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# Tall Buildings and Polycentricity

## 未来城市的多元中心方法



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A talented architect, urban planner and designer, Greg Yager brings over 30 years of experience in urban design and master planning of mixed-use, transit oriented new communities and urban development projects. He brings further expertise in large-scale science and technology innovation hubs that combine office, retail and residential uses. His experience stems from across China, the United States, Southeast Asia, London, and Europe and addresses the need for sustainable urban development within the context of the rapidly changing and emerging global economy.

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### Abstract | 摘要

*Dwindling land reserves, water and food shortages, climate change, diminishing air quality, environmental degradation – these are all among the intractable challenges we face in cities the world over. Transit, engineering and architectural planning must evolve to address these issues in a holistic, sustainable manner. Meanwhile, population increases are projected to reach unprecedented levels and designers and architects are being asked to build cities on a scale unheard of a decade ago. How do we accommodate such rapid growth while maintaining quality of life? How do we design harmonious, sustainable developments that render our urban areas competitive forces in the global market?*

*As the future of our cities is dependent on high-density, mixed-use development, this paper explores the role of the tall building as the center of a polycentric planning model. The ways in which tall buildings act as a reference point for all other development and strategies for finding the right mix of uses and mobility options will be discussed. The presentation will utilize case studies and highlight key cities – including Beijing, Shanghai and Guangzhou – that will serve as vital laboratories for testing new ideas and methods in the years to come.*

**Keywords: Development, Polycentric City Development, Urban Planning, and Vertical Urbanism**

逐渐减少的土地储备、水资源和食物短缺、气候变化、逐渐恶化的空气质量、环境破坏——这些都是全世界城市面临的棘手挑战。为了以全面、可持续的方法解决上述问题，我们必须改进交通、工程及建筑规划。同时，人口增长预计也将达到前所未有的水平，这要求设计师及建筑师建造超大城市，其规模在十年之前还是闻所未闻的。我们该怎样适应在快速增长的同时维持生活质量？我们该如何设计和谐、可持续发展的房产项目，让我们的城市区域在全球市场上具备竞争力？

由于我们城市的未来取决于高密度、混合用途的开发区，本文将探讨高层建筑作为多元中心规划模型中心的角色。此外，还会探讨高层建筑作为其他各种开发项目与策略参照点的种种方式，探索功能性与灵活性之间的适当结合方式。在展示的过程中，我们将使用案例研究的方式，重点突出若干关键城市——包括北京、上海和广州。在未来几年中，它们将成为检验新理念及方法的重要实验区。

**关键词：开发项目、多中心的城市开发、城市规划、垂直城市化**

Dwindling land reserves, water and food shortages, climate change, diminishing air quality, environmental degradation and population increase – these are among the challenges we face when planning for urban densification in cities the world over. To build cities on a scale unheard of a decade ago, transit, engineering, urban planning and architectural design must evolve to address these issues in a holistic manner. How do we accommodate growth while maintaining quality of life? What makes one city higher functioning and more attractive to investors, visitors and residents than another? And how do we design harmonious, sustainable developments that render urban areas competitive in the global market?

土地储备日渐减少、水和粮食短缺、气候变化、空气质量恶化、环境退化和人口膨胀等等是全世界城市进行致密化规划时都要遇到的问题。在此基础上朝着十年前闻所未闻的规模进行城市建造，交通、工程、城市规划和建筑设计必须与时俱进，以全面整体的方式解决这些问题。我们如何兼顾城市发展与生活质量？怎样才能让一座城市具备更加完善的功能，成为投资者、游客和居民眼中更具魅力的城市？我们如何设计出能在全世界市场展现竞争力的和谐融洽、可持续发展的城市地区？

鉴于城市的未来将有赖于高密度、综合体开发，本文探讨荷兰和中国的多元中心规划模式。本文审视了一直以来多元中心主义通过何种方式在塑造城市身份、建立连通性和流动性、鼓励创新、催生文化产品和商务环境方面发挥重要作用，旨在考虑

As the future of our cities is dependent on high-density, mixed-use development, this paper explores polycentric planning models in the Netherlands and in China. By examining the ways in which polycentrism has been previously influential in shaping urban identity, establishing connectivity and mobility, encouraging innovation, and enhancing cultural offerings and the business climate, we consider how this approach may be revived and tweaked to overcome modern-day planning obstacles – including mitigating the harmful side effects of the rise of the megacity.

## The Rise of the Megacity

The sense of urgency for a new approach to urban planning is provoked in part by the rise of the megacity: cities with populations of 10 million or more. That number has risen from two in 1950 to 35 today, with the number projected to reach 40 by the year 2030 (Khanna, 2016).

Historically, cities have maintained an atmosphere of intense competition. Each stood alone as its own separate entity, and each strove to build the tallest towers, the best airports and the most attractive infrastructure for businesses. These factors and more became the drivers and shapers of a city's core identity – its “brand.” An internationally recognized brand, like that of New York City, for instance, endows the city with a certain power and presence on the global stage.

Moving forward, we cannot afford to succumb to the whims of competition and an inward-looking approach. Instead, we must ascertain how cities can be a central node in a network of people and resources. The megacities of today and of the future have a responsibility not only to themselves; they must be a catalyst for growth for the surrounding areas, providing economic and social opportunity across a greater scale than ever before.

Why? In short, it is a capacity issue. The isolation and tension between these competitive forces result in missed opportunities of considerable magnitude in terms of collaboration and synergy. As our cities continue to grow and resources continue to dwindle, it is imperative that urban planning function as a facilitator and intermediary that maximizes connectivity for the social, economic and environmental benefit of cities and citizens.

