

Infrastructural NATURE

Five-Elements Park

Estanislau ROCA

Aliaksandra SMIRNOVA

Sebastian HARRIS

UPC BARCELONA TEAM
Shanghai Railway Station International Competition



UNIVERSITAT POLITÈCNICA
DE CATALUNYA
BARCELONATECH



Escola Tècnica Superior
d'Arquitectura de Barcelona

DUOT Departament
d'Urbanisme i
Ordenació del
Territori



Shanghai International
Tendering Co., Ltd.



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GREETINGS

欢迎词

As Rector of the Universitat Politècnica de Catalunya-BarcelonaTech, it is my honour to introduce this publication that summarizes the enormous work that a group of professors and students from our university presented in the International Student Urban Design Competition for the Shanghai Railway Station Area, in which their aim was to remodel a two-kilometre stretch of land covered by railways in the city centre.

It fills me with pride that this talented group of individuals rightfully earned joint second prize with MIT after competing against some of the most important and prestigious universities in the world. In this endeavour, they have proven themselves a truly positive asset to the stature of this University by confirming and distinguishing its transfer of knowledge in architectural studies.

My congratulations are extended to the whole team, and I encourage you to keep up the good work, filled with the hope that you will win many more notable prizes.

Francesc Torres

Rector de la Universitat Politècnica
de Catalunya-BarcelonaTech

作为加泰罗尼亚理工大学的校长，我很荣幸能够在此次出版的作品中发表序言，这个作品总结了我们大学的一群教授和学生在这届“上海火车站国际学生城市设计竞赛”中所做的大量工作，其目的是为了改造之前被铁路所占据的长达两公里之多的大面积市中心。

在与世界上最杰出的几所大学竞争并且最终获得第二个奖项，这让我感到非常自豪，对我个人而言，这是一项非常正面的认可，足已证明我们大学在建筑研究上的教导以及其本身的重要性。

祝贺所有的团队成员们，在此，我鼓励他们继续努力，希望他们能继续赢得更多重要的奖项。

Francesc Torres

学校校长

加泰罗尼亚理工大学-巴塞罗那

PREFACE

By Estanislau Roca, UPC Team leader

The publication that you have in your hands is a summary of the proposal put forward by the team of professors and students from the Polytechnic University of Catalonia, for whom it was my honour to serve as their leader. On November 21, 2015, at the Haishang Cultural Centre in Shanghai, we submitted our presentation for the Shanghai Railway Station to the International Student Urban Design Competition, in which we competed against Harvard University, the Massachusetts Institute of Technology, Tongji University, Cardiff University and Southeast University of Nanjing.

We named our proposal INFRASTRUCTURAL NATURE. FIVE-ELEMENTS PARK. It represents the urban re-development of an extensive area located in the heart of the city of Shanghai, where we conceived the creation of a park comprising about 40 hectares.

The park is designed to form a vast new space in the city, in an area covered by railway tracks east of the Shanghai Railway Station, that today form a great barrier dividing the Zhabei District into two disconnected parts.

The proposed park's objective is to convert this space into an 'urban zip': the railway tracks are covered in the western part and sunk beneath ground level in the eastern part.

In the framework of the Shanghai Master Plan 2020, the metropolitan scale is reflected at the local level, with our proposal reinforcing the continuity of green and blue through strategies that connect the new park with other existing open urban spaces and rivers. Furthermore, it enhances ecological continuity and stimulates regeneration. As a whole, it contributes to improving problems with air pollution while at the same time making the currently adopted measures more economically sustainable.

In addition to connecting the park with the green corridor of Suzhou Creek and other components of the system, the plan also proposes to regenerate the urban fabric by improving three roads: The North-South Elevated Road, Xizan North Road, and Baoshan Road, all of which are considered to be important transversal arteries in this metropolitan landscape.

A new central area is also created downtown where North-South Road meets the railway line, with eight mixed-use skyscrapers and important commercial facilities that expand into a new horizontal building, which spans the railway tracks, connecting the downtown area with Shanghai Railway Station.

Next to the downtown area, the park spreads into a large plaza where a wide range of cultural, social, leisure and sports activities can be held. This plaza is bordered on one side by a grandstand at the base of an artificial mountain built from the debris generated by replacing and relocating waste materials from demolition and excavation. This very same mountain incorporates access to the new intermodal metro hub that we propose to connect

the lines 3, 4 and 8 (which today only cross each other), thus making the public transport system more accessible. Another improvement that we propose involves remodelling the market and Lilong located next to Baoshan Road.

The new structural park comprises five elements designed as a hybrid concept: nature, transport, commerce, leisure-sport and culture-technology, thus guaranteeing intense mixed-use activity throughout the day (programmatically hybridization).

In the words of Professor Miquel Martí, it is precisely this image of an intense, urban public space that will add the experience of community to the difference and individuality that fosters all social interaction.

Conceived from a holistic perspective, the idea is modelled on a harmonious, inclusive and friendly city - a smart and accessible city, a sustainable city networked through state-of-the-art technology and construction that is essential for such complex urban transformations. What is more, it rigorously pursues economic viability throughout each stage of implementation by guaranteeing that each phase finances itself while maintaining a positive economic balance.

Our experience of participating in the competition was both complex and very exciting, due to the challenge of fulfilling all the proposed objectives and necessary verifications as well as the monitoring of every detail at each different level, while working with all the longitudinal and transverse sections that are typically involved in designing such complex three-dimensional architecture.

I do not want to end this presentation without failing to thank the magnificent team that has collaborated actively and positively on this proposal for Shanghai, a city that just one year after our presentation, on November 21, 2016 has become the seat of the 9th Global Conference on Health Promotion - Healthy Cities. The Mayoral Forum has achieved the consensus of more than 100 mayors from all over the world, who are aware that health and sustainable development are extremely difficult to combine. They are firmly committed to the promotion of both as they recognize also that health and wellbeing are the goals of the United Nations' 2030 Agenda for Sustainable Development.

In addition, I would like to express the great pride I feel as a teacher, which is rooted above all in having been thoroughly involved with this magnificent group of participating professors and students who have demonstrated enthusiasm from the beginning of the project through to accompanying me in the presentation of the project at the Haishang Cultural Centre. As I have already told them, theirs was a great accomplishment and what they have achieved constitutes an outstanding educational hallmark not only by the mere fact of having been finalists, but also that, beyond all expectations, with our humble resources we earned joint second prize with MIT after competing with some of the most prestigious universities in the world.

Please enjoy!

前言

由UPC小组组长Estanislau Roca撰写

您手中的出版物是由加泰罗尼亚理工大学的教授和学生团队提出的项目提案摘要，我很荣幸能够成为他们的项目组长。2015年11月21日，在上海海上文化中心，我们与哈佛大学，麻省理工学院，同济大学，卡迪夫大学和南京东南大学向城市设计国际学生竞赛提交了上海火车站设计竞赛方案。

我们将方案命名为 自然构架 五行公园 INFRASTRUCTURAL NATURE FIVE-ELEMENTS PARK。它介绍了位于上海市中心大面积的城市重建，我们所构思了一个占地约40公顷的公园。（他展现了我们所构思的占地面积约40公顷位于上海市市中心，城市重建之后的公园）

该公园旨在城市中塑造一个广阔的新空间，而今上海火车站以东的铁路轨道覆盖的区域形成了一个巨大的分离区，将闸北区划分为两个互不相通的区域。

所建造的公园旨在将这个一分为二的地区像拉链一样贯穿整合，遮盖西区铁轨的同时，埋藏东区的铁轨将地面重新规划连接。

在2020-2040上海总体规划的框架内，宏观城市规划将落实在局部区域，我们的提案致力于创造公园与其他现有的开放式城市空间的连接，以此来加强绿带（植物带）与蓝带（河流）的连续性。此外，它增强了生态连续性并刺激了生态再生。总体而言，它有助于改善空气污染问题的同时，使此规划在经济上更具可持续性。

除了将公园与苏州河的绿色走廊和系统的其他组成部分连接起来外，该计划还提出通过改善：南北高架路，西赞北路和宝山路这三条道路来重建城市肌理，这些道路被认定为这个大都市景观中的三条重要的交错动脉。

在南北路与铁路线相遇处创造了这个区域的一个新中心，拥有八座混合用途的摩天大楼和重要的商业设施，水平延伸至横跨铁轨的新建建筑以此连接市区和上海火车站。

在市中心的旁边，从公园进入到一个可以举办各种文化，社交，休闲和体育活动的大型广场。这个广场的一侧是一座用废弃的建筑材料和新挖掘出来的建筑废料建造而成的人造看台。此座人造山同时也成为了新的多式联运地铁枢纽，我们建议连接3号线，4号线和8号线（今天只能相互交叉），使公共交通系统更加便利。我们提出的另一项改进措施包括改造位于宝山路旁的市场和弄堂。

新结构公园所设计的混合概念由五元素组成：自然，交通，商业，休闲运动和文化/技术，从而保证全天的高强度混合使用（系统性混合）。

用Miquel Martí教授的话来说，这恰恰是一个热烈，彻底城市化的公共区域。而这个公共区域能为社区体验添砖加瓦，同时也能催生充满个性的社会交流。

从整体角度来看，这个想法模仿了一个和谐，包容和友好的城市，一个智能城市，一个无障碍的城市，一个可持续发展的城市。通过最先进的技术和联网建设，这是复杂的城市转型所必不可少的。更重要的是，此提案确保每个发展阶段的经济可行性，确保发展中的经济正平衡。

我们参与竞赛的经验是非常丰富并且令人兴奋的，在参与设计复杂的三维架构中，要满足所有提出的目标和必要的验证，面对每一个细节的把控，以及在每个不同的级别与所有典型的纵向和横向剖面的工作时所面临的挑战。

在结束这次陈述之前，我非常感谢这个积极正面参与的优秀团队为上海项目的方案，这个城市在我们演讲结束仅仅一年后，于2016年11月21日成为了第九届全球促进健康城市会议的举办城市。市长论坛取得了来自世界各地的100多位市长的共识，他们意识到尽管健康和可持续发展很难结合起来，但他们坚定地致力于促进两者的结合，因为他们认识到身心健康是联合国2030年可持续发展议程的目标。

此外，我想表达自己作为一名教师的骄傲，我们这个优秀的团队有许多教授和学生彻底参与进来，他们从一开始就对工作表现出了极大的热情，并且在我的海上文化中心项目中提供了非常多的帮助。正如我和他们说的那样，他们取得了巨大的成就，并且这个成就不仅仅是因为入围决赛可以说是一个杰出的教育标志，并且出乎意料的在与世界上一些最负盛名的杰出大学竞争之后，出乎意料地凭借有限的资源获得了两个奖项的好成绩(与 MIT并列)。

这值得我们为他们鼓掌，谢谢。

Establishing continuity amongst differences through considering their size, working with the simultaneity of different scales (that of the kilometre and the centimetre at once), appreciating that intersections are vital points and that lengths have the attributes of adjectives, are all essential practices for urban design.

Manuel de Solà-Morales i Rubió

“在具有差异的体量上建立连续性，在具有差异的尺度上实现流动性（大至公里，小至厘米都要同时实现），在城市交点上创造生命力，在城市纵深上添加象征属性，这些都是在完成城市设计项目时必不可少的尝试。”

马努埃尔·德·索拉·莫拉雷斯





Shanghai metropolitan area

上海都会区

This chapter introduces the unique and diverse character of the city which springs from the roots of its urban configuration: the addition to the urban fabric of the areas of the foreign enclaves, a result of the Opium Wars, a legacy of the 19th Century.

The Metropolitan scale presents the demands and the objectives of the Master Plan (2020), aiming to achieve an ecologically friendly, economically sustainable, technologically innovative and socially inclusive city.

The project aims to transform a massive urban fissure caused by the existing infrastructures into a new central area within the polycentric metropolitan system of Shanghai. The proposal takes the form of a permeable urban zip, enhancing the connection with a green axis and providing intensive use and varied facilities.

Foreword

概述

Historical intro

历史简析

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上海，一个错落有致的城市，其城市结构的合理性讲述着这个城市的独特和多样化：19世纪的鸦片战争给它增加了外国租界的城市肌理。

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大都会的尺度提出了总体规划（2020年至2040年）的要求和目标，实现生态友好型，经济可持续，技术创新和社会包容性的城市。区域，由组织的绿色结构支持。

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该项目表明有意将基础设施所带来的巨大裂缝转变为多中心大都市体系内的上海新中心区域；透气的城市拉链，增强连接性，绿色轴线，密集使用和各种设施。

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The project addresses major sustainable principles: durability and its relationship with natural systems; developing citizens' commitment to their environment; efficiency and synergies of material and digital systems; water and green cycles; compactness, aiming for a dense and mixed-use city; mobility, accessibility and a pedestrian-friendly city.

The technical proposal for the structure consists of reinforced concrete elements, built in-situ and located in the spaces between the railroad tracks to support a system of prefabricated elements forming the slab covering the rail yards.

To increase technical and economic feasibility, the process of execution is divided into three stages. This chapter presents the allocation of public and private stakeholders, a business plan and value chain.

Urban metabolism

城市的新陈代谢

通过项目实现可持续发展的主要原则：持久性及其与土地和生态系统的关系；市民对于环境发展的承诺；智能城市或效率和协同材料和数字系统；水和绿植循环系统；紧凑性，指向密集、综合城市；高流动性和易达性，通过局部区域和城市交通之间联运节点系统支持和行人友好型城市。

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Technical proposal

覆盖结构设计

该覆盖结构技术方案屏蔽了“在场”的元素，就地建造，覆盖铁轨的厚板建于铁轨之间的空间，由预制元素组成了其支撑系统。

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Economic feasibility

发展进程与经济可行性

我们提议以三个阶段来发展项目，以支持其技术和经济上的可行性。本章介绍了公共和私人利益相关者的分配和商业计划及价值链。

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UPC Team

UPC团队

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FOREWORD

前言

Shanghai and Barcelona, two cities with similar challenges

概述：上海和巴塞罗那，面临相似挑战的两个城市

Shanghai and Barcelona are both first rank cities within their respective countries, although neither is a capital. Both are port cities, which gives them a mercantile, international and dynamic character. During much of the 20th-century, both cities lagged behind, waiting for the moment when they could fulfil expectations of economic development and urban growth. In both cities, opportunities for big changes arose during the 1990s: in Barcelona, the transformation of the city for the Olympic Games, and in Shanghai, a Master Plan for the development of the Pudong area and the construction of cross-river infrastructures. These situations were a starting point for the building of radically different urban landscapes. The scale of the two cities differs greatly, but there are similarities in urban strategies: developing of a polycentric metropolitan region through an efficient transport system and use of greening policies as a structural strategy.

对于巴塞罗那和上海，我们可以列出它们在发展和城市特色上一些共同的事实。尽管都不是首都，但两者在全国的重要性上都是排名一线的城市。它们都是港口城市，因此都具有重商、国际化和动态特征。20世纪的大部分时期，这两座城市滞后于政治和国家经济的优先发展，等待着时机实现经济发展和城市增长的期望。到了90年代，这两个城市都唤醒了巨大改变的机遇。巴塞罗那的城市转变是1992年举办的奥运会，而上海则是浦东新区的开发和跨江基础设施建设总体规划。这些事件对于这两个城市来说，都是巨大转变和全新城市景观建设的新起点。这两个城市的规模非常不同，但它们在重要的城市战略上不谋而合：在都市区建立一个平衡并相互联系的多中心城市，通过高效的交通体系以及作为结构参数的绿化政策来支持生态发展和富有凝聚力的城市布局。闸北区新的中心性领域和巴塞罗那Sagrera高铁站有许多相似之处。此外，提出的绿色系统在上海和巴塞罗那也面临着相同的挑战。


UPC team. Barcelona School of Architecture

巴塞罗那建筑学院- 加泰罗尼亚理工大学团队的陈述

The Department of Urbanism and Territorial Planning (DUOT) is a part of the Universitat Politècnica de Catalunya- Barcelona Tech, an internationally renowned university. The teaching staff, which includes seminal urban theorists Manuel de Solà-Morales and Joan Busquets along with other professors of international repute, together with the quality of its architectural and urban planning education and its research activity sets the DUOT apart from other European Universities. Many of its professors have not only been involved in academic roles but have also contributed their expertise and experience to important projects and events that have built the current Barcelona Metropolitan Area. The profound influence of their work can be seen in the great number of their plans and projects in both national and international cities, firmly establishing Barcelona's reputation as a paradigm of urban planning and a worldwide point of reference. Our team comprises a number of these designers and students.

城市规划和国土规划部是国际知名大学加泰罗尼亚理工大学的一个部门。城市规划和国土规划部极其教学员工，开创者M. 德索拉，莫拉莱斯教授和J. 布斯克茨教授等国际知名教授，独立于欧洲其他大学之外设置了建筑和城市规划教育和研究活动的质量标准。许多教授不仅参与学术活动，也运用他们丰富的专业知识和经验涉及当下巴塞罗那都市区的重要项目及进程。从许多西班牙国内和国际的规划和项目中可以看到他们的工作对其品质产生了深远的影响，是他们奠定了巴塞罗那作为城市规划典范和国际参考案例的声誉。我们的团队就是由部分相关设计师和学生组成的。

最后，我们的团队非常高兴能够在上海站地区设计竞赛中贡献我们的经验和专业知识，关于城市改造和城市转型最具创新性的理念，这将是一个展示和交流的宝贵机会。希望我们建议中的理念能够改善和振兴老火车站区域，建设富强，和谐，可持续发展的闸北区新中心区，一个在21世纪可供参考的案例。



The teaching staff along with other professors of internationally repute, together with the quality of its architectural and urban planning education and its research activity sets the DUOT apart from other European Universities.



In collaboration with Chinese universities

Learning from Barcelona, was an international workshop held in Barcelona, directed by professors Estanislau Roca and Henrik Tieben. It was a stimulating space of academic exchange and collaboration that gathered students from Chinese Universities and UPC-ETSAB to work together.

由 Estanislau Roca 教授和 Henrik Tieben 教授负责的国际工作室“学习巴塞罗那”，汇集了来自中国的大学和加泰罗尼亚理工大学巴塞罗那建筑学院的学生，他们一起工作，作为一个启发性的空间巩固了学术交流和合作。

The ETSAB led by professor Joaquim Sabaté was part of the IFOU association; The International Forum on Urbanism develops international conferences to contribute to the international debate on Urbanism and to stimulate the exchange between Chinese and European academic institutions. The 6th IFOU Conference, Tourbanism was held in Barcelona in 2012.

巴塞罗那建筑学院在 Joaquim Sabaté 教授带领下参加 IFOU 协会：城市发展国际论坛，以国际会议来促进城市规划国际讨论，激发中国和欧洲学术机构之间的交流。第六届城市发展国际论坛会议“旅游”于 2012 年在巴塞罗那举行。

Academic collaboration also took place during the 2013-2014 course with the Central South University of Changsha, on the project: Sustainable Landscape Planning and design for rural immigrants in DaXu town, in Hunan province. (Prof. Miquel Martí, María José Masnou, Melisa Pesoa, Paula Orduña and Wu Huan).

2014年与长沙的中南大学进行合作项目：湖南省大圩古镇可持续景观规划和农村迁移设计。Prof. Miquel Martí, María José Masnou, Melisa Pesoa, Paula Orduña and Wu Huan.



HISTORICAL

INTRO

历史简析

SHANGHAI, A PATCHWORK CITY

上海，一座拼接的城市

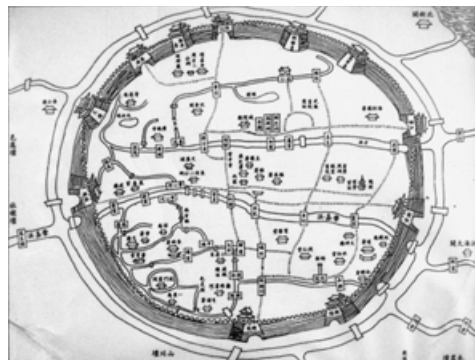
Shanghai was initially a small mercantile Chinese town that originated in 1265 in a marshland area in the Lower Yangtze River area, and was built up by the Imperial powers. These authorities obtained jurisdictional rights over the territory after the end of the Opium Wars (1842 and 1848) in the 19th Century, and built a set of commercial and port enclaves. After that Shanghai became a prosperous trading, financial and manufacturing city, with an important ocean and inland river (Yangtze River) port.

