑高度303米；80层高塔楼，建筑高度260米；和65层塔高，建筑高度210米）， 以及南部用地所建设的两个商业塔楼（35层，建筑高度149米；25层，建筑高度101.5米）（图12）。此方案共累计住宅楼面面积220,982平方米（共2，962个单位，其中10%为市府所规定的经济适用住房）；商业建筑面积149,660 平方米（包括4，772平方米的社区娱乐中心）；零售商业面积19,679平方米，以及5,924平方米的休闲娱乐设施面积。虽然看似密集，北块塔楼的净面积指数（FSI：净楼板面积为地盘面积的倍数）仅为19.19，此值在早先的互动设计中处于28 - 19.6范围。与此同时，北座塔楼19.8%的塔楼面积比，要低于“下央街城市设计报告书”规定的20%。

上述统计描绘了引人瞩目的开发规模（这将是加拿大最高的建筑），在垂直维度上建设 一个“完善社区”是一个远远超越简单程序化运作的复杂问题。“央街一号”方案通过私人投资开发编织了一个大型的公众设施建设网络，包括一个社区服务中心（位于北部群楼的两层，可俯瞰中央公园），两个托儿设施，还有一所可能是多伦多首例垂直共处的公立学校。此外，私有的公共空间（POPS）面积占整个地块的19.8%，远远超过市府规定的5%，并

market, aesthetic, experiential, and efficiency standards for tall buildings (Figure 11).

As with One Bloor East, questions of the skyline, landmark, gateway, and iconic status of the One Yonge development are as much unavoidable as they are a welcome architectural prospect. The profile, the architectural language at tower top, and the relationship of both to the existing and prospective future of the City's skyline was addressed through a vocabulary that collectively speaks to the diversity that runs to Toronto's core. The preservation and retrofit of a culturally significant commercial tower with contemporary sustainable technology also follows a strong tradition of heritage conservancy of great importance to Toronto's built landscape.

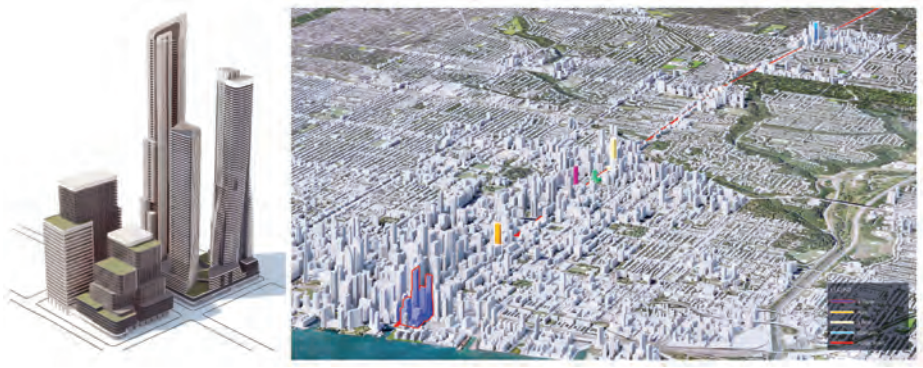


Figure 11. (left) Axonometric massing study highlighting terracing and balcony scheme; (right) tower height relationship study along the Yonge Street intensification corridor (Source: Hariri Pontarini Architects, 2016)
图11. 体量研究阐释梯次平台的设计方案轴测图（左）沿央街集约化地段高层建筑高度相关性研究（右）（来源：Hariri Pontarini Architects 建筑设计所，2016年）



Figure 12. Artist's rendering view of the proposed Lower Yonge Precinct Plan and the One Yonge project. (Source: The Lower Yonge Precint Plan Report, courtesy of Cicada Design, 2016)
图12. 下央街分区计划和“央街一号”的建筑效果图。（来源：《下央街分区计划报告》，感谢Cicada Design批准使用，2016年）

One Yonge: A Fiber to the Fabric

Envisioning a fully-realized, vertical complete community equivalent in scale to "America's Biggest Real Estate Development," Hudson Yards in New York City (Kwok, 2015), has been an enterprise of great importance to the efficacy and vibrancy of Toronto's planning and design faculties. The overarching hope has been that the lessons learned from the development of the Lower Yonge Precinct Plan and the One Yonge project will set a benchmark in engagement and collaboration.

The current One Yonge scheme consists of three residential towers (95 stories at 303 meters, 80 stories at 260 meters, and 65 stories at 210 meters) atop a mixed-use eight-story podium on the northern block, and two commercial towers (35 stories at 149 meters and 25 stories at 101.5 meters) on the southern block (Figure 12). Cumulatively this amounts to 220,982 m^2 of residential gross floor area (a total of 2,962 units, 10 percent of which will be affordable housing as defined by the City), 149,660 m^2 of commercial GFA (including a community recreation center of 4,772 m^2), 19,679 m^2 of retail GFA, and 5,924 m^2 of amenity GFA. Although seemingly dense, the north block towers actually represent a net floor space index (FSI: net floor area as a multiple of the site area) of only 19.19, as compared to earlier iterations ranging from 28 to 19.6. Additionally, at 19.8%, the tower area ratio of the north block sits below the 20% mark prescribed by the Lower Yonge Urban Design Report.

While the preceding statistics describe a development of conspicuous scale (including what would be Canada's tallest building), the creation of a complete community at vertical scales is a complex question that has involved more than simple programming manipulation. The One Yonge scheme weaves an extensive public program comprised of a community recreation center (located across two stories of the north block's podium overlooking the central park), two childcare facilities, and potentially Toronto's first example of a vertically co-located public school, through the fabric of a private development. Additionally, the inclusion of privately owned public space (POPS) of an area totaling 19.8% of the site well exceeds the 5% prescribed by the City, and contributes greatly to the animation and connectivity along the public realm. This ameliorates generously widened streetscapes, encouraging non-vehicular local travel and integration into the Queen's Quay East boulevard plan featuring the origin of the East Bayfront LRT line and modally separated traffic. As touched upon earlier, expansive green terraces and roofs, along with other measures of the Toronto Green Standards specifications complement the Central Waterfront Secondary Plan's promotion of a green environment.

City of Toronto Urban Design Manager James

大大促进了公共价值领域的生动感和连续性。这项指标的突破，极大地扩宽了街道景观，鼓励本地非机动车通行，连接了女王码头东大道的东部湖湾区轻轨线的起点， 实现模式化的交通分流。又如先前提及，扩展的绿色平台和屋顶，与多伦多的绿化标准规定的其他措施配合，实现中央湖滨二次计划推广的环境绿化。

多伦多市城市设计经理James Parakh曾表示，“……高层建筑必须从整体考虑，无论是作为地标性建筑物，作为形成街道墙壁的建筑物，还是作为构架开放空间的建筑物”（Parakh，2015）。“央街一号”方案，通过融合的实用主义和出自公民义务感的雄心设计，超越了所有对湖滨门户社区的期望。

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Parakh has said, "…tall buildings must be thought of holistically, either as landmark buildings, buildings which form the street-walls, or as buildings which frame open space" (Parakh, 2015). One Yonge exceeds all these expectations through an admixture of pragmatism and ambition that is tempered by an engrossing sense of civic obligation towards what will be a gateway community at water's edge.

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