Furthermore, as political theorist and founder of the Global Parliament of Mayors Benjamin R. Barber explains in his book, *If Mayors Ruled the World*:

In the face of the most perilous challenges of our time – climate change, terrorism, poverty, and trafficking of drugs, guns, and people – the nations of the world seem paralyzed. The problems are too big, entrenched, and divisive for the nation state. Is the nation state, once democracy's best hope, today dysfunctional and obsolete? The answer... is yes.

Cities already occupy the commanding heights of the global economy. They are home to more than half of the world's population, a proportion which will continue to grow. They are the primary incubator of the cultural, social, and political innovations which shape our planet. And most importantly, they are unburdened with the issues of borders and sovereignty which hobble the capacity of nation-states to work with one another (Barber, 2013).

Barber proceeds to assert that if cities can leverage their non-partisan style of governance and enter into voluntary partnerships, the entire world would benefit from increased ease and sharing of information across a global platform and “a more democratic basis for addressing global priorities than has ever existed.”

Of course, Barber's vision is perhaps more easily articulated than achieved. But as we focus on what cities can learn from and share with one another and how polycentrism can be impactful, we look to two models of urban development – one new, one old – to determine best practices for accommodating growth while maintaining quality of life.

## Dutch Polycentrism: A Brief History

Urban development in The Netherlands has been polycentric in nature since the 14th century when the need to build a network of dams and terps (artificial hills) for flood protection marked the start of spatial planning. For centuries, the cities acted as powerful figureheads for the region: well-connected to the surrounding towns and villages, but also autarkic – so much so that, even to this day, each city maintains its own strong culture and profile. Rotterdam is the largest port city in Europe (and was formerly the largest in the world, prior to Shanghai); The Hague is famous for its long history as the center of international relations, law and justice; and Amsterdam is a cosmopolitan city with a bottom-up drive and entrepreneurial and artistic spirit. Innovation hubs and education thrive in Groningen, Nijmegen, Maastricht, Eindhoven and Delft.

重新利用这种方法，对其加以改良，用以克服诸多现代规划中遇到的阻碍，包括缓解特大城市崛起带来的有害副作用。

## 特大城市的崛起

对城市规划新方法的迫切需求在一定程度上是由特大城市的崛起引起的，特大城市指人口在1千万或以上的城市。如今，特大城市的数量已由1950年的2个增加为35个，预计将在2030年前达到40个 (Khanna, 2016)。

有史以来，城市一直面临着彼此间的激烈竞争。每座城市都以独立的身姿挺立于世，它们想方设法盖最高的楼，建最好的机场，打造最具吸引力的商业基础设施。这样或那样的理由成为推动和塑造城市核心身份——“品牌”的内在动力。国际知名城市品牌将赋予城市在全球舞台上特定的权利与存在感，纽约城就是这样的例子。

展望未来，我们无论如何都承担不起率性竞争和保守内向做法的后果。不但如此，我们还必须弄清楚城市如何才能成为人与资源网络的中心节点。无论是现在还是未来，特大城市不但对自身负有责任；还必须成为周边地区发展的助力，以前所未有的规模创造经济和社会机会。

为什么？简言之，这是一个承载能力问题。各种竞争力量之间互相孤立的紧张态势破坏了实现高水平合作与协同的机会。随着城市规模持续扩大和资源衰竭，城市规划功能势必成为促成城市与市民的社会、经济和环境效益最大化连通的内在动力和媒介。

此外，正如政治理论家和全球市长议会创始人本杰明·巴伯 (Benjamin R. Barber) 在他的著作《如果市长统治世界》中描述的那样：

在气候变化、恐怖主义、贫困和毒品、枪支和人口贩卖等我们这个时代最具危险的难题面前，世界各国似乎无能为力。这些问题过于庞大且根深蒂固，是造成民族国家分裂的元凶。民族国家这一昔日民主的寄望如今是否已然失灵沦为明日黄花？答案是肯定的。

城市已经占据了全球经济的至高点。城市容纳的人口数量占到全球人口的一半以上，且还在不断增长。城市孕育了造就世界面貌的文化、社会和政治革新。最重要的是，城市不受边界和主权问题的束缚，不必像民族国家一样，因此难以与彼此合作 (Barber, 2013)。

Cities in the Netherlands experienced rapid growth in the 16th and 17th centuries. During the latter – also known as the Golden Age – massive wealth from a booming trade industry was reinvested in urban development, as well as reclamation and military purposes. Well-planned, compact cities expanded within artificial boundaries known as fortifications and cooperated for the greater good.

Yet the road to development was not without its obstacles. The Napoleonic Wars ravaged the country, and in 1814, The Netherlands declared bankruptcy. It would be a slow, gradual return to the stable government involvement and investment levels of the past, particularly in regard to infrastructure, waterworks and urban planning.

The 20th century marked a significant turn to a stronger central government. Influenced by H.P. Berlage, the Dutch “father of modern architecture,” the government passed the Housing Act of 1901 in order to address the housing shortage. Population growth would again find itself in the spotlight in the 1960s when the Central Bureau of Statistics (CBS) issued predictive data asserting that the Dutch population would double by the year 2000. The government responded with the Second Physical Planning Document, which promoted a concept known as concentrated de-concentration. Large cities were deemed undesirable and open space prioritized for the sake of health and wellbeing. The compact urbanization policy depended on three prerequisites for success:

1. Strategic planning authorities with the power to guide and obtain buy-in from stakeholders (Hall, 1996);
2. General consensus on the Randstad/ Green Heart Doctrine, which established a model for environmentally sustainable spatial planning and urban form (Faludi and Valk, 1990);
3. Significant portions of municipal and provincial budgets originating from the national rather than the local tax base. (Dijst, 2000).