The International Settlement and the French Concession of Shanghai and its successive enlargements built a diverse urban landscape inside China, with unique architecture, urban infrastructures and public facilities, in both parts of the foreign enclaves.

The limits of those enclaves often coincided with physical geographical elements such as the Yang Kang Pang canal, or the Wusong and Hongkou

上海，在1265年起源时还只是长江下游冲击平原上的一个中国商业小镇。帝国主义列强因十九世纪的鸦片战争（1842年和1848年）获得了上海部分地区的管辖权，并在此建立起一系列商业和港口租界。作为一个调度沿海和远洋船只和长江内河航运的重要港口，上海从此成为了一个集贸易、金融和制造业为一体的繁荣都市。

上海在公共租界和法租界及其后续扩展区域中用具有独特风格的建筑建造了城市基础与公共设施，在中国城市中形成了一种多样化的城市景观，这在其它的外国租界也出现了相似的情况。





streams in Zhabei district. The foreign enclaves defined independent city zones with very different characters. Moreover, their autonomy produced certain urban discontinuities and spatial fragmentation. The Suzhou river has played a major role as an administrative limit between the British Concession (in the North) and the American Concession (in the South) but both areas were finally merged during the International Settlement.

Outside this urban shaping process, Shanghai was also configured by the addition of several other urban areas. Nevertheless, a lack of the cohesiveness in the overall organisational plan and urban model, led to urban discontinuities forming an 'urban patchwork'. This urban legacy affected the organisation and efficiency of the transport infrastructure system and urban structure, preventing the development of harmonious urban forms. Currently, several of these deficits still exist in certain areas of the city, as for instance in the area selected for the competition which suffers from this historical discontinuity and fragmentation.

上海往往巧合地以自然地理元素作为区域分界线，比如洋泾浜，吴淞和闸北区的虹口。这些外国租界都是具有不同特性的独立城市区域，此外，因其自治性而产生了城市明确的不连贯以及一些空间碎片。苏州河在英美租界的行政区域划分以及合并为公共租界上发挥了重要作用。

在这类城市形成过程之外，上海的构成也包括其他城区的增加，但同时又缺乏整体的有组织的规划和城市模型来连接彼此，从而形成了一种城市拼图型的主要结构。这个传统影响了上海的城市布局和其交通基础设施的效率，以及相互关联的城市结构和和谐的城市形态的建设。由于过去的传统，目前一些缺陷仍然在城市的某些区域中常见。本次竞赛的区域也被因这些历史原因而导致的不连贯和碎片化而困扰。



ZHABEI DISTRICT: The old railway infrastructures in Shanghai

闸北区背景介绍：上海历史铁路基础设施

The Wusong-Shanghai (or Songhu) railroad was the first Chinese railway, connecting Shanghai with Nanjing and the North. It was first constructed in 1874, pulled down in 1877 and rebuilt the following year. The Southern railway station also connected Shanghai with the southern railway line in the south of the city which began operating in 1912. This was bombed by the Japanese on January 28th 1932. The layout of both railway lines and their positions at the fringes of the foreign concessions made an efficient connection to the trading wharves and the foreign concessions.

The transformation of the city's urban fabric began in the 1990's, with urban extension and ambitious urban projects such as developing the Pudong area into an important Central Business District (CBD), and also a cultural and international logistic area. In the following decade, the major changes in the urban fabric were determined by important events, such as the World Expo in 2010. One of the consequences of these global events, for instance, was the recovery of the Huangpu riverside for public use and the building of strategic new cross-river infrastructures connecting the Puxi and Pudong areas.

This process of urban renovation is still on-going, transforming and enhancing functionally obsolete and undeveloped areas of the city, to achieve a balanced, sustainable and competitive conurbation suited to the 21st century.


从吴淞到上海的（淞沪）铁路是中国的第一条铁路。连接了上海及南京和北方地区。铁路于1874年开始建设，与1877年拆除并于次年重新修建。1932年1月28日被日本军炸毁。通往杭州和宁波的火车南站连接了上海和南方地区，铁路线于1912年投入运行。位于老上海的南部。

这两条铁路位于租界边缘的位置和布局降低了它连接贸易码头和租界的效率。

城市结构转型，城市扩张和开始于二十世纪90年代的规划方案，使浦东新区作为CBD发展成为了重要的国际物流与文化中心，以及后来的2010上海世博会更是上海城市转化的驱动因素。这些事件促进了恢复黄浦江沿岸公共空间和连接两岸基础设施的建设。这一进程仍在继续，探索改造和提升城市功能过时和落后地区，为新世纪打造一个均衡，可持续发展 and 有竞争力大城市。

“闸北”即水闸以北。这个名字来源于始建于清代（十八世纪）吴淞河（今苏州河）上的两道水闸。1863年，上海开埠后，闸北区东南部地区（北站街道）被列入美国势力范围（被称为公共租界），从此开始了闸北地区的发展道路。

在1848年第一次鸦片战争和南京条约的签订之后，上海是五座被英国殖民者和商人打开了大门的城市之一。由于其港口的发展，自1930年起，凭借便利的水利运输，苏州河成为了将货物转运到中国内地的重要运输航线。

An aerial photograph of a city, likely Shanghai, showing a dense urban landscape with numerous high-rise buildings and residential blocks. A river, the Suzhou Creek, winds through the city, and a major highway runs parallel to it. The scene is captured from a high angle, providing a comprehensive view of the city's layout and infrastructure.

吴淞河（苏州河）的角色相当于一**条经济轴线**，于是沿河两岸建起了许多仓库和工厂，使该地区沿岸形成了一个重要的**工业区**。然而，这条河也由此受到了**极度严重**的污染。最近政府部门已采取**相关措施**，清理河道并提高其**环境质量**。

The name 'Zhabei' (闸北) means 'North of sluice'; this name comes from two sluices originally located on the Wusong river (also called Suzhou creek) which dates back to the 18th century Qing Dynasty. In 1863, when the British and American enclaves merged as a result of the International Settlement, the Zhabei District (North Station Street) was included in the United States concession, which was the moment when the Zhabei district began to develop.

After the First Opium War and the Treaty of Nanjing in 1848, Shanghai was one of five Chinese cities to be opened to the British - consuls, merchants, and their families. Since 1930, due to the development of its port, Suzhou Creek has become an important shipping route, facilitating the transport of goods into the interior of China.

Due to its role as a commercial axis, a number of warehouses and factories were built along the river banks, making the region close to the river into a significant industrial area. However, due to the commercial and industrial activity, the river has become extremely contaminated, although recently, the authorities have taken measures to clean it and improve its environmental quality.

Chronological overview

按时间顺序排列

1870. The opening of the oldest streets in the area: 宝山路/ 河南北路 (Baoshan Road/ Henanbei Road) and 海宁路 (Haining Road).

1900. The appearance on the maps of a new train Station in Shanghai, established in 1909 by the Qing government, was located in the area that is today occupied by rail tracks. The station was renamed the Shanghai North Railway Station in 1916. The station building was 4 stories high, in the British style but was destroyed twice by Japan: once in 1932, during the Shanghai Incident. The rebuilt structure was destroyed again during the battle for Shanghai in 1937, and was rebuilt again after the war in 1950. It functioned until 1987, but due to increasing traffic, was closed and replaced with the Shanghai Railway Station, on Molin Road located to the West. A replica of the original 1909 building which has been constructed on the same site, is now a railway museum.

1870。从地图上可以明显的看到发达的公共租界区。地图上这一地区最古老的街道是宝山路/河南北路和海宁路。

1900。两个新的元素出现在地图上：一个是蜿蜒曲折，如今已经部分消失的大统路，此路由西向斜跨至苏州河南。另一个就是新建的上海火车站，它原先所在的区域今天已经被轨道所占据。该站由清政府主持建造，1909年落成。





1903. The area obtained an urban layout which is still traceable today. Many of the streets that can now be seen, were originally canals and streams, for example, 中兴路 (Zhong Xing Lu) or Haining Lu; most of the canals have therefore disappeared.

1914. The railway continued its development towards the West. Zhejiang Bei Lu (浙江北路, North Zhejiang Street) appeared as a North-South connection with the Train Station.

1919. The area of the railway grew, and the coach yard occupied a long area, definitely dividing the district into two parts. Only a few streets crossed the area: Datong Lu, He NanBei Lu and the former GongHe Xin Lu (共和新路), transformed now into NanBei GaoJia Lu, 南北高架路, South-North Elevated Road).

1903. 地图显示了水体在过去淤积滩涂地区的明显存在。许多我们今天所看到的街道起源于运河或溪流，例如中兴路或海宁路街道。然而其中大部分都消失了。

1914. 铁路继续向西发展。浙江北路连接南北方向铁路直达火车站。

1918. 地图上火车站的北侧区域首次出现东西方向的街道：中兴路和永兴路。根据1909年的地图，我们可以推断出中兴路的一部分来自原先因运河而聚集的一些村落。西藏北路则是美国和英国租界之间的界限。

1919. 铁路范围有所扩张，而车厢停放场占据了大量的区域，把街区完全分成两部分。只有几条街可以跨越区域：大统路，河南北路和前共和新路，转变为现在的南北高架路。

1937. 共和新路和大统路变得更为重要，在1939年的地图上可以看到，变为Y字型连接着河道。



An aerial view of Shanghai North Station, 1949

1949年的火车站 和

1937. GongHe Xin Lu and Datong Lu roads gained greater importance, transforming into a “Y” shaped connection to the river.

1973. By this time the connections across the railway area were synthesized into two main streets (HeNanBei Lu and GongHe Xin Lu). There was also a new East-West connection along a new street called TianMu Zhong Lu (天目中路) that allowed movement from the Station to the West. The hierarchy of streets was structured in a completely new way, working like an organized grid, connecting the existing streets.

1982. Zhabei district was an originally an area where industries were located. Most of the factories and workshops were located on the riverside, but recently, in order to revitalize the area, the municipality has decided to transform this old industrial area into a hi-tech and creative ‘business park’.

1995. In 1987, the Old Station was replaced by a modern building located about one kilometre to the West, with the station tracks still used as a coach yard. The first phase of the South-North Elevated Road was built between 1993 and 1995, connecting Pudong and Zhabei. This road followed the path of the old Gonghe Xin Lu across the railway and was transformed into a straight route later on.

In 1993 the first metro line (Line 1) was opened, and in 1995 it reached the Shanghai Railway Station. The other lines reached the area a few years later: Line 3 in 2000, Line 4 in 2005, Line 8 in 2008, Line 10 in 2010 and line 12 in 2014. In 2006, some lines from this station were moved to the re-opened Shanghai South Railway Station. By 2010, the second renovation of the station and its surrounding area was completed.

1973。这个时期，横穿铁路方向的连接合并为两条主要街道（河南北路和共和新路）。同时东西方向出现了一条新道路：天目中路，让人们可以从车站到西侧去。从这张地图上显示的街道的层次结构，我们可以看到这一区域全新的布局，就像一张有组织的网格，连接现有的街道。

1982。闸北区过去是传统的工业区。在地图上我们可以看到工厂和车间就位于河边。近日，市政府决定改造旧工业转型为高科技和创意产业，重振这一区域。

1995。1987年，在位于旧火车站西约一公里的新站取代了它的位置。旧车站的轨道仍然用作停放车厢的场地。南北高架路一期于1993年至1995年间建成，连接了浦东和闸北。这条路沿着原共和新路穿过铁路之后变为了一条直线。

1993年第一条地铁线（1号线）开通，并于1995年开通上海火车站。几年后，其他线路陆续在这一区域开通：3号线于2000年，4号线于2005年，8号线于2008年，10号线于2010年和12号线于2014年。2006年，该站的部分铁路线路被转移到上海铁路南站。2010年，车站及其周边地区已经完成第二次重新装修。

The heritage of the Lilong blocks

来自里弄街区的遗产

The Lilong blocks embody a fundamental part of the Chinese spatial culture. From the second half of the nineteenth century to the middle of the twentieth, they provided an efficient residential solution of relatively high density to the intense residential demands of the great number of migrants who came to Shanghai, escaping from diverse national and international conflicts.

The spatial organization of these buildings incorporates some of the basic characteristics of Chinese housing typologies - the longitudinal passage or 'long tang' and the patio. The access to houses was organized along an alleyway. The entrance to the housing blocks was through a wooden door with a stone lintel. Stylistically speaking, the Lilong combines formal elements of Western architecture and the typological and stylistic concepts of the residential architecture of the Jiangnan region.

里弄街区体现了中国空间文化的一个基本组成部分。自十九世纪下半叶到二十世纪中叶，这一建筑形式提供了相对高密度居住的有效解决方案，满足了从国家动荡和国际冲突中逃离的移民迫切的住宅需求。

然而，这一机体组织结合了部分中式民居类型学的基本特征：纵向通道或弄堂和庭院。房屋沿供人通行的弄堂布局，居住部分的入口是带门楣石的木制大门。从风格上来说，里弄，融合了正统西方建筑元素和江南地区民居建筑类型学及文体概念。

从功能和空间的角度，里弄昭示了中国传统城市中，私人、集体和公共空间类型之间过渡的重要性。

重新诠释了古典城市中传统通道的多样性以及功能的灵活性，其综合性特征允许地面层密集的商业和社会活动。

现在所分析的里弄街区是残存的低住房密度的古老城市结构。它代表着早已被遗弃的现状，许多住宅缺乏基础设施，需要优质的翻新和大量投资。一些里弄具有极高的建筑和文化趣味和价值。为了保留故地旧时身份的记忆而保存它们，并寻求一种设计途径来容纳它们，将会是值得的。

闸北区的中心性和其优越的区位，在面对土地投机过程和现实环境对高密度建筑的需求时，我们很难对其进行保护和更新。

From a functional and spatial view, lilongs address an important aspect of traditional Chinese cities, which is the transition between private, collective and public spaces. They reinterpreted the versatile character and flexible function of the traditional city, providing for its mixed-use character which allowed intensive commercial and social activity at ground level.

The Lilong blocks of the study area represent remnants of an old city fabric with a very low housing density in a state of long-term abandonment, as many of its dwellings lack basic facilities and therefore require major renovation and investment. Additionally, the central location and good connections of these Lilongs make it difficult to protect and renew these blocks because of speculation and the demand for high-density buildings. From a sociological perspective, the Lilong area can be characterised by low-income residents' profile and the lack of a sense of belonging to 'place'.

Nevertheless, the Lilong's typologies and urban fabric are strong elements of Shanghai's city identity, and it will be interesting to reinterpret this spatial culture in the design proposal. There are also some Lilong buildings in the area with an interesting architectural and cultural value. Therefore, we believe that it is worth finding a design program that may include them into the area of this competition as this will help not only to maintain the historical area, but also to preserve the memories and therefore the former identity of this area.

里弄类型学和城市结构的尺度是上海城市鲜明的身份要素，如果能够重新诠释其空间文化将会是非常有趣的尝试。

一份居民社会学研究调查显示，如今里弄的居民具有低收入，对社区缺乏归属感的特征。



Lilong values

The old and the new

Combination of the traditional Chinese courtyard house with Western row houses from the beginning to the mid-19th century.

An organized structure

A walled community composed of a main lane connected to the entrance and branch lanes making perpendicular connections; these secondary lanes work as extensions to the houses.

Transition areas

The commercial areas are located around the neighbourhood, working as transition spaces from the urban public area to the private domestic space.

Community character

Sharing these collective spaces with different activities, generates a strong sense of community. This is the main value of the Lilongs within the context of a modern and dense megalopolis of 20 million inhabitants.



里弄的价值

新与旧

始于19世纪中叶，结合了中式传统天井民居与西方联排别墅。

有序的结构

以墙围合的社区由连接着入口的主要道路和与其垂直的支路构成，二级支路即向住宅延伸连通。

过渡区域

位于邻里周边的商业区，在街道公共空间与住宅私人空间之间发挥着过渡作用。

社区特征

社区特征:共享集体空间进行各种活动产生了一种强烈的社区意识。这是里弄社区的价值，我们应当为这个20万人口的稠密地区设想出一个合理的现代结构。



Urban Analysis

城市分析

From the very beginning of the development of the intervention area (1863), Zhabei district has been located in a strategic point of the city, close to the Suzhou Creek that was a significant shipping route. Today, due to the important location of the area within the city, the project will play a key role not only at a local scale, but it may also influence metropolitan development. Promoting the intervention area as a new urban centre makes its design a complex process including aesthetic, ecological, social and economic aspects. This makes us responsible for creating a proposal that agrees with the general program of the city's development, meets the social and economic demand, integrates into the urban fabric and connects the currently segregated urban areas of the Northern and Southern parts of Shanghai.

Metropolitan context

The rapid economic growth focused on technology and innovation, which Shanghai has experienced in the last 20 years, has had a huge impact on both the social

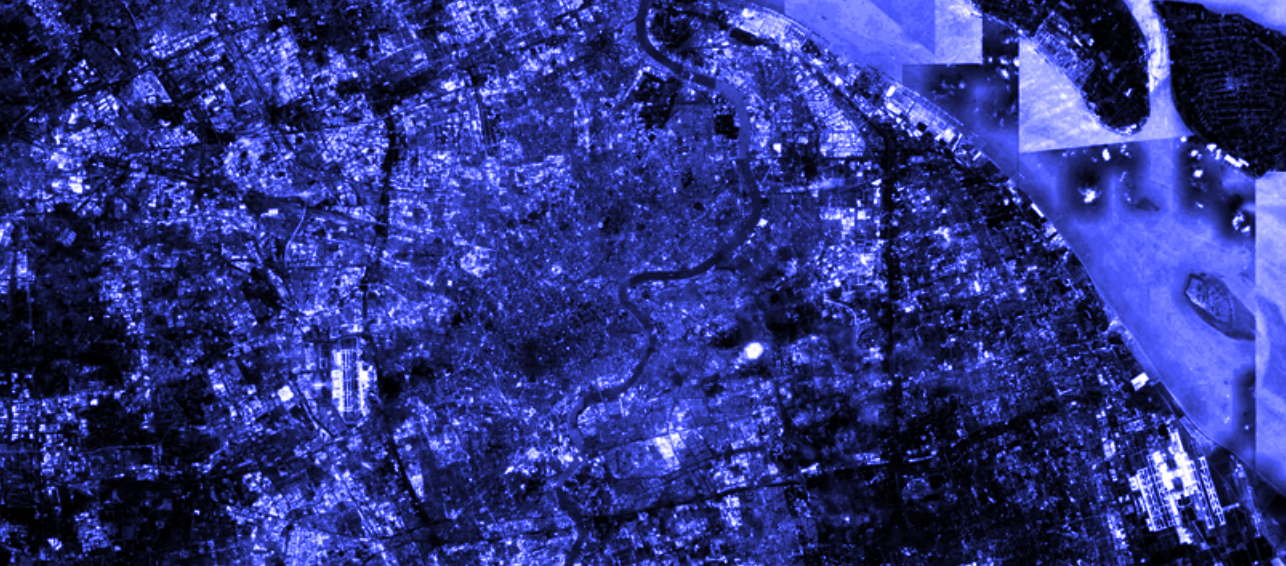
and environmental aspects. From the beginning of the development of the intervention area (1863), Zhabei district has been located in a strategic point of the city, close to the Suzhou Creek that was a significant shipping route. Today, due to the important location of the area within the city, the project will play a key role not only at a local scale, but it may also influence metropolitan development. Promoting the intervention area as a new urban centre makes its design a complex process including aesthetic, ecological, social and economic aspects. This makes us responsible for creating a proposal that agrees with the general program of the city's development, meets the social and economic demand, integrates into the urban fabric and connects the currently segregated urban areas of the Northern and Southern parts of Shanghai.