The policy met with criticism in the 1980s as people increasingly saw a need for Dutch cities to connect their strengths in order to complete in the global economy – the “borrowed size” or agglomeration benefit approach. Other goals included upgrading public transportation infrastructure, addressing congestion and pollution, and continuing to manage urban sprawl.

巴伯还断言，如果城市能够沿用无党派治理模式，彼此间自愿建立伙伴关系，那么整个世界都将通过这个全球性平台得到更加便利的信息共享，并“在一个史无前例的民主基础上解决各项全球优先发展任务。”

显然，巴伯的观点知易行难。但我们重点关注的是城市能够从中借鉴并与彼此共享的启示，以及多元中心模式如何发挥重要作用，有鉴于此，我们研究城市发展的新旧两种模式是为了找出能够兼顾城市发展与生活质量的最佳做法。

### 荷兰多中心主义：简介

自14世纪起，荷兰城市发展一直承载着多中心化的性质，堆山砌坝建立防洪网络的需求成为城市空间规划的发端。几个世纪以来，城市很好地演绎了地区强大代理人的角色：不但与周围村镇良好连通，还实现了自给自足，以至于时至今日，每个城市仍然保留着自身强大的文化和形貌。鹿特丹是欧洲最大的港口城市（也是上海之前的世界最大城市）；海牙以其历史悠久的国际关系、法律与正义中心而闻名于世；阿姆斯特丹则是一座由下至上发展，并以企业家精神和艺术精神见长的大都市。格罗宁根、奈梅亨、马斯特里赫特、埃因霍温和代尔夫特是创新中心，教育蓬勃发展。

16—17世纪，荷兰城市取得了飞速发展。17世纪，也就是著名的“黄金时代”，贸易繁荣创造的大量财富被再度投资于城市发展、填海工程及用于军事目的。规划完善紧凑的城市冲破防御工事这一人为制造的藩篱，彼此合作以谋求更大利益。

然而，发展的道路并非一帆风顺。拿破仑战争洗劫了整个国家，1814年，荷兰宣布破产。恢复到过去由政府主导的稳健的投资水平将会是一个缓慢渐进的过程，尤其是在基础设施、水务设施和城市规划等领域。

20世纪是荷兰转向更加强势的中央政府的一个重要转折。受荷兰“现代建筑之父”贝尔拉格（H.P. Berlage）的影响，政府通过了《1901年住房法》以解决住房短缺问题。20世纪60年代，中央统计局（CBS）发布预测数据断言荷兰人口将在2000年前翻一番，人口增长再度成为焦点问题。政府对提出“集中式去中心化”概念的《二次实体规划文件》做出回应。认定大型城市不合时宜，并将开放空间优先用于为市民谋求健康和幸福。城市紧凑化政策有赖于三个先决条件：

1. 战略规划部门有权引导利益相关方的股份买卖和获得他们的股份（Hall, 1996）；

2. 对“兰斯塔德”即“绿心”学说达成普遍共识，该学说建立了一种环境可持续性空间规划与城市形态模型（Faludi and Valk, 1990）；
3. 市级和省级预算的主要部分来自国家而非地方税基（Dijst, 2000）。

这项政策在20世纪80年代遭遇批判，越来越多的人认为荷兰城市有必要在全球经济浪潮中联合自身优势，完善利用“借来的空间”，充分发挥这种方法的集聚效应。同时兼顾其它目标，如升级公共交通基础设施，解决拥堵与污染，继续对城市无序扩张进行管理。

多中心主义正式应运而生，在这种模式下，荷兰的每个主要城市都在一个城市联合体中扮演一个角色，目的是为居民提供高水准的生活。通勤时间短，优先考虑工作和生活的平衡，生态系统得到保护，城市发展在设计和规划上注重人文尺度、基础设施和基本供给，从公共交通、水处理、粮食、健康到教育、艺术和文化全部达到世界一流水平。每个“节点”之间卓越的连通性造就了一个相辅相成的网络，每个城市都能从集体优势中获益。

### 中国：重要试验基地

中国城市发展的进程晚于荷兰，但其发展更为迅速和杂乱。

据世界银行统计，中国城市在过去30年间接纳了来自农村地区的移民2.6亿。（World Bank Group and the Development Research Center of the State Council, 2014）。汹涌的移民潮无疑为中国带来前所未有的压力。虽然中国因此完全避开了大规模失业和贫困，但由此引发的对抗污染之战一直是媒体关注的焦点，对中国当前和未来的主要城市而言，有限的资源依旧是进行可持续发展的阻碍。为满足地方政府和开发商的利益，新机场、会展中心、高铁站、民用和文化设施、金融商业区在一夜之间如雨后春笋般涌现出来。每个城市都在很大程度上只关注自身的需求和愿望，而未能考虑到地区和国家的整体连通性。

鉴于此，中国可能是21世纪城市发展的最重要试验基础。中国拥有全世界最大、最具影响力的新兴市场 and 9个特大城市，由制造型、投资带动型经济向消费者导向经济的转型发展取得了空前的增长规模，特别是在上海、北京、广州、天津和深圳（图1）。

然而，中国同样也要面对全球难题，例如中国城市居民需要佩戴防污染口罩，住房拥挤和高房价同样影响着人民的生活质量。此外，特大城市只是中国多维城市



At this point, polycentrism was officially born, with each of the Netherlands' major cities acting as part of a conglomerate with the goal of offering a high standard of living for residents. Commutes are short, work-life balance is a priority, eco-systems are maintained, development is designed and planned for the human scale, and infrastructure and offerings – from public transit, water treatment, food and health to education, arts and culture – are world-class. Excellent connectivity between each of the Netherlands' "nodes" make for a complementary network in which each city benefits from collective strength.