城市肌理

上海在过去20年所经历的以科技创新为聚焦的经济增长给社会环境带了巨大的冲击。人口增长要求高速的发展，从而引发了城市扩张。结论是，城市高速发展伴随着一系列环境污染，如今已经成为这一地区最重要的生态问题。因此我们可以说，上海市目前区域政策及中在生态和可持续发展，促进主要的地区项目“城市生态圈”，并创建三种绿色通道，发展绿色地图：

- 由北向南（黄浦江）
- 由东向西（苏州河和延安高架路）
- 环线通道（外环高架，中环高架和水体环路）

利用这些“绿色项目”的优势，我们将



and environmental aspects of the city. The population increase has demanded rapid development causing urban expansion and as a consequence, this fast urban growth has been accompanied by increasingly serious environmental pollution which today is one of the most significant ecological problems of the region. Therefore, we can summarize that the current regional policy of Shanghai's administration focuses on ecological and sustainable development promoting 'urban foresting' as a main regional program, and the development of a Green Map that proposes the creation of three types of green corridors (structure "1+2+3"):

- North to South (Huangpu river);
- East to West (Suzhou river and Yan'an Highway);
- Circle corridors (outer circle highway, middle circle highway and water circle).

By taking advantage of this green program in our project, we propose to combine the traditional, technological and ecological development, and preservation of a popular lifestyle which focuses on innovative and ecologically friendly

在我们的设计里合并传统的，技术的和生态的发展，来保护普罗大众的生活方式，同时也关注以可持续发展和智能城市战略为基础，创新和技术上生态友好型的发展。换言之，我们也计划把现在没落的前铁路客运站区域转变为一个包容的，设施齐全的，能综合多样性与高强度的公园。这些都是优质城市生活的首要特征。

尽管如此，实现生态友好，经济可持续发展，技术创新和社会包容，需要在一个相当宽泛的范畴内思考。我们应该从大都会战略以及本方案融入整个地区的层面开始思考。因此，我们建议将本方案的发展目标与上海大都会2020总体规划的主要目标相对应。

- 创造绿与蓝的连续体作为以后城市发展的结构元素；
- 产生城市中心区系统；
- 以更新和修复战略的实施限制城市增长。

都市布景 绿色和蓝色连续体

组成统一结构城市的传统元素有线性构造，并能以自然的（水道和地形）、半自然（绿色及河流廊道）或人工的（道路系统）通道出现。根据《2020年总体

technology based on sustainable and smart urban strategies. In other words, we are attempting to convert a currently abandoned area of the former railway station into an inclusive and equipped park. This park will generate diversity and intensity which are the principal characteristics of active urban life.

Nevertheless, to achieve these ecologically friendly, economically sustainable, technologically innovative and socially inclusive results, it is necessary to think of the project area in broader terms, starting with metropolitan strategies and incorporating our design into an overall regional and urban development program. For this reason, the tools that we suggest for the development of a metropolitan scenario meet the main goals of the Master Plan 2020 and support the design and aesthetic ideas that we would like to develop in our project:

- creation of green & blue continuity as a structural element for further urban development;
- generation of a system of urban centres;
- restriction of urban growth by applying renovation and rehabilitation strategies.

METROPOLITAN SCENARIOS

Green & Blue Continuity

Traditionally, elements that organize the city into a unified structure have a linear configuration and can be presented as natural (water streams and topography), semi-natural (green and fluvial corridors) or artificial (road systems) corridors. Due to the ecological orientation of the Master

规划》的生态取向，都市的主要策略之一一是提倡将绿色与蓝色廊道不仅作为一个构成城市区域的元素，同时能够：

- 具有保护和隔离功能，减轻城市的负面影响；
- 帮助保护生物；
- 协调社会功能，发挥市民活动的催化剂作用；
- 创建一个可以自我再生的绿色系统，降低维护成本。

对于闸北区，其横贯上海东西方向的轨道，是构成大型城市模块但不影响地方规模的线性结构元素的典范。对闸北区和干预区进行分析可以发现，形态、社会和功能隔离问题突出。连通城市东西方向的铁路限制了上海中心区南北向的发展。根据国务院指示，有必要“鼓励对铁路占地的高效集约利用，以铁路为依托开发空中和地下的空间，包含一定量的其他方案，在规划许可的情况下给予不同层面的土地使用权”。这也就是说，有必要将当前于城镇没有利用价值的铁路占地结合到城市结构中。这样可以使历史悠久的市中心位于南部，而居住区在北部，并创建一个可以与现有中心地带在功能上统一的新中心区域。心区，也带动整个闸北区的城市转型，将其变成一个从西面的浦东新区到东面的上海火车站东的中间点；以及从南方的历史中心城区到北方居住区的中间点。因此，我们相信，一个精心设计和构思方案，除了能整合成一个整体上以可持续发展为导向的都市计划以外，它也可以加强和造就中心区域，改善生态状况，并在全市范围内提高生活水平。

同时，非常重要的一点，绿色结构不仅是改善生态状况的一个工具，而且是融合到城市的一个要素。换句话说，发展大型绿化模块时我们不能忘记它们对邻近的城市结构和市民生活的影响。以多规模维度从都市转向地方与增强城市模

Plan 2020 - 2040, one of the main metropolitan strategies is the promotion of 'green & blue' corridors as an element that will not only organize urban areas but also:

- function as protection and isolation, mitigating negative urban impact;
- aid biological conservation;
- coordinate social functions which act as a catalyst for citizens' activities;
- decrease maintenance costs by creating a self-regenerative green system.

In the case of the Shanghai metropolitan area, the development of a self-sufficient green system can also be justified by the current configuration of big green patterns that almost form an outer green belt. By connecting the existing green areas with the proposed Master Plan 2020 - 2040 corridors (Huangpu River, Suzhou Creek River and Yan'an Highway) and natural green areas, we will approach one of the main goals of the ongoing greening policy - to improve the ecological situation of the region by creating an ecological continuum.

At the same time, it is important to think about green structures not only as a method of improving the ecological situation but also as an element that integrates the city. In other words, when developing big green patterns, we cannot disregard their impact on the adjacent urban fabric and the citizens' daily life. Nevertheless, generally, as soon as green corridors are designed at a regional or metropolitan scale, we encounter a lack of integration with the local context which may convert them into urban boundaries instead of elements that provide continuity

块间的联系，都是能够重整当前被遗忘地区，取得生态高效可持续的发展和提高人民生活水平的战略。

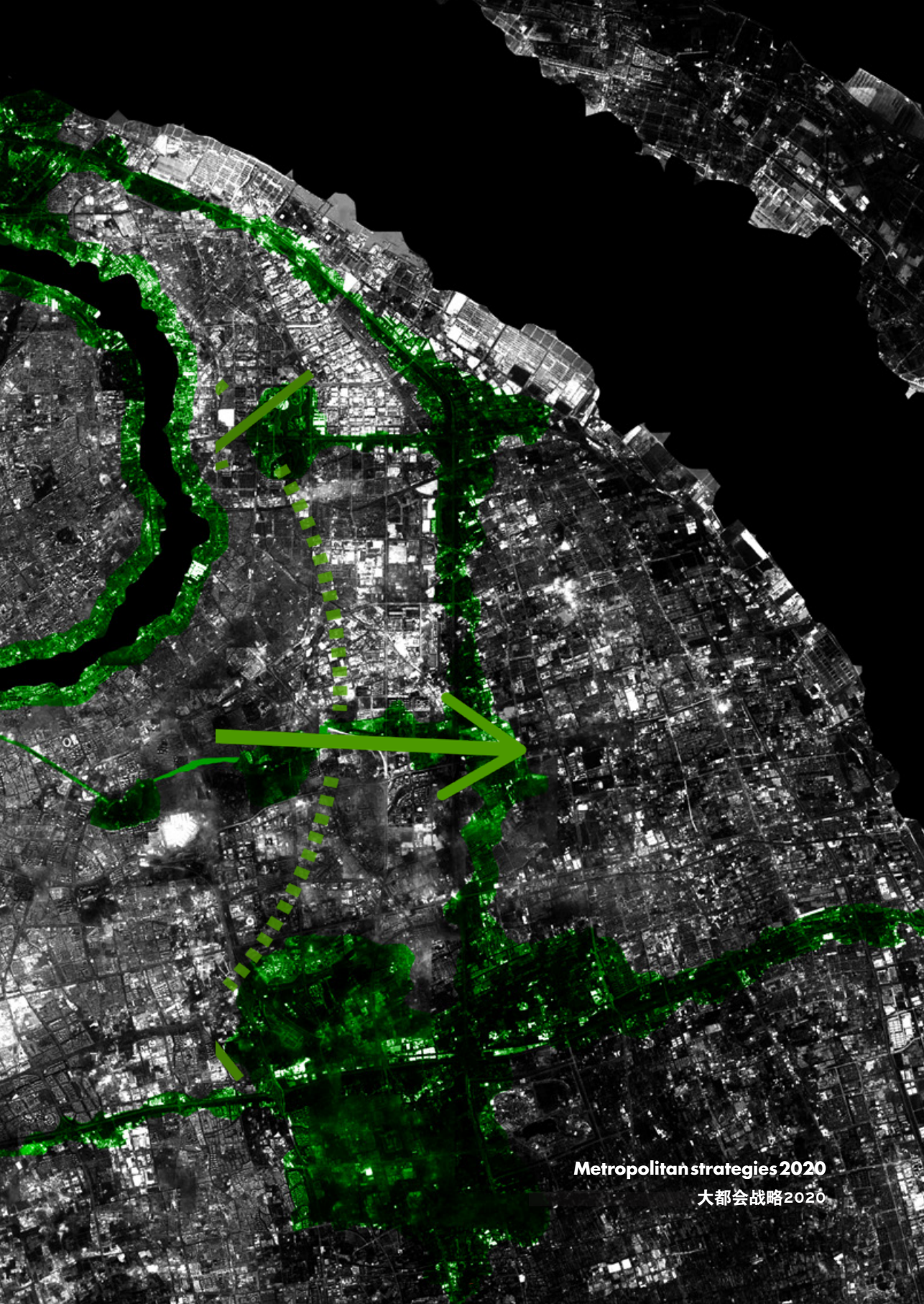
对于闸北区，其横贯上海东西方向的轨道，是构成大型城市模块但不影响地方规模的线性结构元素的典范。对闸北区和干预区进行分析可以发现，形态、社会和功能隔离问题突出。连通城市东西方向的铁路限制了上海中心区南北向的发展。根据国务院指示，有必要“鼓励对铁路占地的高效集约利用，以铁路为依托开发空中和地下的空间，包含一定量的其他方案，在规划许可的情况下给予不同层面的土地使用权”。这也就是说，有必要将当前于城镇没有利用价值的铁路占地结合到城市结构中。这样可以使历史悠久的市中心位于南部，而居住区在北部，并创建一个可以与现有中心地带在功能上统一的新中心区域。

城市中心地带体系

我们致力实现的城市原型不单是可持续和生态城市，而且还是一个构成统一系统的多中心和网络模型。其中，每个区域都具有其自己的身份，并满足这个地方的特定需求。

然而，在上海，我们遇到了城市中心之间脱节的问题，这引发了流动性和可达性问题，而且阻碍将城市元素融入地形。在对大都市的分析中，我们成功地在上海内环（项目区域所在位置）构建了某些类型的中心地带。首先，我们的准则是基于规模而言的，其次是基于观察区的功能组成部分而言。顺应一个或另一个中心地带的影响，我们可以区分大都市（浦东，上海火车站）和地方的中心地区（宝山站旁边的市场）。相反，当我们提到它们的功能时，我们可以识别出综合区（浦东金融区和历史悠久的市中心）和有潜力被转换成中心区但由于其孤立的位置而让他们没法利用自己潜力的无效地带（上海世博会展中





Metropolitan strategies 2020

大都会战略2020

and connectivity. This urban fragmentation may cause issues in different socio-economic, ecological, structural and functional aspects. Working at multi-scale dimensions, switching from metropolitan to local aspects to improve connections between urban fabrics, are strategies that may revive currently abandoned areas and lead to ecologically efficient and sustainable development, increasing living standards.

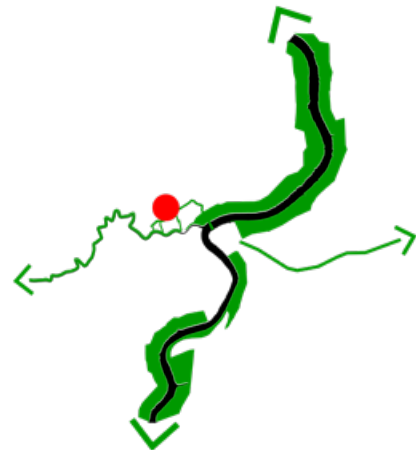
In the case of the Zhabei district, the rail tracks, which cross the city from the East to the West, are a clear example of a structural linear element that organizes big urban patterns, but does not interact with them at the local scale. In analysing the Zhabei district intervention area, the issue of morphological, social and functional segregation stands out. The railway that connects cities in the East-West direction restricts the development of Shanghai's central area in the North-South direction. According to the State Council, it is necessary to "encourage the efficient and intensive utilization of railroad land, developing aboveground and underground space through railroad land, incorporating a certain number of other programs, and granting different

心和虹口足球场)。

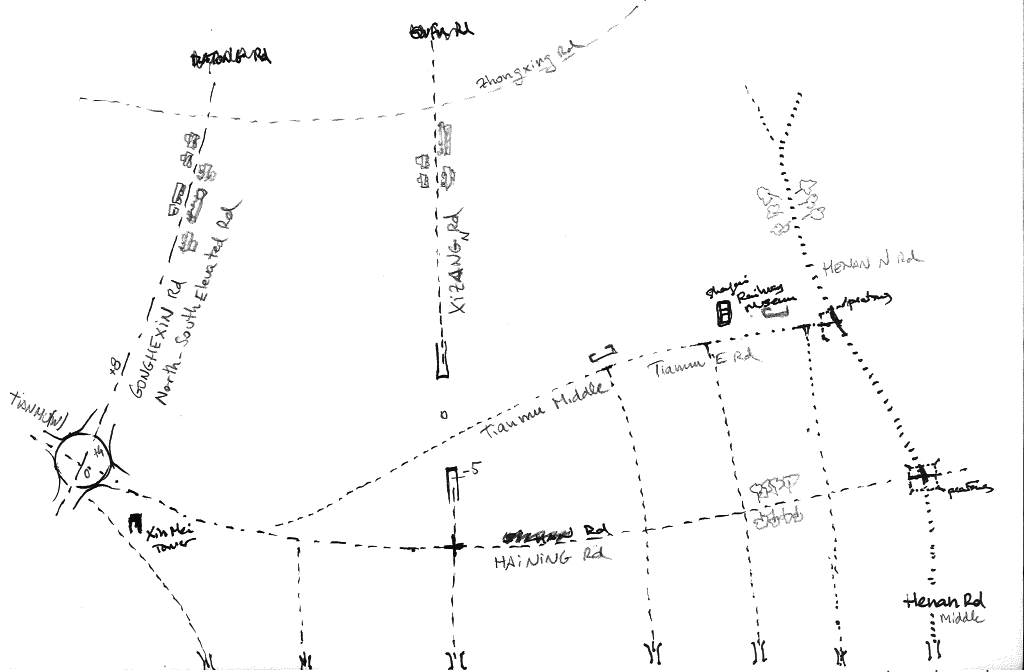
作为解决中心地区这种不连续但准确的位置的方案，我们建议用道路系统把它们连起来。我们认为这些“连接器”应具有特定尺寸和长度，使其可以帮助在中央区域之间形成一定距离，将它们转化成有吸引力的磁极。由此，有可能产生一种位于两个之前彼此分离的点之间的，且可以增强它们中心位置价值的张力。因此，两个中心区域间形成了一个使社会与经济流动的张力，它可以将简单的公路连成一个有活力的街道。换句话说，除了连接两个中心区域外，街道自身拥有特性和功能，即所谓的线性中心地带。此外，这些公路连接器的相似规模和功能可将其变为整个上海的一个参考标准式的城市模范，就像巴塞罗那的塞尔达街道网和纽约的曼哈顿街道网。

为了将干预地区融入都市计划（2020年总体规划），并在同一时间满足地方需求，我们建议：

- 以不同规模进行建设；
- 创建一个多功能的绿色结构；
- 改进和创建横向连接方式，以连通城市北部和南部地区；
- 提倡和连接城市各中心区。



Metropolitan strategies
大都市战略



Initial analysis
初步分析

layers of land use rights under planning permission". In other words, in civic terms, it is necessary to integrate the currently useless railway area, into the urban fabric that will connect the historical downtown situated in the South, with residential areas in the North and create a new urban centre that will function as a whole with existing centralities.

System of Urban Centralities

The urban pattern that we would like to achieve with our project is not only a sustainable and ecological city, but also a polycentric model that works as a unified system, in which each area has its own identity and responds to the specific demands of 'place'.

Nevertheless, in the case of Shanghai, we encounter a problem of disconnection between urban centres that causes mobility and accessibility issues which prevents urban elements integrating into the territory. The metropolitan analysis allows us to establish certain types of centralities within

换句话说，不仅是要创造一个新的具有美学吸引力的中心区，也带动整个闸北区的城市转型，将其变成一个从西面的浦东新区到东面的上海火车站东的中间点；以及从南方的历史中心城区到北方居住区的中间点。因此，我们相信，一个精心设计和构思方案，除了能整合成一个整体上以可持续发展为导向的都市计划以外，它也可以加强和造就中心区域，改善生态状况，并在全市范围内提高生活水平。

城市结构中的项目方案 主要观点

在达成某种城市规模的过程中，我们遇到了一个由大量宽轨道造成的无法逾越的障碍。这些轨道在水平和垂直方向形成了醒目的边界，打破了视觉上和物理上的连贯，也限制了上海中心城区南北的通透性。鉴于这种分隔，很难从两边将这一区域的社会经济和文化多样性相互连接、统一和混合。

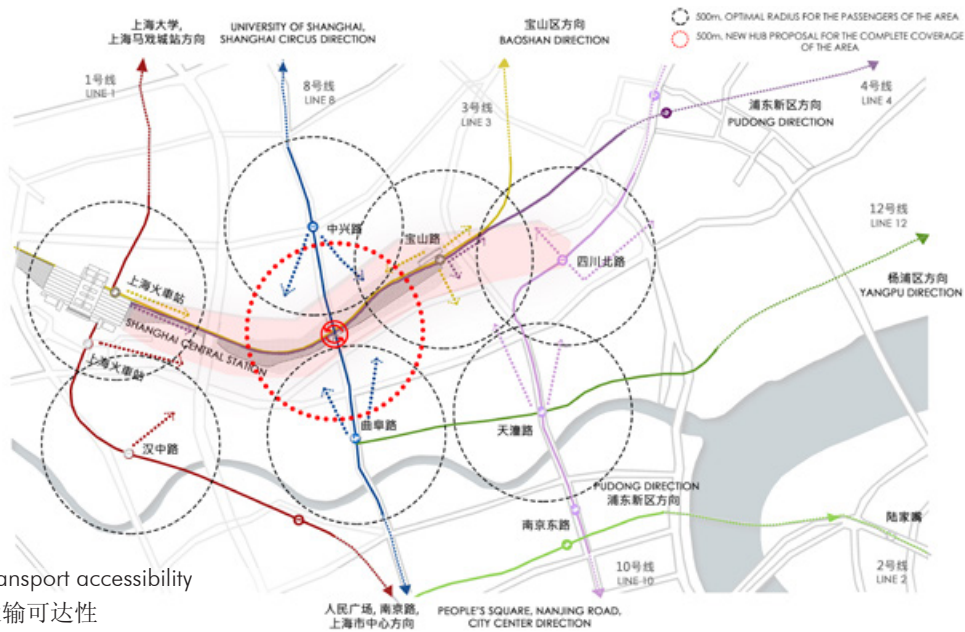
鉴于铁路结构对相邻城市肌理的负面影响，以及其巨大的规模和优越地理位置



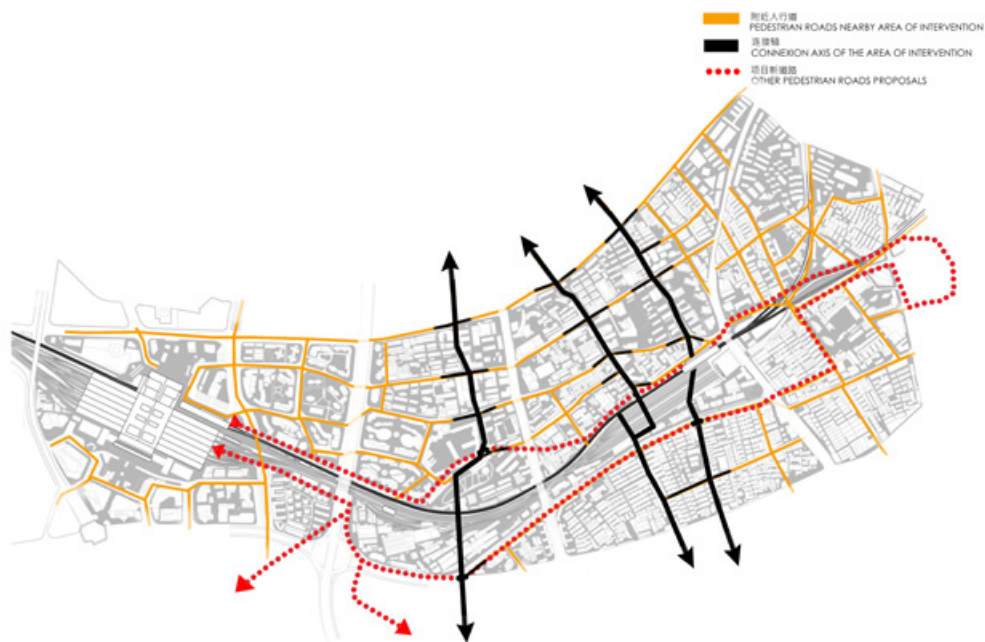
Density analysis
高密度计划



Land use
土地使用



Transport accessibility
运输可达性

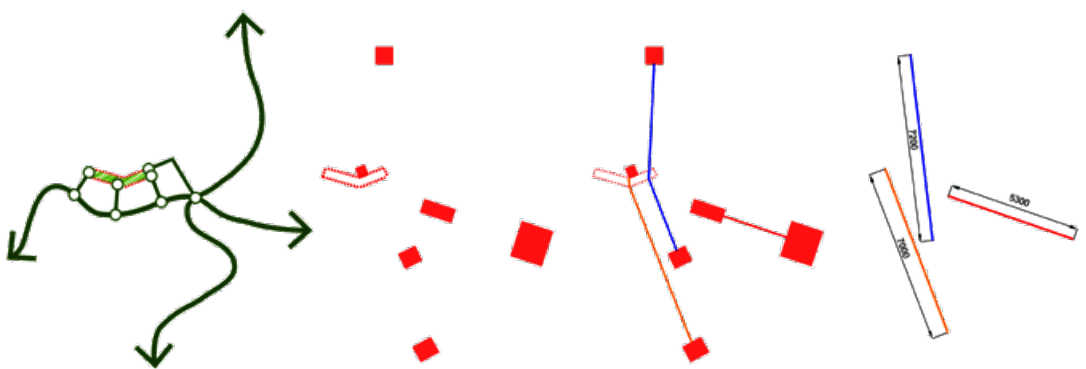


Pedestrian accessibility
机动车抵达路线

Shanghai's inner ring road (the location of the intervention area). Our criteria were based on scale and afterwards, on the functional components of the areas observed. Depending on the impact that each centrality has, we can distinguish metropolitan (Pudong, Shanghai Railway Station) and local centres (market next to the Baoshan station). By contrast, when we are dealing with their functionality we can detect consolidated areas (Pudong financial district or historical downtown) and non-effective sectors (Shanghai World Expo Exhibition and Convention centre or Hongkou Football Stadium) which have the potential to be converted into central areas but due to their isolation, they do not form points of attraction for daily urban activities.

As a solution for the discontinuous and individual locations of the central areas, we propose to connect them via a road system. We consider that these connectors should have a particular dimension and length to help establish a certain distance between these central areas converting them into attraction poles. In this case, it is possible to generate tension between two previously separated spots to strengthen their value as central areas which will generate social and economic flows between them that converts a simple road link into a busy street. In other words, the street, besides connecting two central areas, acquires the characteristics and functions of so-called lineal centrality. Furthermore, the similar dimension and function of these road connectors converts them into an urban model for Shanghai that may serve as a reference of measurement for the entire city, such as Cerda's Manzana (block) in Barcelona.

Therefore, in order to integrate the intervention areas into the metropolitan scheme (Master Plan 2020 - 2040) and at the same time respond to the local demand we propose:



1. Establish green continuity

贯穿绿地连续性

2. Generate urban centralities

形成城区中心

3. Connect urban centralities

连接城区中心

4. Create an urban model

创造城市模式

Urban strategies

城市战略

- to work at different scales;
- create a multifunctional green structure;
- improve and create transversal links in order to connect the northern and southern parts of the city;
- promote and connect urban central areas.

In other words, the task is not only to create a new architecturally attractive central area, but also to generate the urban transformation of the whole Zhabei district converting it into an intermediate point between the Pudong area in the West, and the Shanghai Railway Station in the East; and between the historical centre in the South and residential areas in the North. Therefore, we are convinced that a well-designed and conceived proposal, besides integrating an overall sustainable oriented metropolitan program, will also strengthen and generate central areas, improve the ecological situation and increase living standards within the city.

PROJECT PROPOSAL WITHIN THE CITY STRUCTURE

Main ideas

At the urban scale, we encounter a solid barrier caused by the extensive and wide railway tracks that create a clear horizontal and vertical boundary. This breaks visual and physical continuity and prevents 'permeability' between the northern and southern parts of Shanghai central city. Due to this segregation, the possibility of connecting, unifying and mixing the socio-economic and cultural conditions of the area is discouraged at each end.

Due to the negative impact of this railway structure on the adjacent urban fabric and

置，我们不把干预区视为问题区域，而是一个实施能将上海的区域（北部和南部）以微妙而优雅的方式组合到一起的项目的挑战和机遇。如此一来，我们能够设计出一种多功能的绿色中心区域，以前彼此隔离的区域变成一个单一布局的一部分。这里不仅保持了社会经济和文化的多样性，而且增加新的生态价值，组织城市活动，并为市民提供活动场所。

连续性，通透性和横向性是城市连接的关键元素

铁路基础设施为干预区域提供了连续的轴线，自西向东经过宝山和上海火车站。然而，这种连接主要集中在大城市的流动性，而没有提供足量的城市和地方连接。横向连贯性的缺乏是我们应考虑到的一个重点，并将它视为一个不仅从大都市的角度，也从行人的角度来看都是增加区域连接性和移动性的机会。由于铁道基建造成的大障碍，现有的横向连接通道被用以实现长途、快速的交通路线，而没有考虑短途的休闲之旅。发现这一现象后，我们认为有必要利用地方的连接道路，在较小尺度下连接城市模块，优先考虑行人需求。因此，通过实施多规模的干预，我们正努力在地方、城市和大都市尺度下连通城市各模块。

由此诞生了一个概念性的想法，即提议建立一个城市连接的网络，关注区域当前的优势和劣势，考虑并重视三大主干道轴（南北高架路，西藏北路和宝山路）的重要性，并打造一条南北横向连接通道，补充现有的东西纵向连贯。这些策略可能有助于解决和改进城市组织间的流通和交流，这也是该项目的主要目标之一。

城市模块之间的通透性缺乏是在对大都市分析过程中发现的另一个重要方面。因为铁道基建可以被视为一面阻断南北

because of its huge size and strategic location within the city, we consider this intervention area a problematic zone and a challenge and opportunity to implement a project that sows and twists the two Shanghai areas (North and South) together in a subtle and elegant way. In this way, we are able to design a multifunctional green central area, in which previously segregated areas become a part of a single theme that not only maintains the socio-economic and cultural diversity, but also adds new ecological values and organizes urban activities that offer a place for the citizens.

Continuity, permeability and transversality as key elements of the urban connectivity

The railway infrastructure supplies the intervention area with a continuous longitudinal axis that runs from East to West passing through the Baoshan and Shanghai Railway station. Nevertheless, this connection focuses mostly on metropolitan mobility and does not provide a sufficient amount of urban and local links which is an important point to increase connectivity and mobility of the area not only from the metropolitan perspective but also from the pedestrian point of view. On the other hand, an obligatory aspect such as transversal connections which would help to generate a good city form at both metropolitan and local scales, have been given little importance. Due to the large barrier formed by the railway infrastructure, the existing transversal connections are arranged for a long and fast traffic movement and are not suitable for short slower journeys. Observing these factors, we tackle the need to work on local links

联系的横向墙壁，一个巨大的分散布局的多样性和城市隔阂产生了。因此，我们认为有必要以明确和根本的思路联系多种形式和体量，在地下、街道和空中等不同层面设计出孔隙结构，以编织城市肌理。

城市模型

考虑到两端现有的中心地带，西面的上海火车站和东面的宝山站旁的市场以及附近其它中心点（如历史悠久的市中心，河岸，浦东区），整个项目地区将被转换成拥有大量活动和服务的首要中心区域，它可能会对整个闸北区及其邻近区域带来显著改善。

但是，我们深信我们应该尊重文化和传统，了解闸北区的本质，以简明正确的方式保持与其关联的城市模块的混合出现。得益于我们项目的建筑，我们尝试致力于创造新的活动和服务，这些都是目前这一领域所缺乏的，在投资有着巨大的功能多样性的新方案同时，也要尊重和保护那些已经作用形成文化核心的部分。因此，我们项目提出的体积和类型多样性符合闸北区的实际形态，具有能够保持现有城市特征但同时创建一个新身份的巨大城市潜力。

绿色结构

关于主要项目元素，绿色结构将组成都市和地区规模的。我们要强调它作为闸北区的肺，与都市绿色系统整体运，作有自我净化的功能。为了连接这两个已开发的绿地，提出建立一组连接器，即所谓的绿色毛细血管。我们可以把项目整合到苏州河的绿色和蓝色通道上，而这一通道是区域绿色连续体设计的一部分。因此，我们试图创造一个多规模的绿色和蓝色的连续体。这种连续可以形成一个给热情活跃的城市生活留有空间的新生态城市网络。

in order to connect urban areas at the smaller scale giving priority to pedestrian flows; and so by performing a multi-scale intervention, we are attempting to increase the connectivity at the local, urban and metropolitan scales.

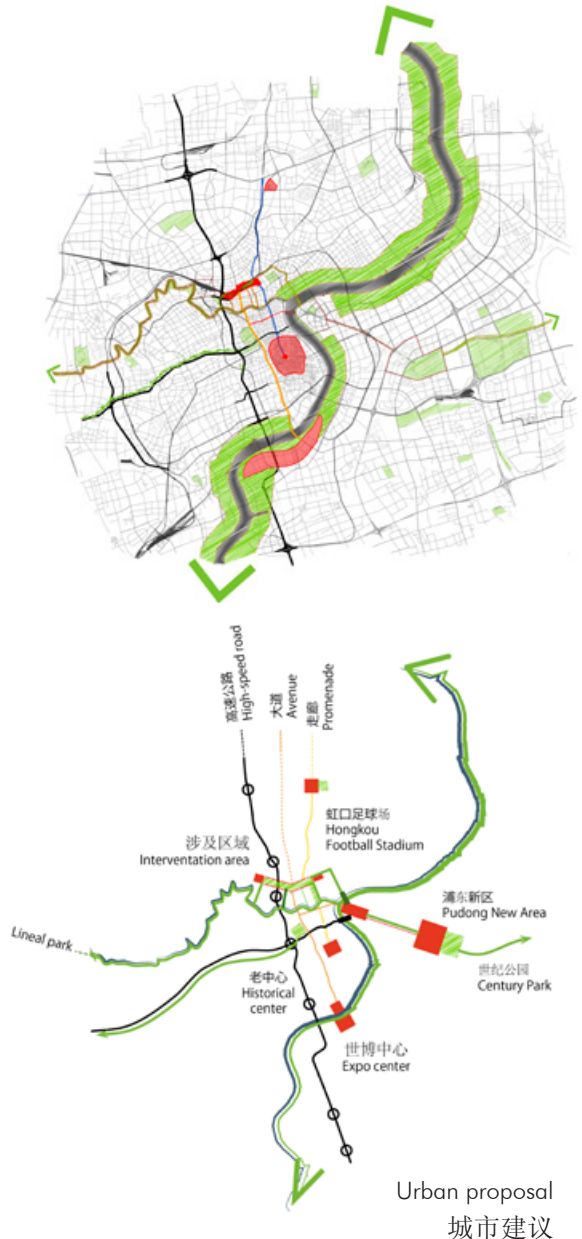
Following this, one conceptual idea is:

- to establish a network of urban connections which takes into account the current strong and weak points of the area, while respecting the importance of the three main road axes (North-South Elevated Road, Xizang North Road and Baoshan Road);
- to generate a slower transversal connection in the north-south direction which complements the existing East-West longitudinal continuity.

These strategies may help resolve and improve circulation and communication between the urban areas, which is one of the main objectives of the project.

The lack of permeability between areas is another important aspect that was detected during the metropolitan analysis, because of the railway infrastructure that works as a wall blocking the north-south relationship and which has resulted in a huge typological variety of dispersed and urban blocks. Therefore, we consider it necessary to combine all these numerous forms and volumes with the clear and fundamental idea of implementing 'porosity' at different levels - underground, street level and at upper levels, in order to weave the urban fabric together.

最后，我们想强调连续性和连通性、横向性和线性、孔隙度和通透性是我们理解和设计闸北区时，为提出一个适合于网络结构、包容性和可持续发展城市的方案所考虑的城市概念。



Urban proposal
城市建议

An urban model

Taking into account the existing centres of both ends, Shanghai Railway Station to the West and the market next to Baoshan Station to the East, as well as other nearby central points (such as a historical downtown, the riverbanks, Pudong area) the whole intervention area is already becoming a major central area equipped with a large variety of activities and services. The implementation of these ideas should generate a significant improvement to the whole of the Zhabei district and its adjacent areas.

Nevertheless, we are convinced that we should respect the cultural tradition and be aware of the essence of Zhabei, maintaining the mixture of its urban patterns and dealing with them in a concise way. Through this project, we aim to contribute to the creation of new activities and services, which are currently lacking in the area of intervention, by specifying a new program for a huge diversity of functions, while at the same time trying to respect and



preserve aspects of the area that already work successfully. Thus, the volumetric and typological variety proposed in our project conforms to the actual morphology of Zhabei. It possesses an urban potential that is able to be respectful to the existing urban morphology but at the same time create a new identity.

Green structure

The main element of the project is a green structure that organizes the city's areas both at metropolitan and local scales which will function as a 'self-purifying lung' of Zhabei district, working in conjunction with the metropolitan green system. In order to connect the metropolitan and local green elements, we propose establishing a group of connectors, termed 'green capillaries'. These connectors will integrate the project into the Suzhou Creek 'green & blue corridor' that forms part of the regional green continuum generating a multi-scale continuity that forms a new ecological network stimulating intense, active urban life.



DESIGN IDEAS

我们的设计理念

INTRO

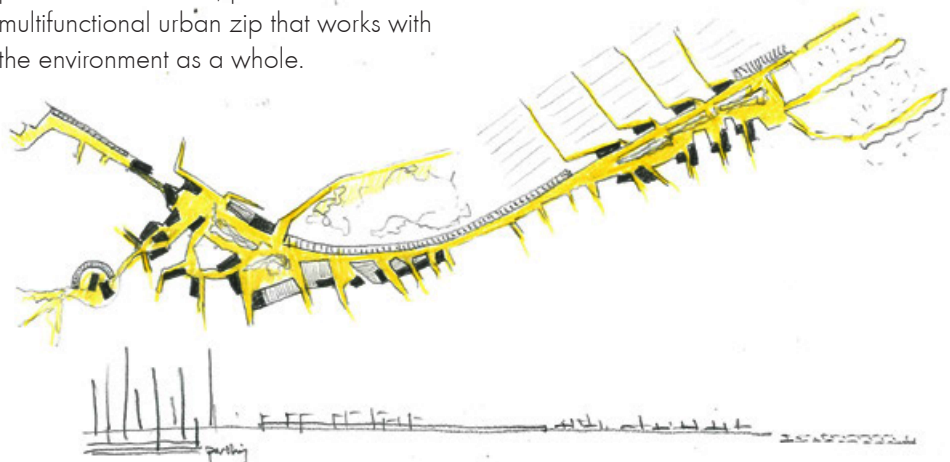
介绍

The design phase begins with a series of needs and requirements which the project must meet, extracted from the text provided by The Shanghai Zhabei District Planning and Land Authority. In the same way, all the decisions made were based on the different aspects which, we think, define a contemporary metropolis model.

Below, we present various points that ascribe an identity to our project and make it stand out: creating a new metropolitan central area and designing an equipped park with an intense, permeable and multifunctional urban zip that works with the environment as a whole.

此项目的方案进程开始确立于上海闸北土地规划管理局提出的一系列的需求，该项目应当满足这些需求，同时，所有的决定都以不同的方位为基础，以我们的判断，此项目将定义一个现代化大都会模式。

此项目的方案在确立上海闸北土地规划管理局提出的一系列的需求后开始了进程，该项目应当满足这些需求，同时，所有的决定都以不同的层面为基础，根据我们的判断，此项目将定义一个现代化大都会的模式。





1. DEMANDS

We are aware of the difficulties posed by working with an area that is constantly changing. Due to this, we have set out a number of minimum requirements that our project must achieve:

- To get to know the area of intervention and its surroundings in depth. Researching its historical evolution and its current situation in order to make a proposal which is able to tackle future challenges with the highest guarantees;
- To discover the potential of working in a zone mostly occupied by railways. Not only revitalizing the place by creating a new relationship with its environment, but also preserving its current uses (administration and train maintenance);
- To work at different levels, at city level and below it, to create an urban proposal developed in three dimensions;
- To create a network of connections encompassing different scales, from metropolitan infrastructures to pedestrian links.
- To encourage North-South movements (urban permeability) - at present an almost impossible task because of the barrier caused by the railway tracks.
- To promote programed diversity in the area.
- To study what kind of structure will be used to cover the tracks.

resources in order to improve the quality of life of all citizens.

According to these urban models, we present in our proposal:

- A new centre point for the metropolis;
- An equipped park with intense and varied use;
- A high-speed urban 'zip' with high permeability with the environment.