China: A Critical Testing Ground

The urban development story in China begins later than that of the Netherlands and unfolds much more quickly and haphazardly.

According to The World Bank, 260 million migrants have moved to China's cities from rural areas over the last three decades. (World Bank Group and the Development Research Center of the State Council, 2014). Inevitably, this swift influx of people has placed unprecedented strain on the country. While China has thus far avoided large-scale unemployment and poverty, its battle with pollution has been the center of much media attention and limited resources threaten to render its major cities – and up-and-coming major cities – unsustainable. New airports, convention centers, high-speed rail stations, civic and cultural facilities and financial business districts have sprung up seemingly overnight in alignment with the interests of local government and opportunistic developers. Each city has maintained a largely singular focus on its own needs and aspirations without regard for regional or national connectivity.

As such, China may be the most critical testing ground for urban development in the 21st century. Home to the world's largest and most influential emerging markets and nine of its megacities, China's evolution from a manufacturing and investment-led economy to a consumer-based economy has spurred unparalleled growth, notably in Shanghai, Beijing, Guangzhou, Tianjin and Shenzhen (Figure 1).

Yet it is also here that evidence of the planet's most perilous challenges is present in the air-pollution masks worn by Chinese citizens, and quality of life is threatened by crowded conditions and high property prices. Furthermore, the megacities are just one tier of a multidimensional country. Second- and third-tier cities clamor for first-tier status, while the fourth-tier – mostly located in western inland

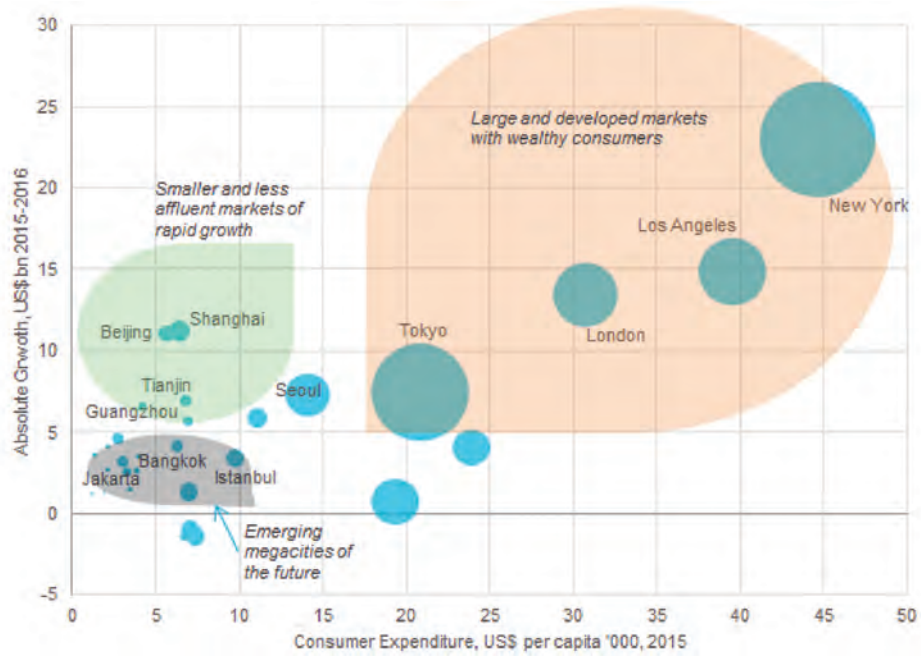


Figure 1. Consumer Expenditure (Source: Euromonitor International)  
图1. 2015年美国人均消费（来源：欧睿信息咨询公司）

China – struggles to provide basic infrastructure and an acceptable standard of living to its inhabitants. This sets up a challenging dynamic, to say the least.

Unless the trend toward degradation of the urban environment is disrupted by a new way forward, these challenges will only be compounded, and we may find that megacities will be our undoing rather than our salvation. Polycentrism, while not a new model, offers insight into how cities become part of a beneficial, decentralized network with designated pathways for resource distribution.

One Chinese city where polycentrism has been successfully applied is Zunyi, in the Guizhou province. With a master plan that includes high-tech industry, manufacturing, residential communities and tourism, Zunyi's goal is to achieve proper density and maintain connections with nature rather than maximum profit and an exceedingly high FAR. Continuous pedestrian paths in addition to light rail, bus service and bicycle paths coupled with small-block development and plentiful amenities lend development its human scale.

Still, while China is far from the establishing the type of relationship between Guangzhou and Shanghai that exists between Amsterdam and Rotterdam, there are parallels to be drawn and helpful comparisons to be made between these two vastly different countries.