A new centrality

We propose to convert Zhabei into a new centre point, as a first-order component inside the polycentric system of Shanghai. It will be connected with other centres through three Metropolitan avenues (North-South Elevated Road, Xizang North Road and Baoshan Road) reaching the heart of the historical centre and approaching the area of the 2010 International Exhibition. This strategy also allows the establishment of a visual dialogue with the financial centre of Pudong, virtually expanding the central axis generated by Century

2. 回应+总体目标

所有证明该项目是将此区域从本质层面上定义当代大都会的要点：

网络化城市。用交通基础设施与高新技术将不同区域相互连接。

可持续发展的城市。经济与社会的生态化发展。

包容的城市。为所有人设计，关怀社会各界，为所有人提供可行性(消除建筑隔离)。

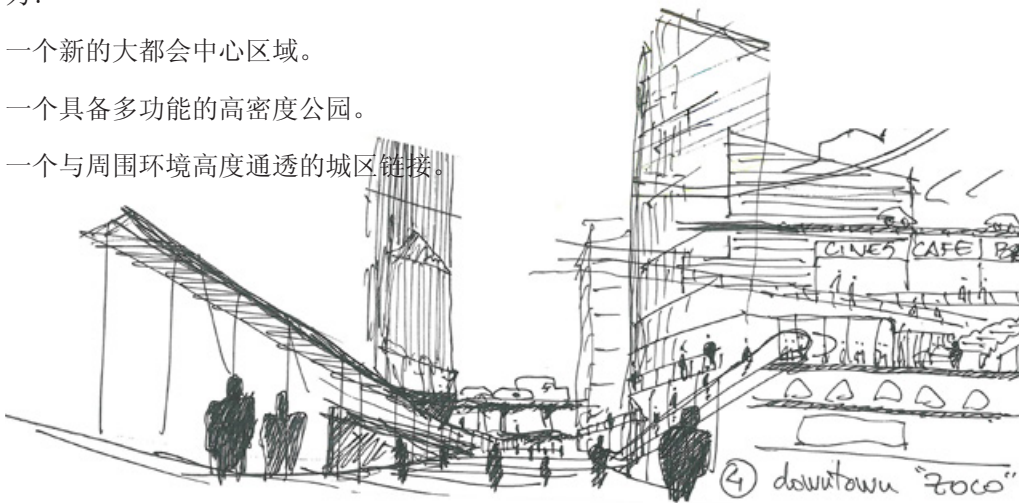
智能城市。为城市的服务及资源管理提供新的解决方案，以提高市民的生活质量。

因此，我们根据这些城市模型来介绍我们的方案；以坚定的目标将该巨大的裂缝转型为：

一个新的大都会中心区域。

一个具备多功能的高密度公园。

一个与周围环境高度通透的城区链接。



An equipped park

This area will become a new central green park designed for the enjoyment of all citizens. A place where you can both walk and relax, supported by a diverse program for leisure, sports and culture. This linear park will extend over a slab covering the tracks between the South-North Elevated Road and the Baoshan station. We propose a progressive movement of the railways underground on the East side, beyond Xizang North Road, without affecting the groundwater level; consequently, the platform will be located at the same level as the neighbourhoods next to the metro station.

At the metropolitan level, the park is linked to the green axis that follows Suzhou Creek, connecting with Buyencheng Park in the West and spreading extensively throughout this area, which is one of the three main axes within the green system proposed in the current Shanghai Metropolitan Plan 2020 - 2040. We propose to continue this green system up to Suzhou Creek; the current regeneration of the river will complete and intensify this ecological system in Shanghai.

An urban zipper

As an urban zip, this project unites the surrounding urban fabric, which today is completely isolated. This operation will involve the design of borders between the intervention area and adjacent areas, but the continuity of the transversal pedestrian paths will also play an important role, linking the project to the rest of the city.

On the South Rim, Tianmu East Road would be pacified to form part of the linear park; this street would have additional commercial and business uses, located under a covering structure and also at the lower levels of the new urban area which will be created in front of the park.

On the northern edge, the reorganization of the original district will result in the creation of a new technological campus with associated residential buildings. This new use will not only act as a filter between the park and the city, but will also integrate the pre-existing buildings. Additionally, we propose a new street parallel to the park which crosses the technological campus, in order to facilitate access to the park's facilities.

With these strategies, we aim not only to link the North and South, but also to encourage longitudinal connections.

一个新的中心

作为一个新的中心，我们打算将闸北新中心转化为上海多中心体系中的第一梯队。一方面，该中心将通过三条主干道(南北高架路、西藏北路和宝山路)与其他中心相互联系，并延续至老城中心，同时穿过黄浦江连接2010上海世博中心。另一方面，闸北新中心将通过世纪大道与浦东金融中心建立一个延伸的视觉联系。

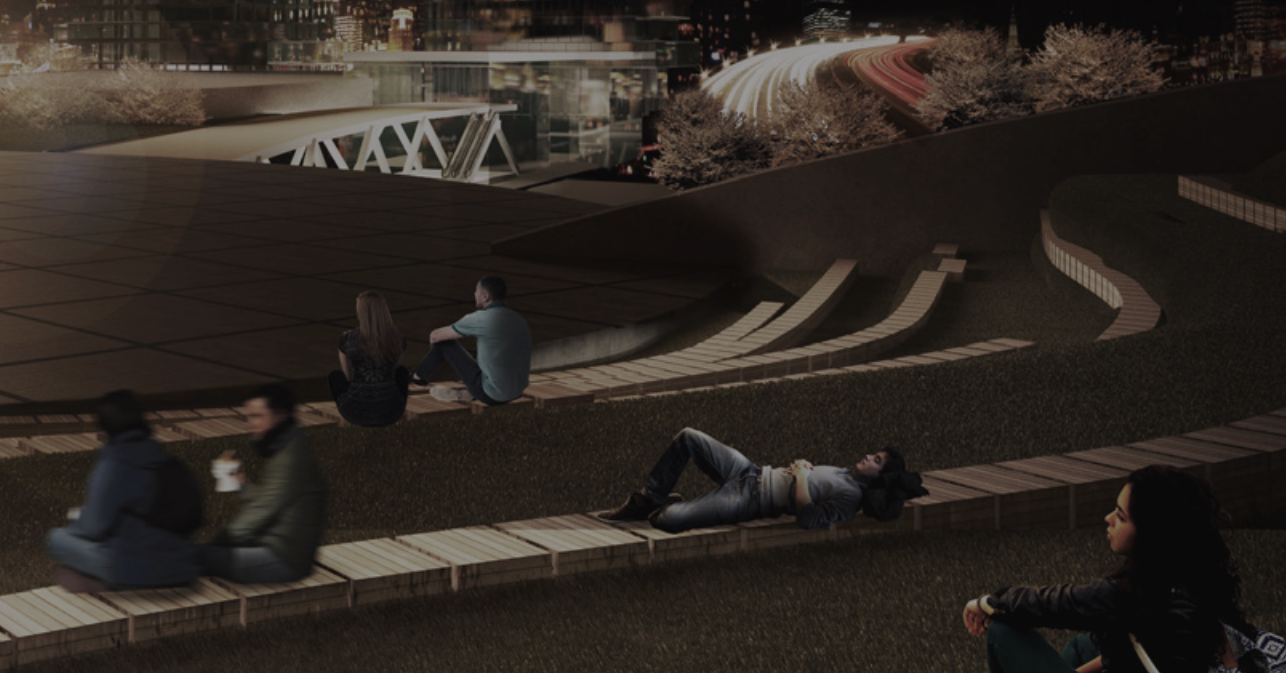
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一个多功能公园

作为一个公园，此区域将会转化成一个为所有市民设计的用于娱乐的空间。(此区域将会转化成所有市民的娱乐场所)一个你既可以散步又可以休息的地方，拥有一系列的休闲、体育和文化设施。这个线性公园将会在覆盖铁轨的混凝土路面上从南北高架路向宝山路延伸。我们将在不抵达地下水位的区域将铁路从西藏北路向东逐渐掩埋。因此，此区域将与宝山路地铁站附近住宅处于同一高度。

在大都会的尺度上，这个公园与西边的不夜城公园以及周围辐射区域将沿着苏州湾连接成一条绿色轴线，此轴线也正是上海大都会绿地系统规划中的三条主轴之一，我们将这个绿地结构延伸至苏州湾。这样，上海的生态系化统将被完整的强化。







上海国际招标有限公司

Downtown area. Proposal

市中心。提案

3. CONCEPT + DESIGN ELEMENTS

3. 概念+设计元素

Facing the growing multiplicity of uses within the city, the idea of an urban park no longer corresponds to its traditional concept which has historically been linked to the idea of a bucolic garden in which to saunter for contemplation and rest. Today, this idea causes increasing controversy due to new demands that need to be satisfied and therefore in our design process, we have taken into account the benefits of hybrid spaces, which satisfy a variety of requirements simultaneously. In our proposal, we have mixed the different concepts of infrastructure and city, infrastructure and landscape, architecture and park. These complex structures are designed to integrate specific activities, and are also defined by their uses - free space, urban connectors and landscape components.

Conceptually, the project involves a double logic - lengthwise, it is understood as a combination of five types of programmed elements, but in cross-section, it is structured into six movement vectors, three of which work at a metropolitan level; the other three address the needs of surrounding neighbourhoods.

Movement vectors [3+3]

The three axes identified in the metropolitan analysis - those that connect the intervention area with the rest of the city - play a key role in our proposal. In relation to each axis, and both the Central and Baoshan stations we take advantage of the slanting gradient generated by the proposed covering structure to provide parking. In addition, we propose a third

面对如此多样的用途与场地情况，这个城区公园早已超越了它原本的概念。理念上原本只是用于休息和漫步的绿地，现在为了满足项目的需求，衍生出了许多争议。当我们开始设计公园的时候，我们需要在满足项目需求的同时考虑混合区域的经济利益。我们需要讨论基础设施与城市的联系，基础设施与景观的联系，建筑和公园的联系。这些为整合一系列特定活动而诞生的复杂结构同时也确定了它成为结合城市与景观元素的自由空间的可能。

从概念上来说，这个方案是一个双重整合。纵向上，可看作是一个集合五种功能的整合体。横向上，可归为三条联系大都会和三条联系周遭的流向集合。

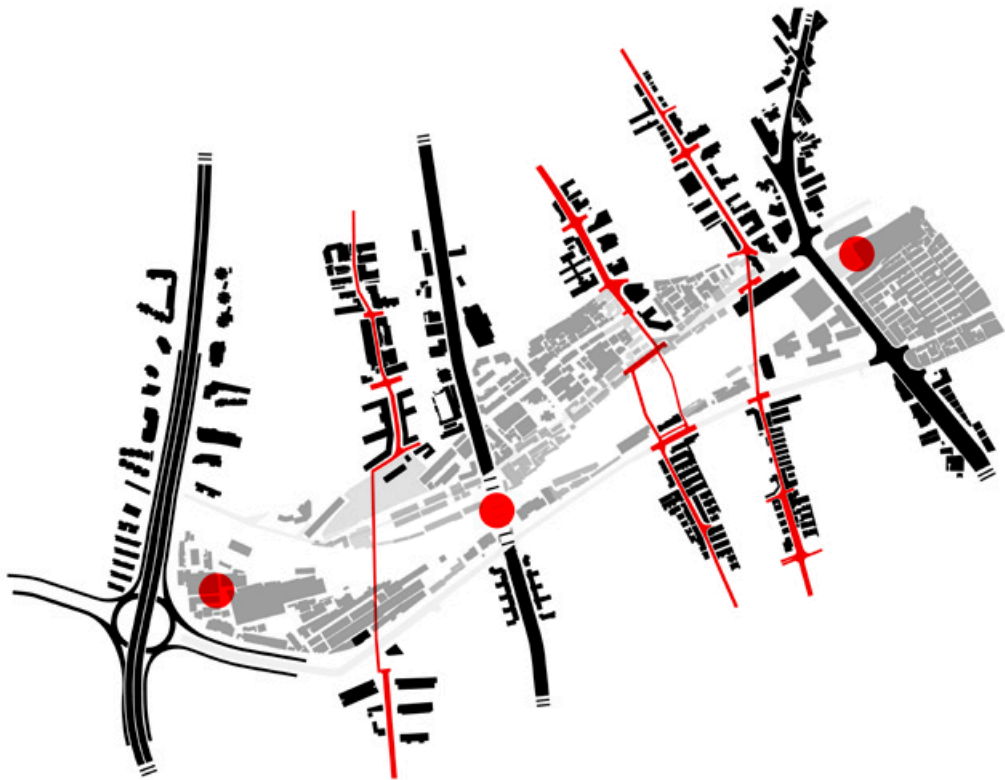
流向集合[3 + 3]

在大都会尺度的分析上，这三条轴线作为连接项目区域与城市的纽带在我们的方案中至关重要。在与每条轴线交界处，利用覆盖结构的斜度，我们排列出了一系列的停车场。另外，在与西藏北路的交界处，我们设计了一个新的地铁换乘站，三号线、四号线和八号线在此串联。总而言之，我们的方案与上海的基础设施紧密相连，在大范围内打开了可能的联系的同时，解决了停车位短缺的问题。

在该区域的尺度上看，我们在这三条纵向穿越铁道区域的轴线上延伸出了三条人行道，以缝合片两边被断开的区域。

标题元素[5]

联系到该公园的主要用途以及可能的使用者，这五种元素零星散布在这片地域上。它们之间的联系将由一些连续的不



station conceived as a HUB between the lines 3, 4 and 8 as well as the Xizang North Road; this proposal is firmly linked to Shanghai's infrastructure, opening up a whole new range of possible connections in terms of mobility, and providing an active solution to the current lack of parking area.

On a local scale, by transversely crossing the space occupied by the railways, we extend the existing roads to configure three pedestrian axes stitching both sides together.

Programmatic elements [5]

Concerning the functionality of the proposal, we have focused on five programmatic elements that spread across the intervention area as 'lava', and the links between them will form a continuous and amorphous mesh.

定形的拼接实现。

五个元素(如同中华传统文化中的五行)分别是:

- 自然。可理解为绿地结构,这正是定义此方案的元素,同时也为未来上海大都会绿地系统规划提供了一个更有利的联系。
- 交通运输。上海站,宝山站以及新添加于西藏北路的中转站将会成为交通枢纽。项目设计出的停车场也将会强化其综合运输能力并为实现更多附加功能提供可能性。
- 商业贸易。两个具有凝聚性和辐射性的商业中心(一个由市场改建,另一个是新建项目)被设计在公园的两端。
- 休闲娱乐+体育运动。在基本相对等距的前提下,一系列剧院,酒吧,餐馆,俱乐部和体育中心等设施将被系统的配备在这片区域。
- 文化设施+高新产业园。一个相似的模式,高新专业校区,室外舞台和展览馆将汇聚于此。

These five elements, like the five traditional elements in Chinese culture are:

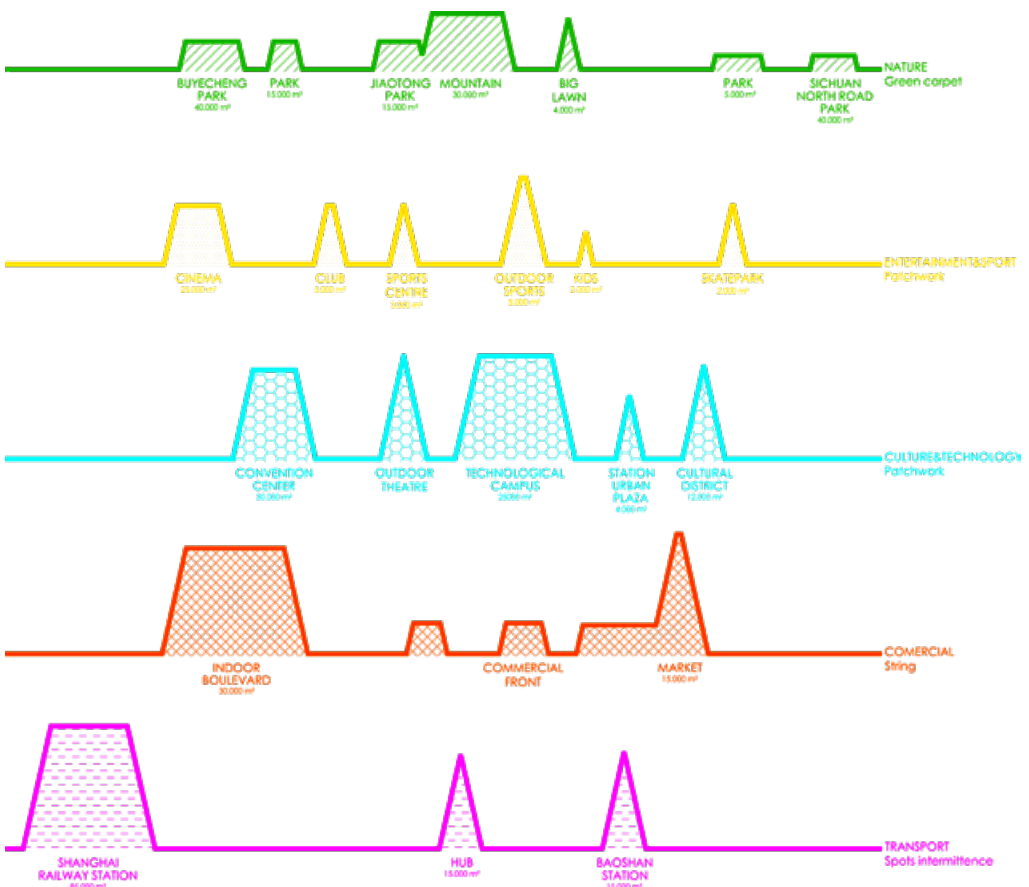
NATURE. Understood as a green structure, giving identity to the proposal and unifying the project while allowing a better connection with the park system.

TRANSPORT. Shanghai Railway Station, Baoshan Station and the new HUB station over Xizang North Road would act as nodal points of attraction for metropolitan flows. The planned car parks will reinforce this intermodal function and will thereby fulfil the needs of the new functional program.

COMMERCE. Based on the attraction generated by the two polarities located at the ends of the park (one is the renovation of an existing market and the other is newly built) and the commercial axis that connects them.

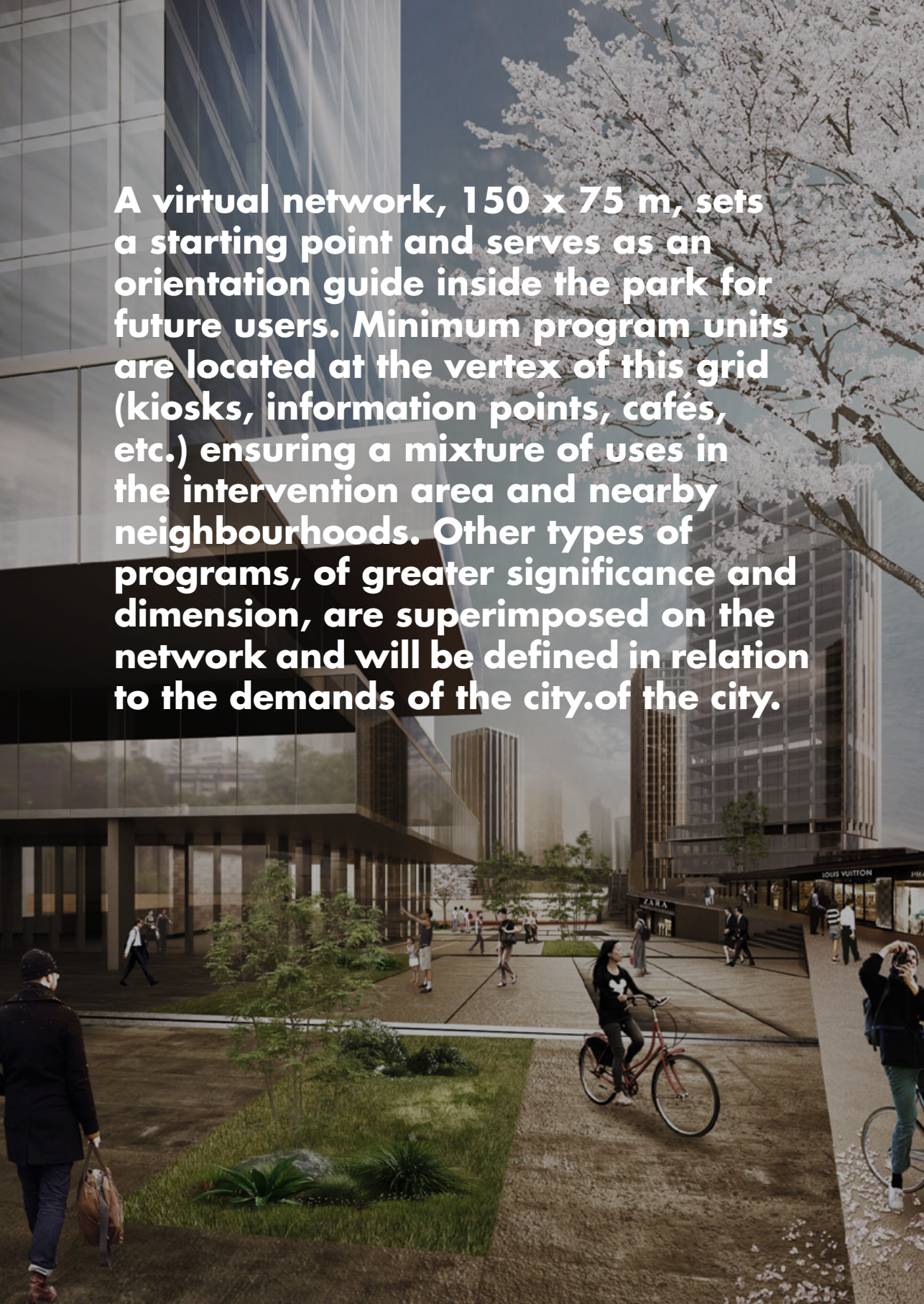
The following facilities are located according to systematic and equidistant logic: theatres, bars, restaurants, clubs, sports centres, etc. which will form the **LEISURE + SPORTS** function.

CULTURE + TECHNOLOGY will adopt a similar logic. In this case, providing a technological campus, several outdoor stages, a convention centre, etc.



HYBRID PROGRAMMATIC DIAGRAM: Urban mixity, complexity and intensity
混合程序图：城市混合，复杂性和强度

A virtual network, 150 x 75 m, sets a starting point and serves as an orientation guide inside the park for future users. Minimum program units are located at the vertex of this grid (kiosks, information points, cafés, etc.) ensuring a mixture of uses in the intervention area and nearby neighbourhoods. Other types of programs, of greater significance and dimension, are superimposed on the network and will be defined in relation to the demands of the city.



4. PROJECTS UNITS

4. 设计单位

The project attempts to provide a strong urban identity in Zhabei. One of the components of this identity is based on the diversity and mixture of the urban program, reinforcing the hybrid character of the whole.

Subordinated to the design patterns explained in the previous section, we identify seven project units. These are unique elements inside the project, which are parts of a whole that respond to and are articulated by a superior logic.

In terms of economic feasibility, linked to the phases of development, each unit has been conceived as valuing the right balance between the public and private terrain. As a result, private investors may become responsible for the cost of public areas next to each of the units.



此方案致力于建设出闸北区的新地标。多样性的强化与混合就是实现这个目标的要点之一。

如同上一个章节所阐述，根据其设计模式，我们将该项目分为七个部分，他们之间相互独立存在，但其总体遵从于一个宏观逻辑。

依据阶段性发展的经济可行性，我们在每一个部分的公共面积和私有面积之间都思考出了一个平衡关系，因此，私有空间的投资者也可能需要承担公共空间的费用。

从西边到东边。



Promenade buildings

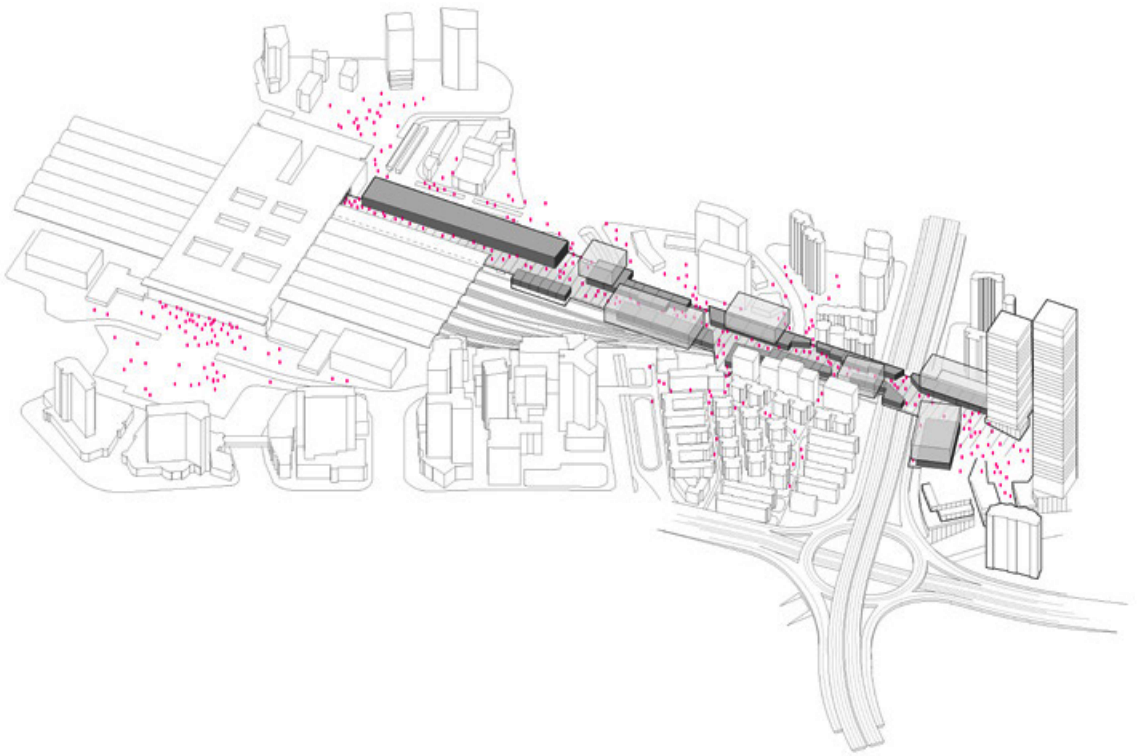
The correct relation between our project and the Shanghai Railway Station is essential. Due to the strong attraction and the high number of passengers, which will be generated, we need to create a solid link between the two sides. For this reason, we propose a large building that passes over the South-North Elevated Road and connects the station with the Downtown.

Conceived as a horizontal skyscraper, similar to L'Illa Diagonal in Barcelona, it will contain, among other programs, a shopping boulevard, cinemas and a convention centre. Overall, the complexity of the 'Downtown' with its direct connection with the Shanghai Railway Station ensures that we are proposing a new central focus in the Shanghai area.

分散的建筑

我们的设计方案与上海站之间的正确关系是。由于该项目将形成一个具有很强凝聚力的中心，我们需要在南北两面创造一个实体连接。根据这个需求，我们设计了一个穿越南北高架路的大体量建筑用于连接火车站与闹市区。

此建筑被设想为一个水平的摩天大楼，类似巴塞罗那的L' Illa Diagonal，这个建筑将会是一个集购物步行街，电影院和展览馆等其他活动为一体的多功能活动中心。总体而言，规划中的闹市区的复杂性以及与上海站的直接联系证实了我们的方案将形成上海的一个新中心。





Downtown

Downtown emerges next to the intersection between the North South Elevated Road and Haining. This area will have the highest level of activity and programmed density of the project. It is a superstructure conceived as superimposed platforms on different levels, which allow a smooth transition between the park, and city levels; on this podium occupied by public facilities, eight towers are proposed combining offices, hotels and residences.

The main feature of these towers is their associative condition. They are conceived as a group, which is part of a bigger unit, not as individual elements.

Intermodal Station + Mountain

In the central part of the intervention area, we plan an intermodal station connecting underground lines 3, 4 and 8 with both public and private transport coming from Xizang North Road. In addition, the access points to the park form the relationship between these infrastructures and pedestrians.

金融中心

该区金融中心位于南北高架路和海宁路的东侧，这里将会是此方案活动密度最高的区域。这些超高层建筑被设想为一级级上升的台阶，以形成一个从公园到城市的过渡。因此，我们设计了八座用于办公，酒店和住宅所用的摩天大楼在这片区域。

这些摩天大楼的主要特色是他们的集体性，它们为看作一个整体，而不是一个个单一的元素。

An artificial mountain covers the entire infrastructure, and so if the entire project has its climax in the downtown towers, the linear park has its own on this peak. In terms of execution, this could be constructed from the waste material from excavation and demolished buildings, covering the top layers with natural soil. This solution was proposed before the 1972 Olympics in Munich, showing the world how to reuse the debris of the buildings bombed during World War II.

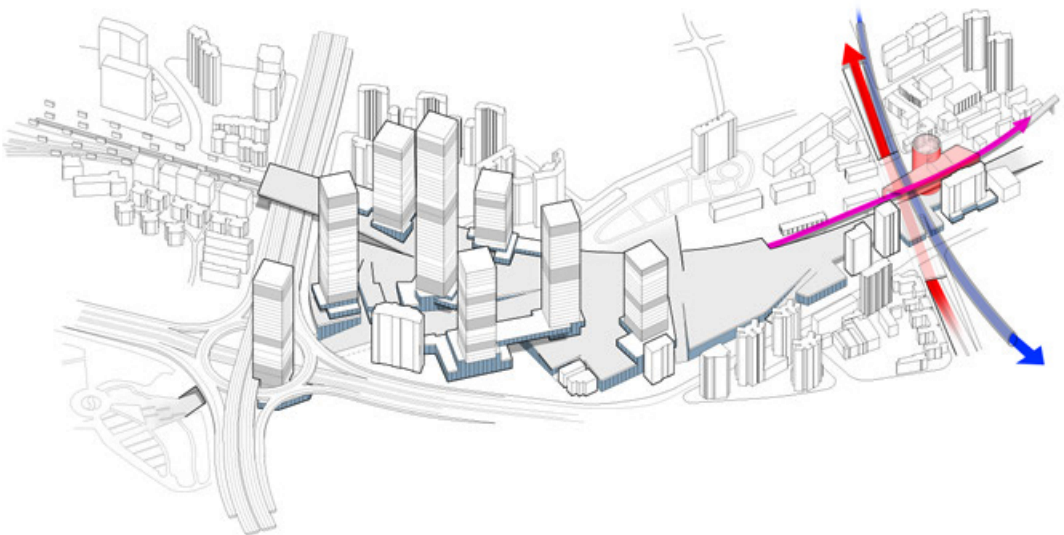
The hillside oriented to the park will have an 'area of opportunity' on its West side as if it were a Greek Theatre, which will have a series of grandstands able to accommodate a large number of people. Thus, the cultural mountain, the magic mountain or the mountain as a spiritual symbol will become one of the icons of the park, which will work as a stage for all kinds of shows and events, and as a viewpoint from which to observe the park and its surroundings.

综合交通中转站 + 山脉

在项目区域的中心部位，我们设计了一个综合交通中转站不仅用于连接地铁三号，四号及八号线，而且用于接收来自西藏北路交通。与此同时，提供一个城市级别的公园的入口并强化基础设施与行人之间的联系。

一座人造山脉将覆盖在整个基础建设之上。如果说整个方案的顶点是闹市区的摩天大楼，那么这座山脉将会是该公园的顶点。在建造方法上，我们会使用建筑拆除与土地挖掘时得到的剩余材料，并在其最表层使用自然土壤。这个方法取自1972年慕尼黑奥运会时给出的关于如何回收利用二战产生的建筑废墟的答复。

山脉的西侧将会产生一片凝聚区。好比一座古希腊剧院，将会凝聚人群于此。因此，这座文化山脉，魔幻山脉或者说具有精神象征的山脉将会成为该公园的标志之一，如同一个可用于所有活动的舞台附加上了可以观察整个公园和周围环境的视野。





Commercial Front

As we have said before, the partial pedestrianization of Tianmu Road will relocate some of its current traffic to Haining Road encouraging the creation of a commercial street on the southern edge of the Park; this will be an irregular facade, which will combine different shops and pre-existing buildings with ramps, stairs and elevators connected to the park level.

Technological Campus

On the North-East side, a new configuration of the urban fabric offers the opportunity to redefine the park's limits; a linear building system has been defined that reinforces the continuity of the new pedestrian axes by the generation of continuous new blocks containing a technological campus (Research + Development + Innovation, known as R+D+I) combined with residential units for the students and those residents who need to be relocated.

沿街商业区

就如同我们之间所说，天目中路的局部可步行化将会分担一部分车流至海宁路，促进公园南部的沿街商业步行街的形成。这条步行街将会汇集不同的商店，并用斜坡、楼梯与电梯将其与公园相连。

高科学院区

在其东北边，一个新的城市纹理的出现将为重新定义公园边界提供可能性。我们设计了一个线性建筑系统来强化新型形成的人行轴线的连续性。新的街区将会集高科学院区(研究+发展+创新，简称R+D+I)和学生宿舍为一体。

闭合的街区

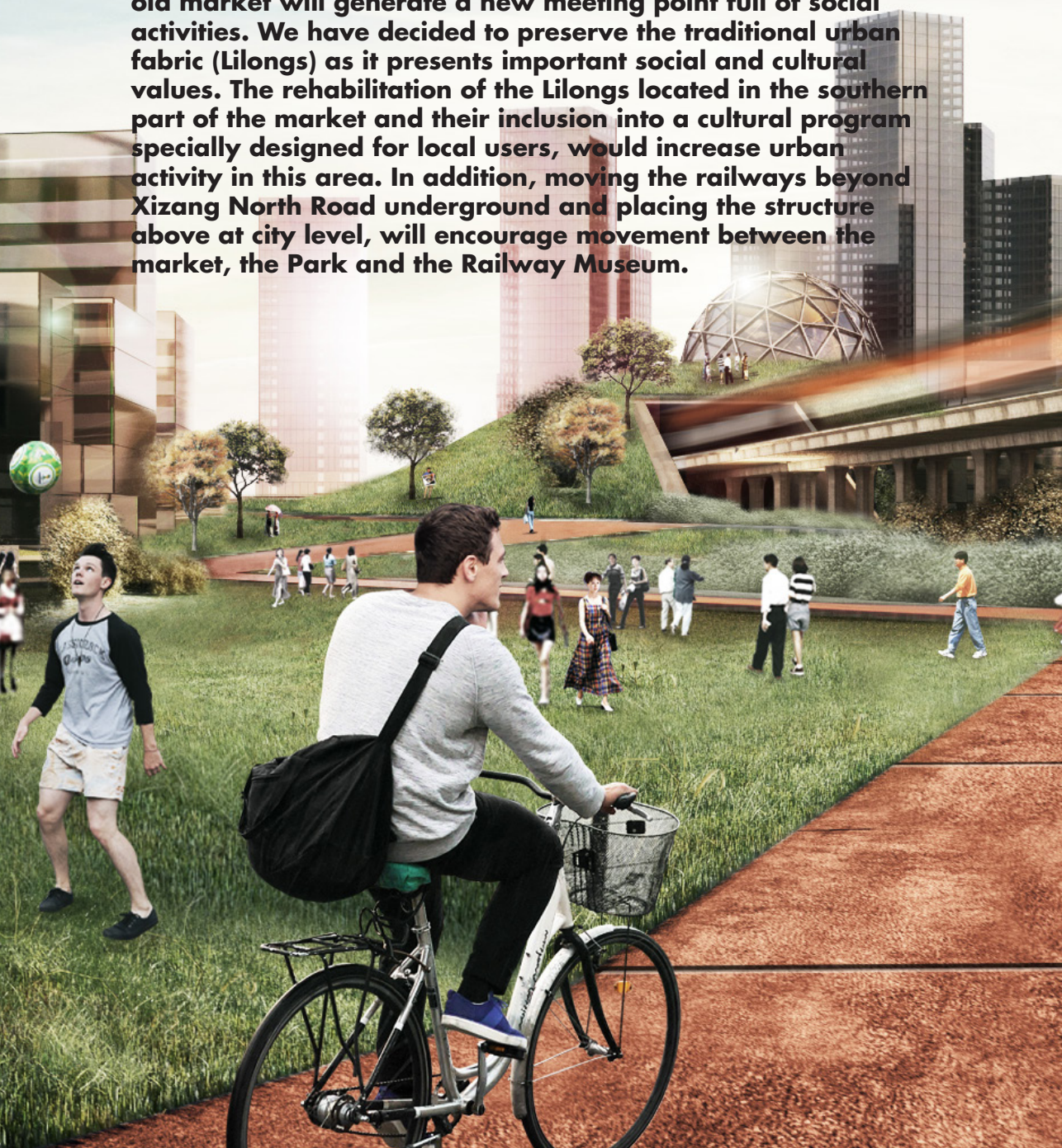
在东南边，我们设计了一个闭合的街区系统用于连接老建筑并为公园形成一个新的立面。

Closed blocks

On the Southeast part, we have designed a closed block system absorbing some of the pre-existing buildings and generating a new facade for the park.

Market

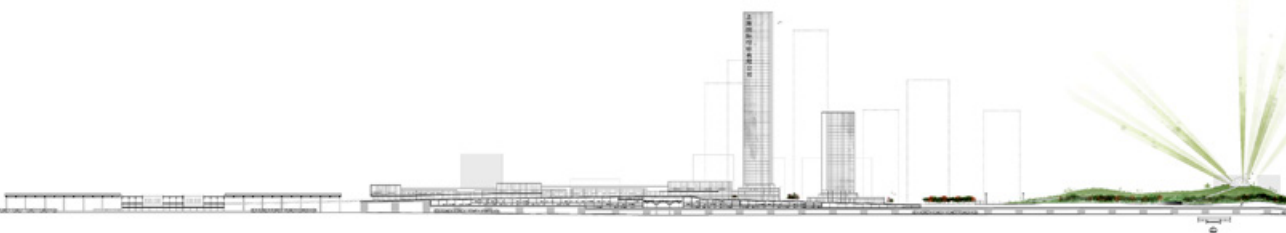
Along Baoshan Street, next to the metro station, a renovated old market will generate a new meeting point full of social activities. We have decided to preserve the traditional urban fabric (Lilongs) as it presents important social and cultural values. The rehabilitation of the Lilongs located in the southern part of the market and their inclusion into a cultural program specially designed for local users, would increase urban activity in this area. In addition, moving the railways beyond Xizang North Road underground and placing the structure above at city level, will encourage movement between the market, the Park and the Railway Museum.