Polycentrism: Essential Components

What lessons do we take from each country's historical precedents, and how do

架构中的一层。二线和三线城市强烈要求达到一线城市的地位，而四线城市——大多数位于西部内陆地区——还在努力为市民提供基本的基础设施和可接受的生活标准。退一步讲，这种架构形成了一个富有挑战性的动态机制。

除非城市环境恶化的趋势被未来的新方式阻断，否则这些难题只会加剧，我们可能会发现，特大城市是一条毁灭而非拯救之路。多中心主义并不是一种新模式，它深刻地解读了城市如何成为配备资源分配路径的、有益的、分散化网络的一部分。

贵州省的遵义市是成功应用多中心主义的一个中国城市。遵义市在城市主体规划中包含了高科技产业、制造业、住宅社区和旅游业，其目标是实现适当的容积率和保护与自然的联系，而不是谋求最大利益和过高的容积率。除轻轨、公交车和自行车道外，还设有连续人行步道，配合小地块开发和各类丰富设施大大增加了城市的人文尺度。

不过，对中国而言，虽然广州和上海之间离建立阿姆斯特丹和鹿特丹之间的那种关系还有很长的路要走，但是这两个呈现巨大差异的国家之间仍然存在一些相似之处可供借鉴，也可在两者之间进行有益比较。

多中心主义：基本内容

我们能从这两个国家的历史先例中得到哪些经验，如何将多中心主义成功地应用到中国日益密集的城市开发当中？答案是：结构与规模。

we successfully apply polycentrism to an increasingly intensifying urban development scene in China? The answers: structure and scale.

Structure is inherently tied to the past. The diversity we see in today's cities is rooted in the evolution of the urban core and the complex functions it has performed over centuries. Whether the city served as a center of trade, commerce, industry or the arts is readily reflected in its architecture, infrastructure and culture. Honoring this history as an essential piece of the urban fabric is key to effective placemaking, which establishes the context in which the city-dweller lives and thrives.

Scale results from an honest assessment of present circumstances and future aspirations. Shifting the conversation from competition to resiliency and sustainability changes the literal and figurative landscape dramatically, allowing each city to more fully address its unique needs and goals. The approach, grounded in political and economic context, is then contained within reasonable, manageable boundaries with an eye toward long-term growth and prosperity. This level of control guards against sprawl and promotes opportunities for synergy.

The polycentric model offers six parameters, informed by structure and scale, for urban planning.

### Identity

Every city benefits from an urban center – not necessarily in the guise of a tower or other architecturally dominant focal point, but a mix of uses with a collectively outsized impact. Universities, medical centers, financial hubs and innovation districts make for excellent urban centers, and when successfully integrated with residential, retail, office and/or hospitality components, each helps to shape a livable, desirable community and becomes the core of its identity.

As megacities grow to be larger and more complex, defining their individual identity becomes more difficult. To uncover the DNA of a city, we begin with an analysis of its strengths, weaknesses, opportunities and challenges. Interwoven with historical context and cultural references, these often reveal a city's core values. Effective actualization – and clever marketing – of the latter is what draws businesses, visitors and residents who will help the city thrive.

Here too, we look to the Netherlands for an example of well-crafted city branding: the “I amsterdam” campaign – as in we are Amsterdam, you are Amsterdam, I amsterdam.



Figure 2. Wyndham Amsterdam (Source: Wyndham Amsterdam)  
图2. 阿姆斯特丹温德姆 (来源: 阿姆斯特丹温德姆)

Now an internationally recognized brand, the campaign encompassed everything unique and compelling about Amsterdam – from Rembrandt and Vermeer to the giant letters in front of the Rijksmuseum and the tulips at Keukenhof. The I amsterdam brand is built on creativity, innovation and a spirit of commerce and has been very effective in attracting global business (Huawei and ICBC, for example) as well as millions of visitors annually (Figure 2).

### Human Scale and Quality of Life

In an article about Frank Gehry's plan for transforming Toronto's King Street, Christopher Hume, journalist for Toronto Star newspaper, wrote: “There are two types of heritage, let's not forget: one we inherit; the other we bequeath” (Hume, 2013). Urban planning on a human scale must take into account the former to make successful the latter; contextual relevance is important in the evolution from city to megacity.

Density achieved on a human scale is further enhanced by cultural offerings. Creative and artistic professionals play a vital role in helping to shape the city's identity, as previously discussed, and offer opportunities for social and intellectual engagement. Figures like Jaap van Zweden, the conductor of the Hong Kong symphony orchestra, and Rem Koolhaas, architect of the CCTV Tower in Beijing, make notable contributions to the city's evolving culture and often achieve celebrity status that endows the city with a certain credibility and draw. In turn, cities that invest in the arts demonstrate a commitment to providing experiences that encourage learning and growth.

It is equally important to strike a balance between the tangible and intangible components of heritage. While culture is certainly shaped by the built environment, it is also about the people who inhabit those spaces. Cities should be accessible

结构在本质上是对城市过去的反映。当前城市的多元化根源于城市核心和其履行的复杂功能在几个世纪以来的发展。城市是否发挥着贸易、商业、工业或文化中心的作用往往自然地反应在其建筑、基础设施和文化当中。尊重这段历史，将其视为城市结构不可或缺的一部分是进行有效场所创造的关键，也为市民创造了安居乐业、繁衍兴旺的环境。

规模得自于对城市现有环境和未来愿望的忠实评价。将发展对话的主题由竞争转变为弹性和可持续性显著地改变了文学描述和现实中的城市景观，让每个城市能够更充分地解决自身独有的需求和目标。这种方法以政治和经济背景为依托，存在于合理的、可管理的范围内，着眼于长期增长和繁荣。这种程度的控制防范了城市无序发展，为协同发展创造机会。

多中心模式基于结构和规模提供了6个城市规划参数。

### 身份

每个城市都从城市中心获益良多，城市中心并不一定需要假借一座高楼或占据城市至高点的建筑的名义，城市中心是一个共同发挥重大作用的城市综合体。大学、医疗中心、金融中心和创新区造就了卓越的城市中心，当完美地结合以住宅、商业、写字楼和/或酒店设施，这些元素共

同塑造出一个理想的宜居社区，它们都是城市身份的核心。

特大城市在规模和复杂程度上的发展为其身份的界定增加了难度。

为揭开一座城市的DNA密码，我们首先对其优势、劣势、机遇和挑战进行了分析。这些与城市的历史文化背景紧密交织，往往能够提示一座城市的核心价值。有效落实和巧妙营销，后者有利于吸引商家、游客和居民，他们是城市繁荣的原动力。

在这里，我们要引用荷兰精心设计的城市品牌的子：“我是阿姆斯特丹人”运动（I





Figure 3. Zunyi Oasis (Source: RTKL)  
图3. 遵义绿洲 (来源: RTKL)

and open to exploration, interaction and individual expression.

The spaces where this exploration and interaction take place are all the more impactful when green space is woven throughout. Urban districts should have boundaries, and green space makes for excellent connective tissue. It is a sustainable strategy for heightening quality of life, providing recreational corridors, and generating resources for food, agriculture and water filtration (Figure 3).

### Connectivity and Mobility

Quality transit is of paramount importance if the polycentric model is to be effective, particularly on the megacity level. Finding safe, accessible ways to allow people and information to flow between centers of knowledge, business, commerce and education reinforce the positive benefits of polycentrism and is essential as our urban areas are increasingly connected on a global scale. In the Yangtze River Delta, for example, where the layering of national and regional high-speed rail systems reduced travel distances from major cities like Wuxi and Nanjing to Shanghai from six to ten hours

amsterdam), 意指我们是阿姆斯特丹人, 你们是阿姆斯特丹人, 我是阿姆斯特丹人。现在, 这已经成为一个国际著名品牌, “我是阿姆斯特丹人”运动包含阿姆斯特丹所有独具特色、引人入胜的元素, 从伦敦朗和维米尔到国家博物馆门前的巨型字母和库肯霍夫的郁金香, 凡此种种, 不一而足。“我是阿姆斯特丹人”品牌是在创意、创新和商业精神的基础上建立的, 十分有效地为城市吸引了众多的全球企业 (例如, 华为和中国工商银行), 每年来此参观的游客达到数百万人 (图2)。

### 人文尺度和生活质量

在一篇关于弗兰克·盖里 (Frank Gehry) 多伦多国王街改造计划的文章中, 多伦多《星报》记者克里斯托弗·休谟 (Christopher Hume) 写道: “我们有两种不能或忘的遗产, 一种是我们继承来的, 一种是我们留下来的” (Hume, 2013) 人文化的城市规划必须考虑前者才能成功得到后者; 城市在向特大城市发展的过程中, 传承有序尤为重要。

各项文化活动使城市密度在人文化规划的基础上进一步增大。正如以前讨论的那样, 专业的创意和艺术人士在塑造城市

身份的过程中发挥着关键作用并为社会和精英人士参与这个过程创造了机会。他们当中的杰出代表有, 香港交响乐团指挥梵志登 (Jaap van Zweden), 北京央视大楼建筑设计师雷姆·库哈斯 (Rem Koolhaas), 他们为城市日益丰富的文化作出巨大贡献, 往往取得了显赫地位, 这些都赋予城市特定的可信度和吸引力。反过来, 注重艺术投资的城市也会承诺公开经验, 鼓励学习与成长。

在城市遗产的有形和无形部分之间求得平衡具有同等重要的意义。虽然文化的确是由城市的固有环境所造就, 但城市文化同样也是人的文化。城市应该敞开怀抱, 迎接探索、互动和个性表达。

在绿地贯穿的空间进行探索和互动将更能取得成效。城区应设定界限, 绿色空间就是绝佳的组织。城市可持续战略包括提高生活质量, 提供休闲走廊, 为粮食、农业和水过滤提供资源等内容 (图3)。