市场

沿着宝山路到地铁站，老市场改造后形成了一个区域的凝聚区。我们思考了保存城市的历史纹理(里弄)的可能性。里弄的改建区位于老市场南部，包括一些专门为本地人设计以提供更多邻里活动的区域。另外，西藏北路之后下埋的铁道以及与城市水平的覆盖结构促进了市场、我们的公园、铁路博物馆以及周围环境的联系。



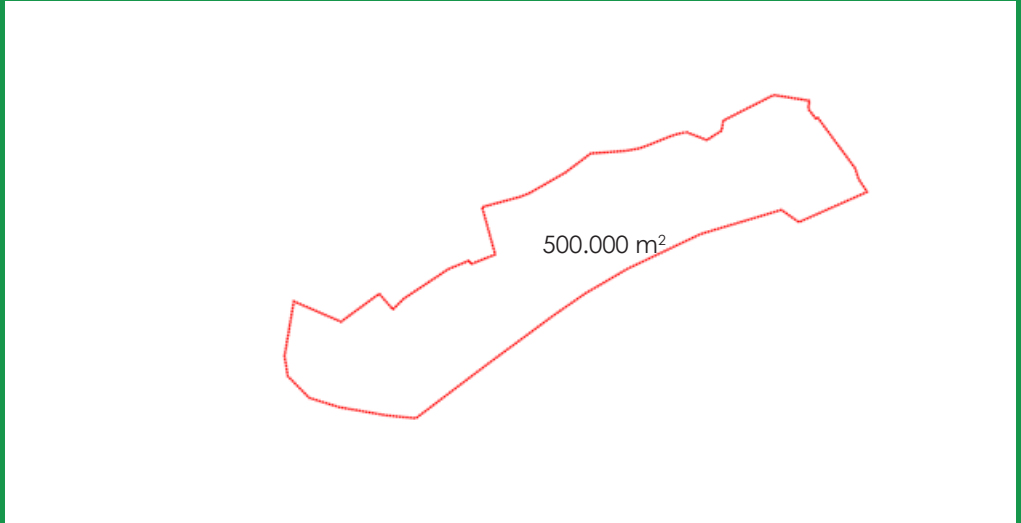




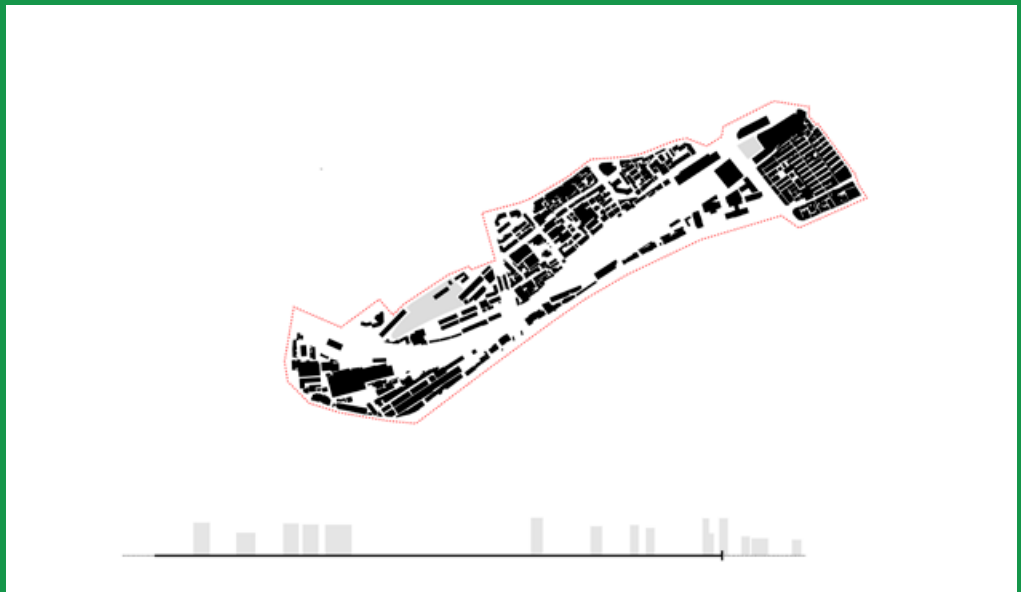


Urban strategies

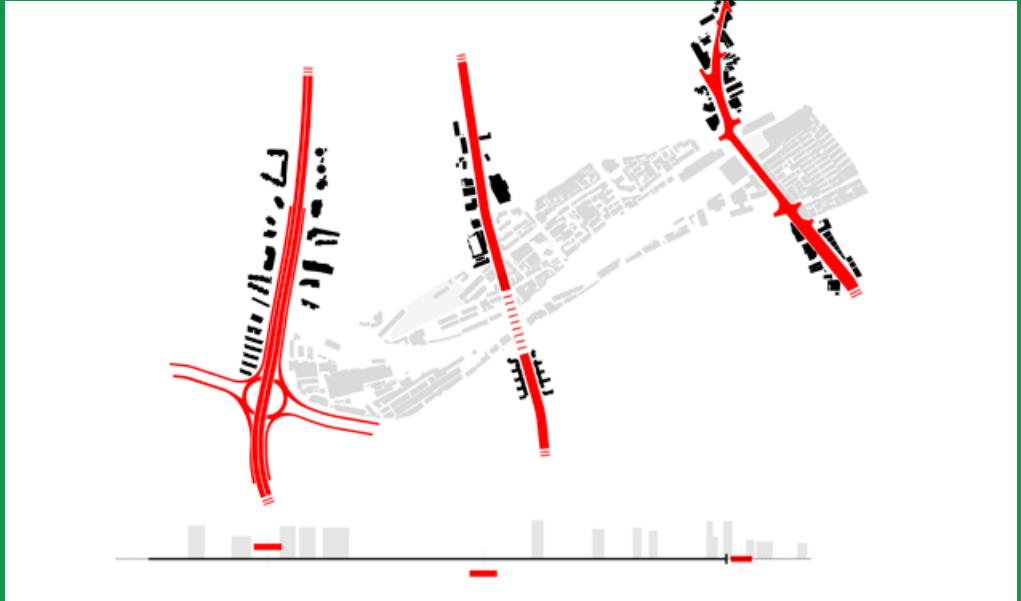
城市战略



INTERVENTION AREA
项目区域



RAILYARD AS URBAN FRACTURE
被铁路切断的联系



DETECT METROPOLITAN AXIS
 强调大都会轴线



ENHANCE LOCAL AXIS
 增强区域轴线



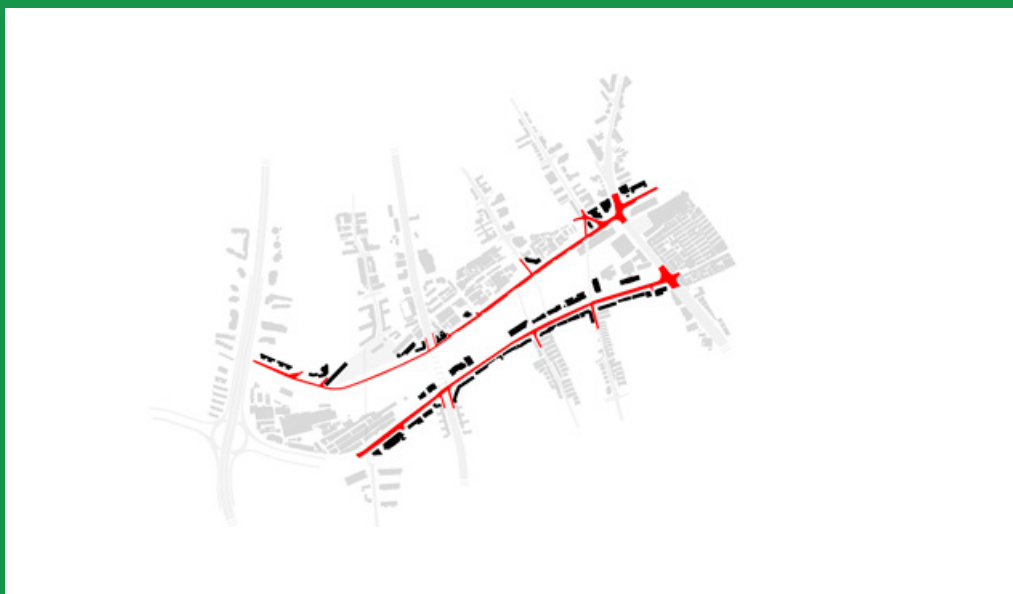
GENERATE PEDESTRIAN CONTINUITY
形成步行连接



ACHIEVE TRANSVERSAL CONTINUITY
形成纵向连接



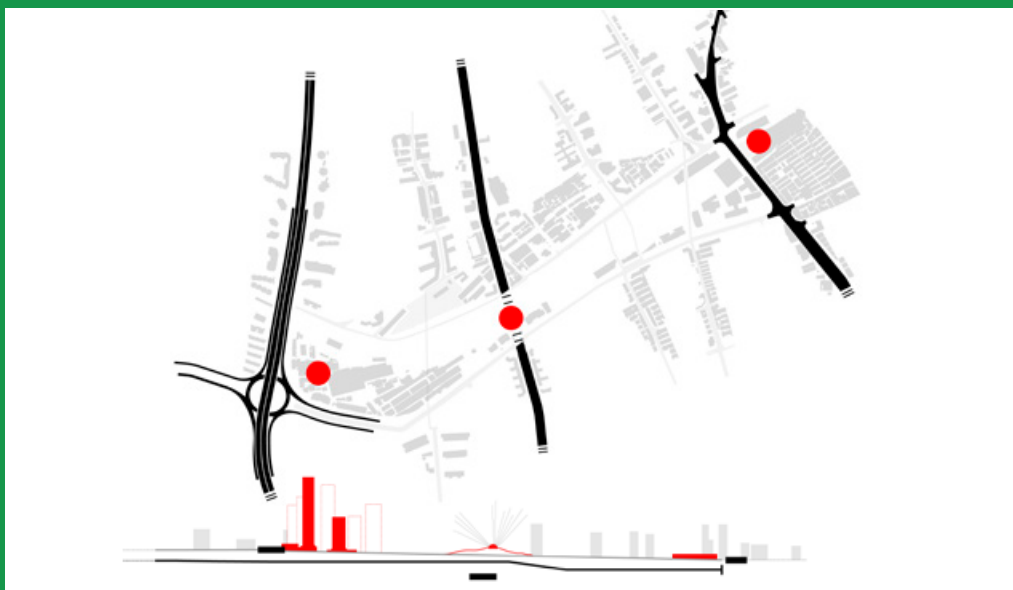
INTENSIFY ALONGSIDE MOVEMENTS
增强横向流动



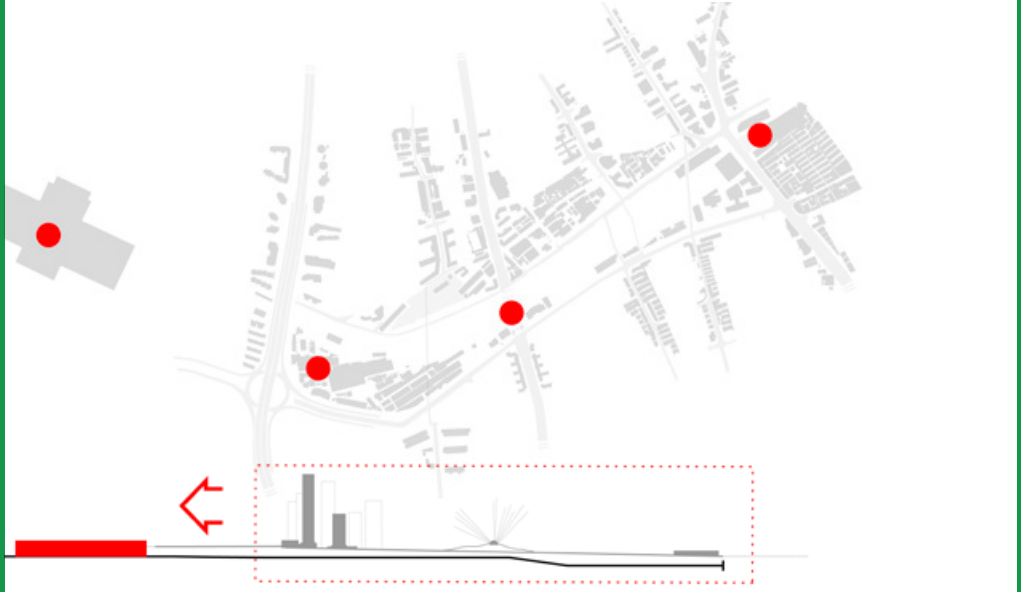
CREATE LONGITUDINAL AXIS
创造横向轴线



ESTABLISH NEW GRID
构建新的城市网络



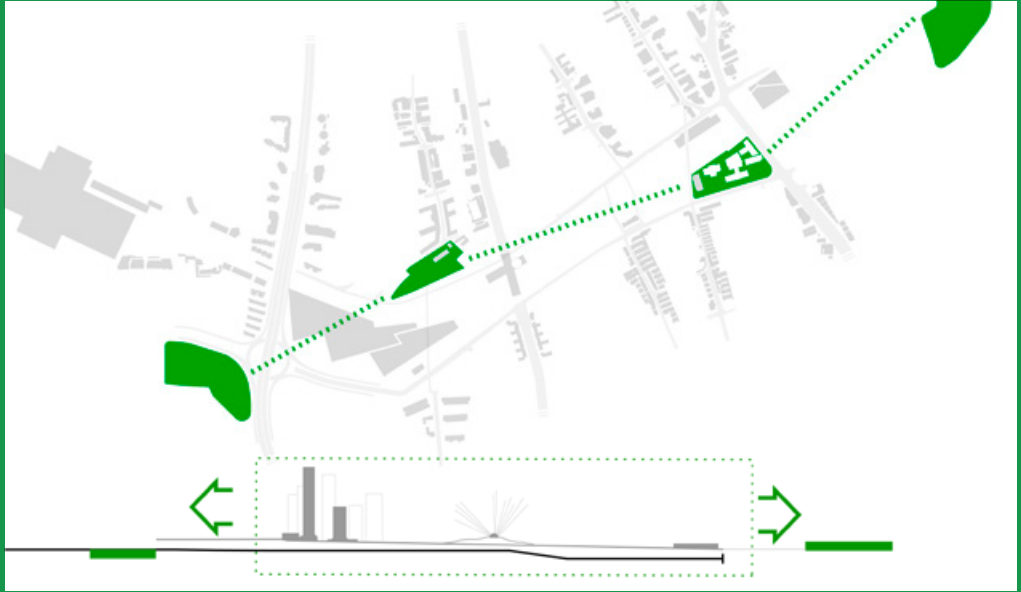
SET INTENSITY NODES
设置高密度节点



RECOGNIZE THE S.R.S. AS A MAJOR INTENSITY NODE
确定火车站为主要节点V



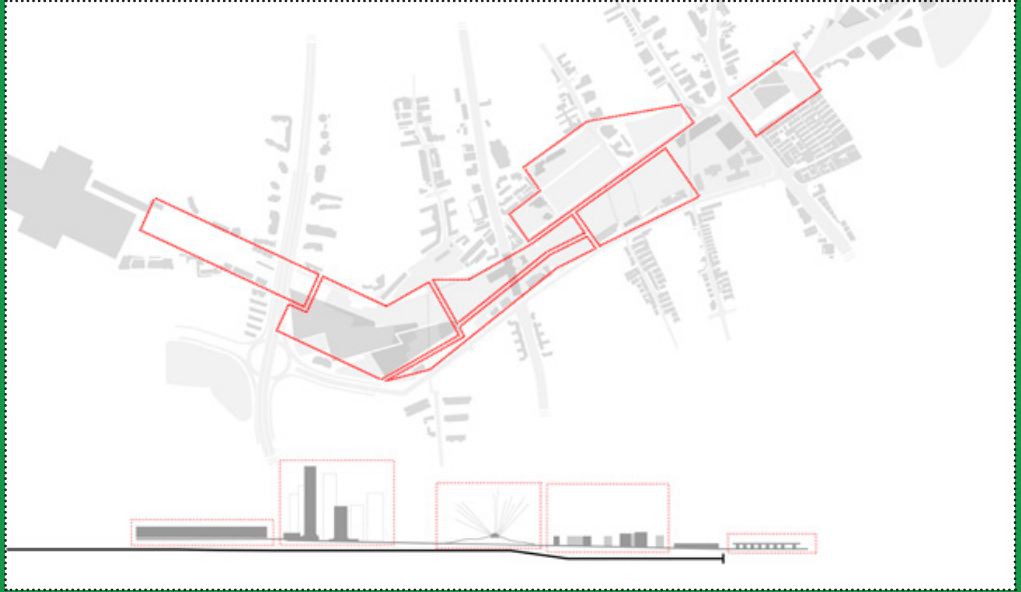
INTEGRATE S.R.S. CONFORMING A NODE SYSTEM
连接各个节点