### 连通性和流动性

优质的交通对于实现多中心模式具有至关重要的意义, 尤其是对特大城市而言。找到安全方便的方式, 实现人与信息在知



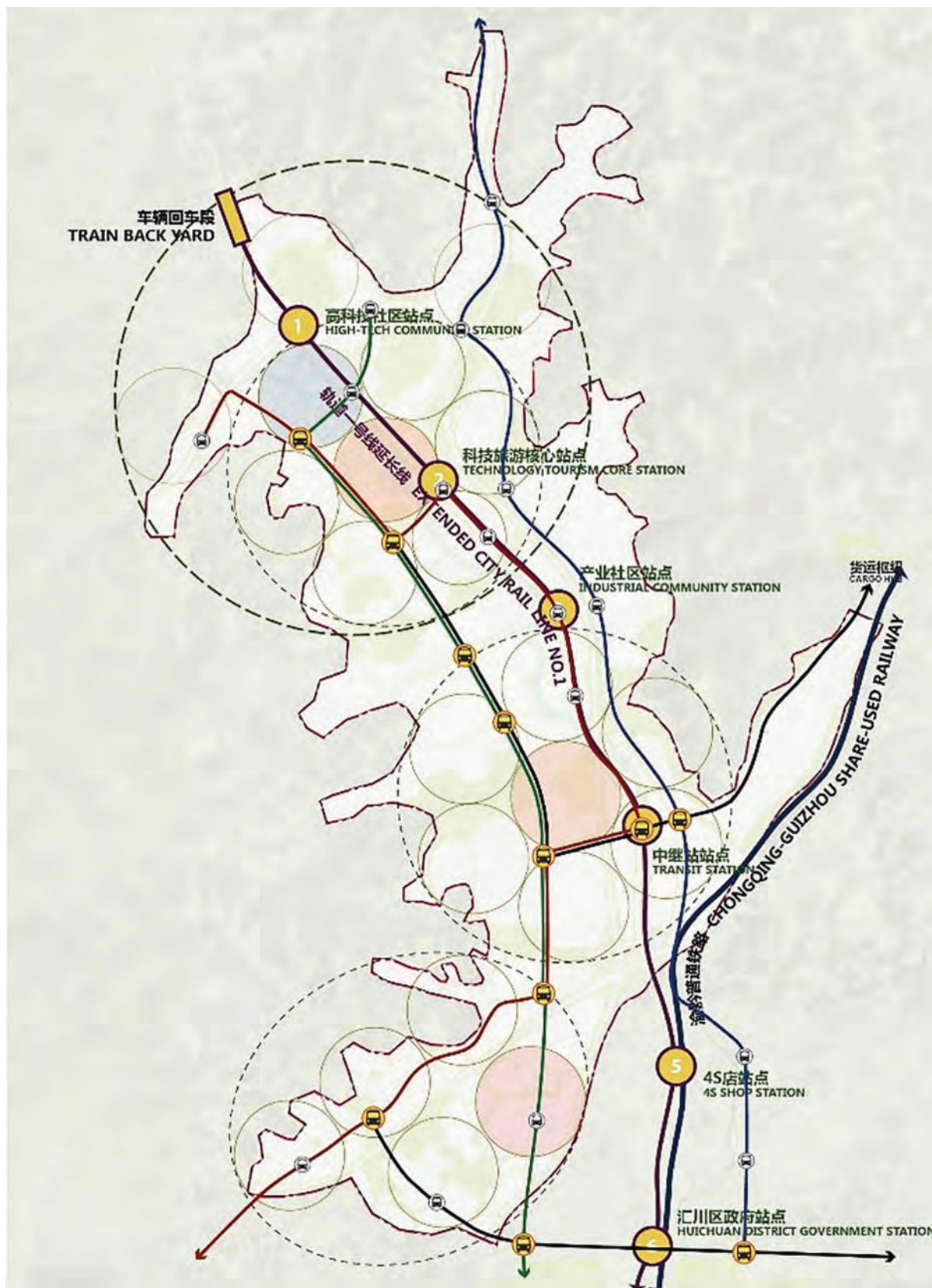


Figure 4. Zunyi Oasis (Source: RTKL)  
图4. 遵义绿洲 (来源: RTKL)

to less than two, is an excellent example of connectivity done well (Figure 4). This extends to aviation and ports, too, which elevate connectivity beyond a regional platform to an international one and raise the city's global profile. Meanwhile, hubs and stations with a mix of uses tailored to the local market become destinations and economic drivers in their own right.

### Knowledge and Innovation

Knowledge can almost be considered an export product these days. Playing a role in the global network of connected and "smart" cities requires winning the hearts and minds of the talented, entrepreneurial set, who are, more often than not, drawn to cosmopolitan areas. Demonstrating that a city's educational offerings are 1) engaged in mutually beneficial

识、商业、贸易和教育中心之间的流动，能够强化多中心模式的积极效益，也有利于我们的城区在全球范围内加强连通。举个例子，在长江三角洲，国家和地区高铁系统的分层化缩短了主要城市间的旅程，比如由无锡和南京到上海的车程由6~10小时缩短至不到2小时，这是一个有效连通的绝佳例子（图4）。这一做法也被延伸到航空和港口，使连通超越区域性平台达到国



partnerships with local industry and 2) on the forefront of technology and innovation, preparing students to be pioneers in their field, is not only invaluable marketing; it is essential to a robust and sustainable economy. Many educational institutions, recognizing the importance of a network, have built a global presence. Academic institutions, research facilities and health and wellness centers must provide value not just to the local community, but to an increasingly connected world.

Design and Planning

Monocentric planning models in developing nations around the world have resulted

in wealthy cores surrounded by poverty-stricken areas and lower quality of life. While competition draws wealth from surrounding areas, cooperation raises the standards for the region overall. China's cities and megacities must break out of the monocentric mold and reestablish connectivity if they are to become viable models of urban development and achieve smart density. In the megacity, this will likely mean new strategies for vertical integration and innovative technology, making density more palatable for the end users (Figure 5, 6, 7, and 8) .

际高度，提升了城市的国际形象。同时，贴合本地市场的交通枢纽和车站综合体已成为旅行目的地和独具特色的经济助推因素。

知识与创新

如今，知识几乎被认为是一种输出性产品。要想在连通的全球“智能”城市网络中占据一席之地，必须赢得人才和企业家们的青睐，他们往往偏爱大都市地区。对外展示城市的教育服务行业1)与本地产业建立了互惠伙伴关系且2)处于技术和创新的前沿，帮助学生做好准备成为各自行业的先锋，不仅是一种宝贵的营销，还是实



Figure 5. Yangtze River Delta: high-speed rail network (Source: RTKL)  
图5. 长江三角洲高铁网络 (来源: RTKL)

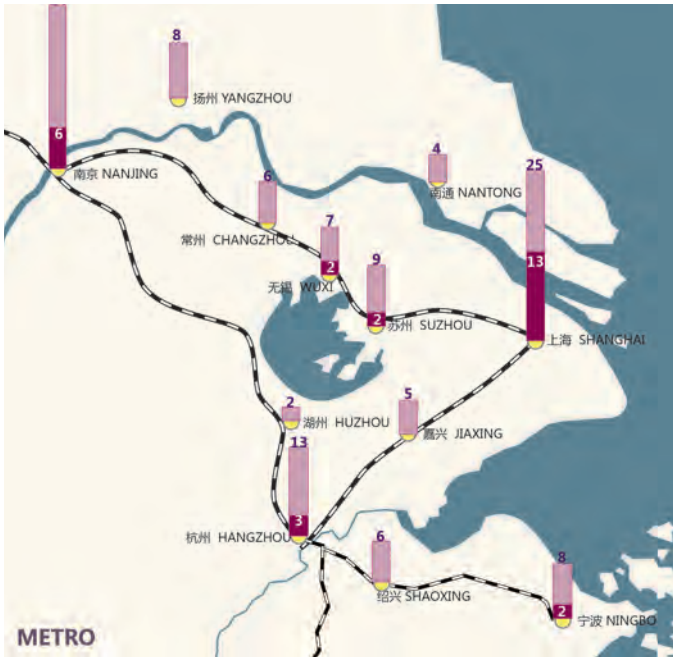


Figure 6. Yangtze River Delta: number of metro lines per city (Source: RTKL)  
图6. 长江三角洲: 各城市铁路线路数量 (来源: RTKL)



Figure 7. Yangtze River Delta: GDP per city (Source: RTKL)  
图7. 长江三角洲: 各城市国内生产总值 (来源: RTKL)



Figure 8. Yangtze River Delta: per capita disposable income per city (Source: RTKL)  
图8. 长江三角洲: 各城市人均可支配收入 (来源: RTKL)

## Polycentrism: Best Practices

Global powerhouses that act as business, commercial and financial engines for surrounding areas are better positioned to draw upon and distribute resources across a wider network strengthened by connectivity. The tenets of a polycentric approach are effective tools in bolstering citizens' economic and social well-being while respecting environmental context. Strategic placemaking, efficient land use, and spatial assessment should underlie the urban planning and design process with an eye toward shaping a city's identity, addressing human scale and quality of life, establishing connectivity and promoting knowledge and innovation. This model of urban planning, rooted in a rational and scalable approach to increasing density while maintaining quality of life, will contribute to healthier, more sustainable cities – and megacities – of the future.

现稳健、可持续经济的必要条件。许多教育机构认识到网络的重要性，纷纷建立起自己的全球品牌形象。学术机构、研究所和健康养生中心不但须为当地社区创造价值，还须在日益连通的世界中彰显影响。

### 设计与规划

全世界发展中国家采用的单中心规划模式造成财富核心区被贫困区环绕，周边地区生活质量低下的局面。竞争促使财富从周边地区聚集，而合作则提升地区的整体水准。中国的城市和特大城市必须打破单中心模式，重新建立连通，才能走上切实可行的城市发展之路，实现智能化城市密度。对特大城市而言，这可能意味着引入垂直整合新战略和创新技术，使城市密度更贴近最终用户要求（图5-8）。

## 多中心主义：最佳实践

在一个互联互通的广阔网络中，发挥商业、贸易和金融引擎作用带动周边地区发展的全球巨头能够更好地利用和分配资源。多中心方法从原理上讲是一种在兼顾环境背景的同时促进公民经济社会福祉的有效工具。战略性场所创造、有效的土地利用和空间评估应依托于城市规划和设计流程，着眼于塑造城市身份，解决人文尺度和生活质量问题，建立连通和促进知识传播与创新。这种城市规划模式，植根于合理可扩展的方法，在维护生活质量的同时提升城市密度，将为未来建设更加健康和可持续的城市和超大城市贡献力量。

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## References:

Barber, B. R. (2013). **If Mayors Ruled The World**. First Edition. New Haven: Yale University Press.

Dijst, M. J. (2000). **"Compact urban policies in Randstad Holland"**, Compact Cities and Sustainable Urban Development: A Critical Assessment of Policies and Plans from an International Perspective. Roo and Miller.

Faludi, A. J., and Valk, A. (1990). **Growth Centers as the Cornerstone of the Dutch Planning Doctrine**. Assen / Maastricht: Van Gorcum.

Hall, P. (1996). **1946-1996: From New Town To Sustainable City**. Town and Country Planning. 295-297.

Hume, C. (2013). **Frank Gehry's Latest Plan To Remake Toronto's King Street Is Best Yet**. Available at: [https://www.thestar.com/news/gta/2013/06/05/frank\\_gehrys\\_latest\\_plan\\_to\\_remake\\_torontos\\_king\\_st\\_is\\_best\\_yet\\_hume.html](https://www.thestar.com/news/gta/2013/06/05/frank_gehrys_latest_plan_to_remake_torontos_king_st_is_best_yet_hume.html) (Accessed: 1 August 2016).

Khanna, P. (2016). **Megacities, Not Nations, Are the World's Dominant, Enduring Social Structures**. Available at: <http://qz.com/666153/megacities-not-nations-are-the-worlds-most-dominant-enduring-social-structures-adapted-from-connectography/> (Accessed: 1 August 2016).

Saltenyte, U. et al. (2016). **Top Megacities For Growth In 2016 - Euromonitor International Blog**. Available at: <http://blog.euromonitor.com/2016/02/top-megacities-for-growth-in-2016.html> (Accessed: 1 August 2016).

World Bank Group and the Development Research Center of the State Council. (2014). **Urban China: Toward Efficient, Inclusive, and Sustainable Urbanization**. Washington, DC: The World Bank.