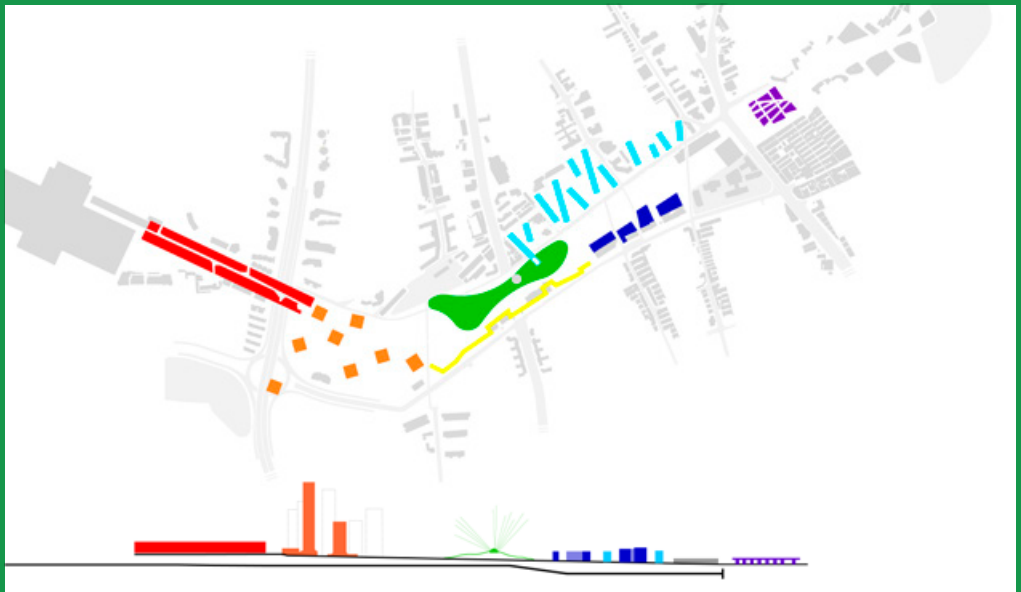
LINK PREEXISTING GREEN AREAS
连接现存绿地区域



ACHIEVE GREEN CONTINUITY
实现绿地连续性



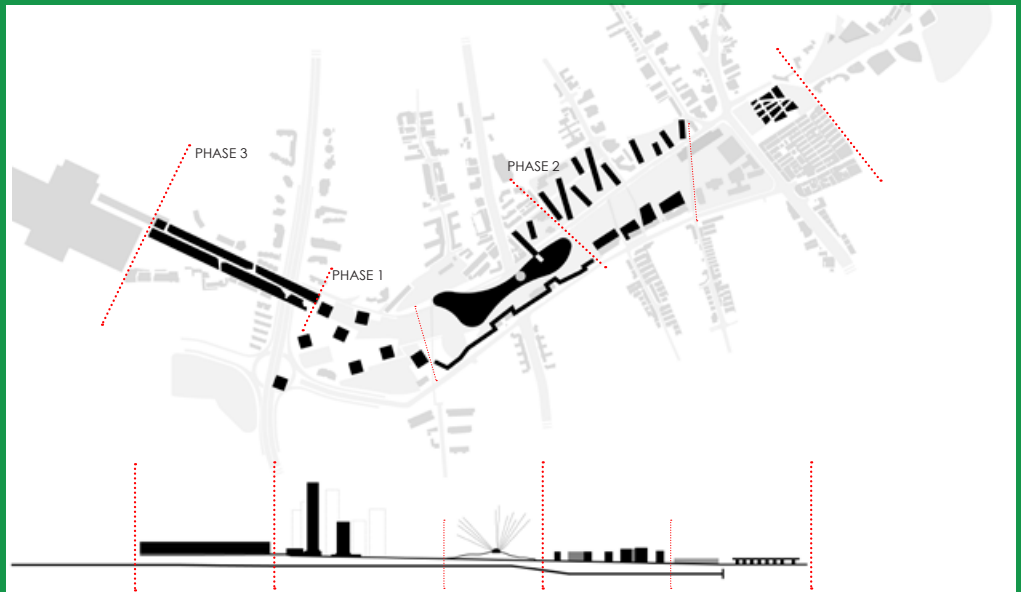
DIFFERENT AREAS
不同分区



DIFFERENT SOLUTIONS
不同解决方案



URBAN LINK
城市连接



IMPLEMENTATION PHASES
分步建造步骤

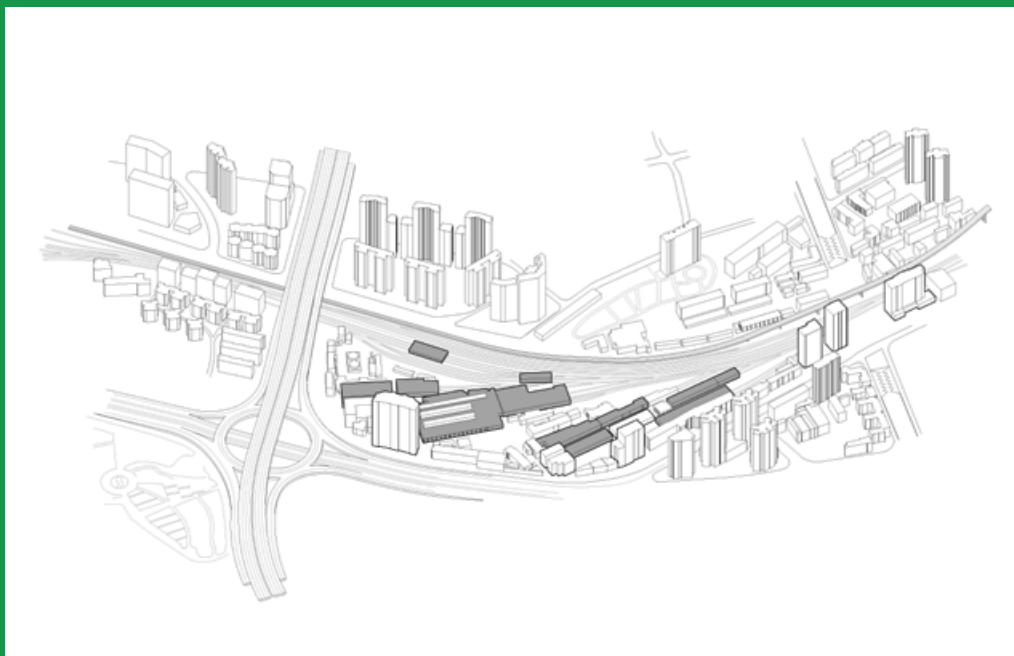


Phase 1

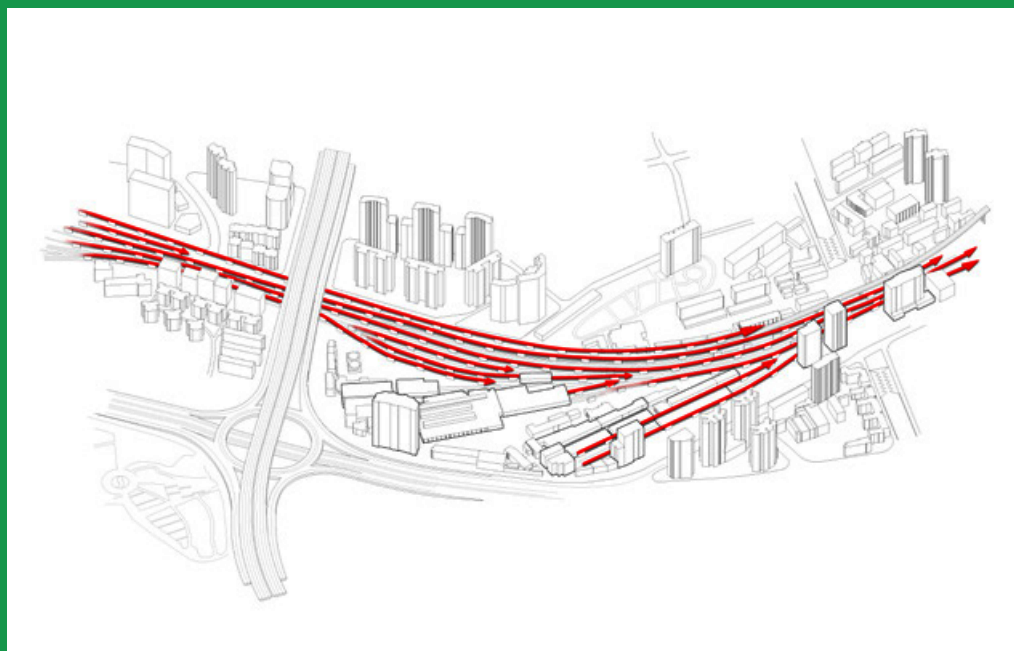
Downtown and Intermodal Station + Mountain

阶段一

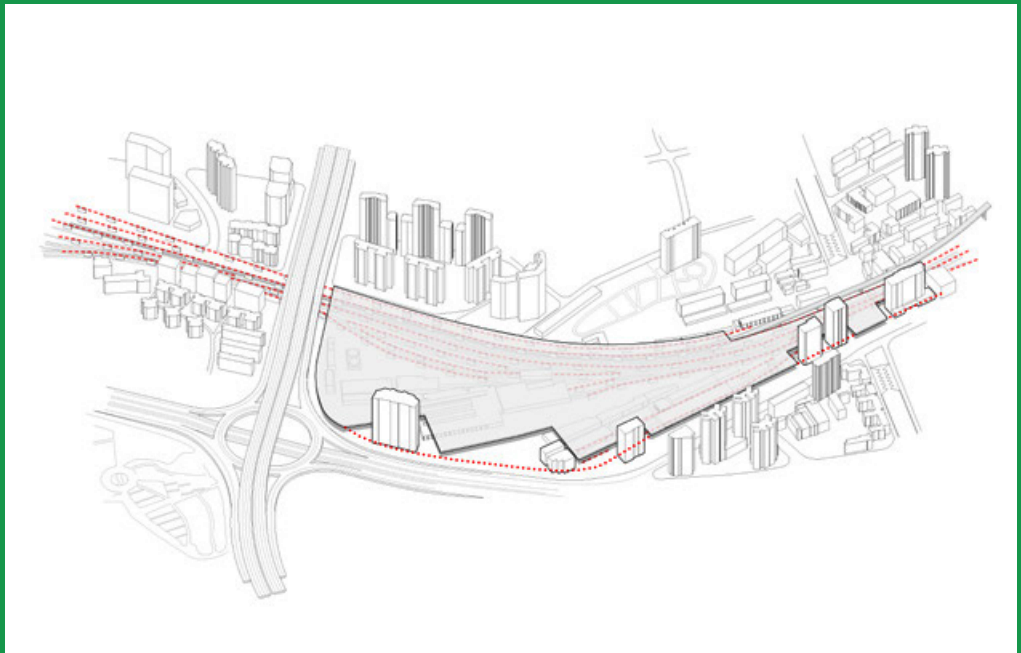
金融中心 综合交通中转站 + 山脉



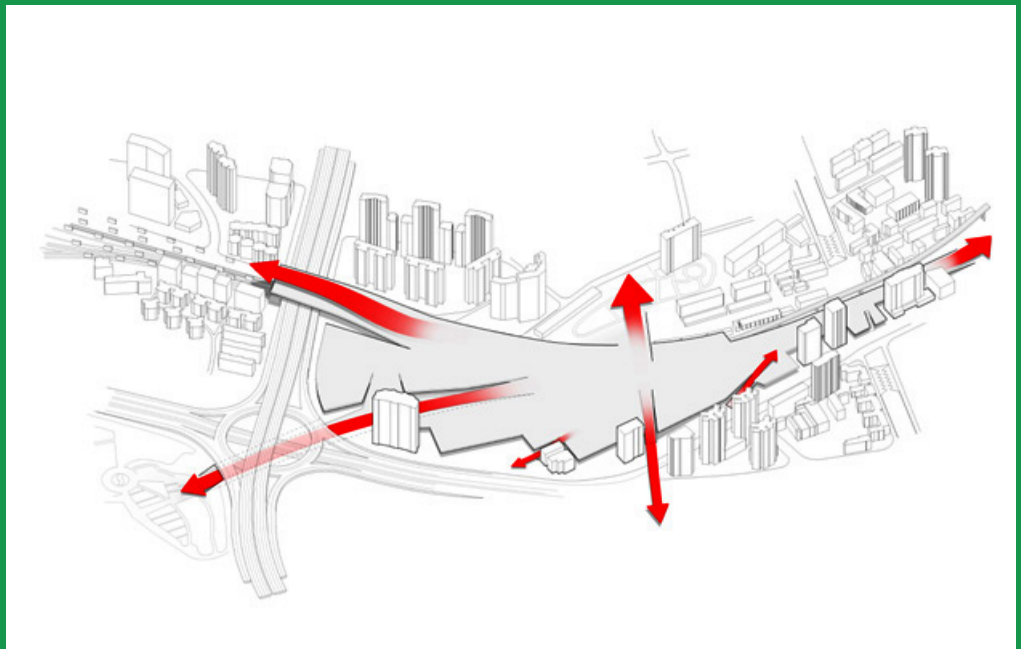
CURRENT STATUS
现时状况



FOLLOW THE RAILWAY STRUCTURE
沿着铁道布局



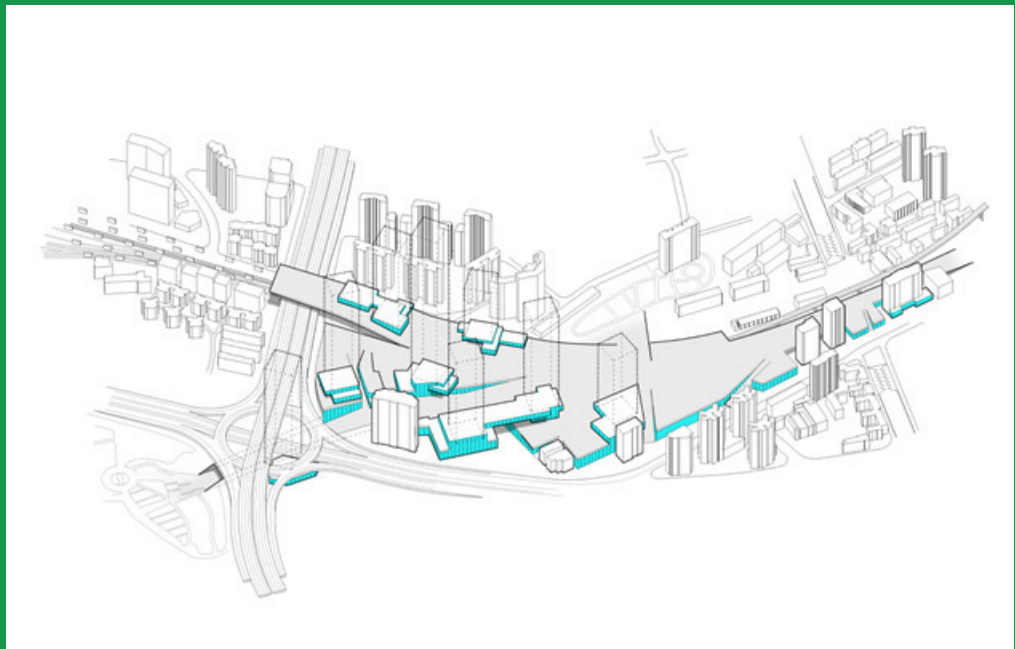
ESTABLISH A NEW PLATFORM
形成一个新的平台



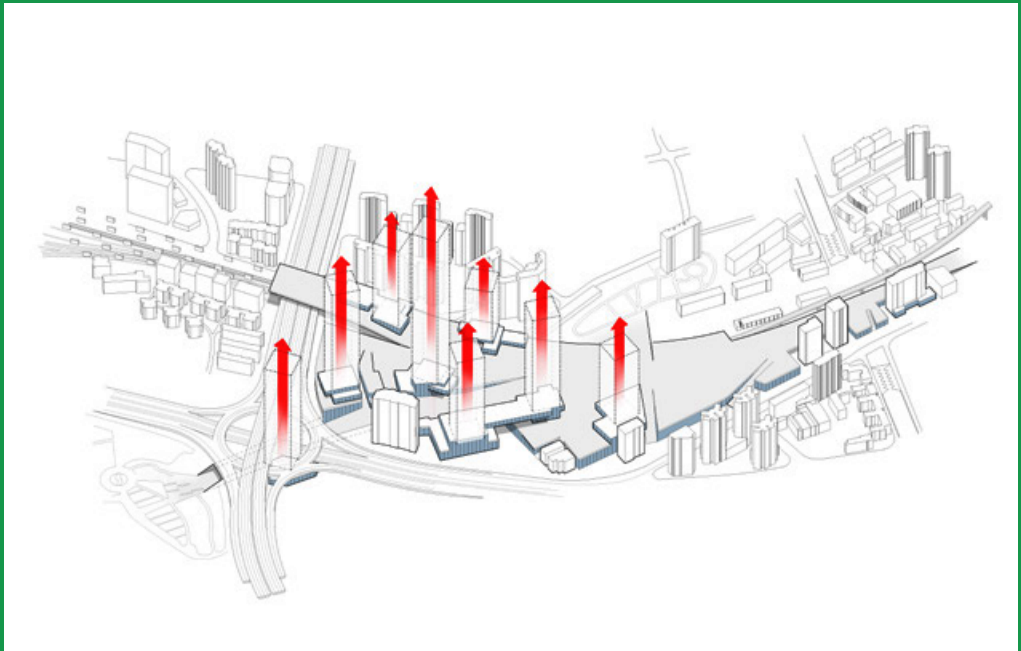
ESTABLISH CONNECTIONS WITH THE CITY
形成与城市的连接



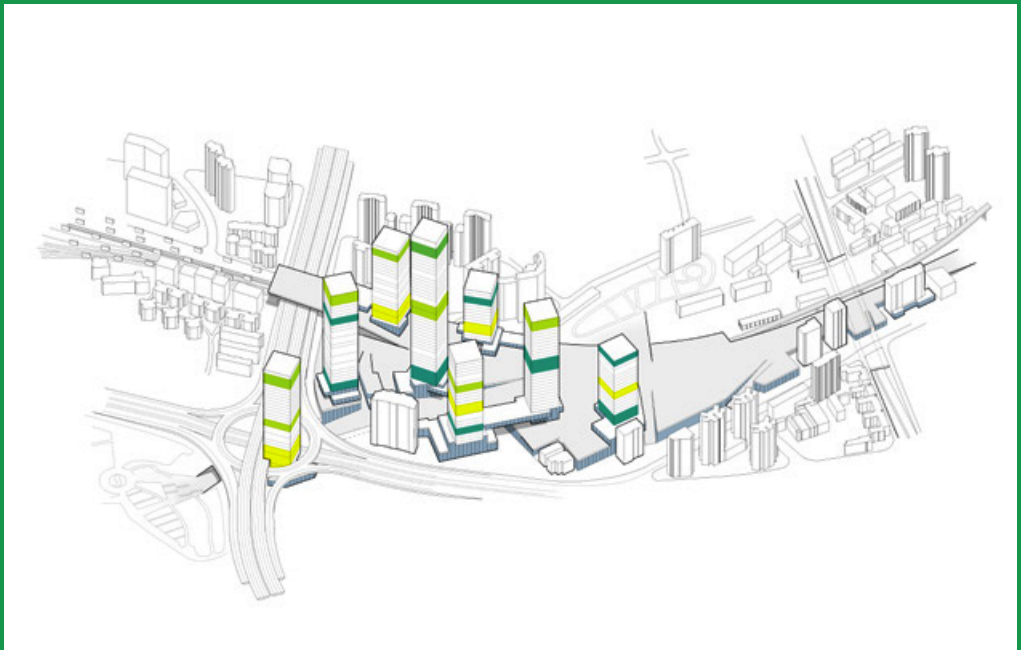
CONFORM A COMMERCIAL FRONT
形成沿街商业面



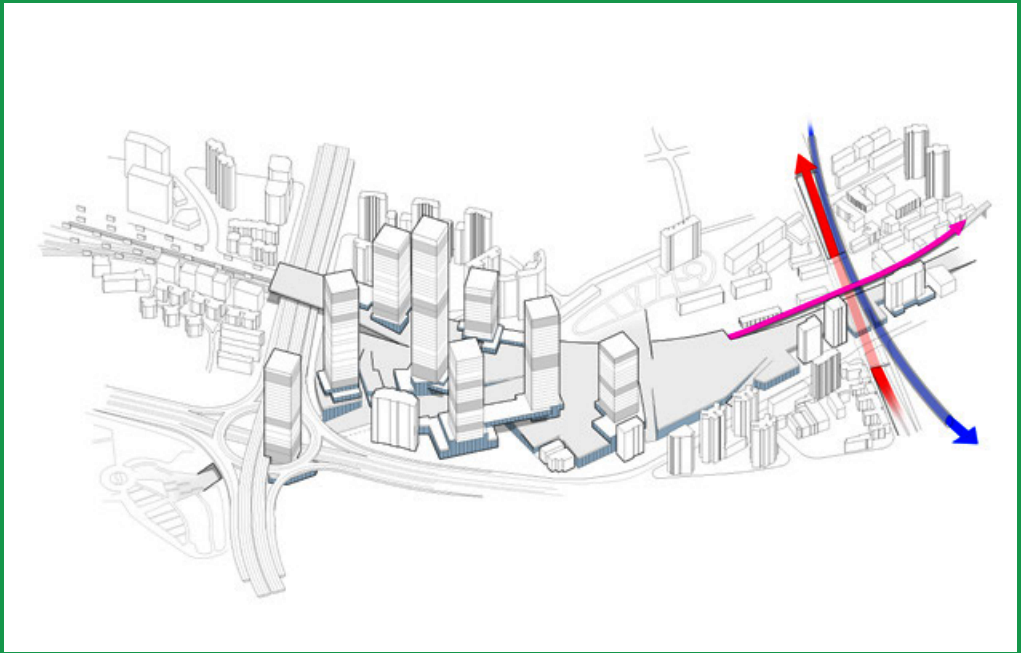
PROPOSE PROGRAMATIC PODIUM TO ENHANCE COLLECTIVE ACTIVITY
设计模块化区域以优化集体活动



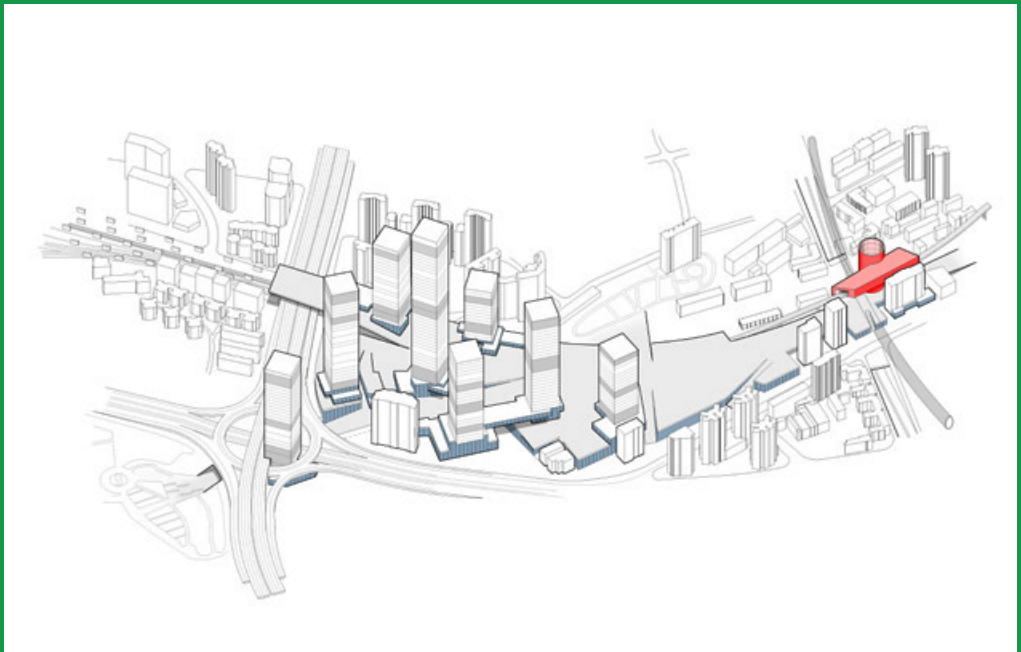
EIGHT TOWERS RISE
八座塔楼升起



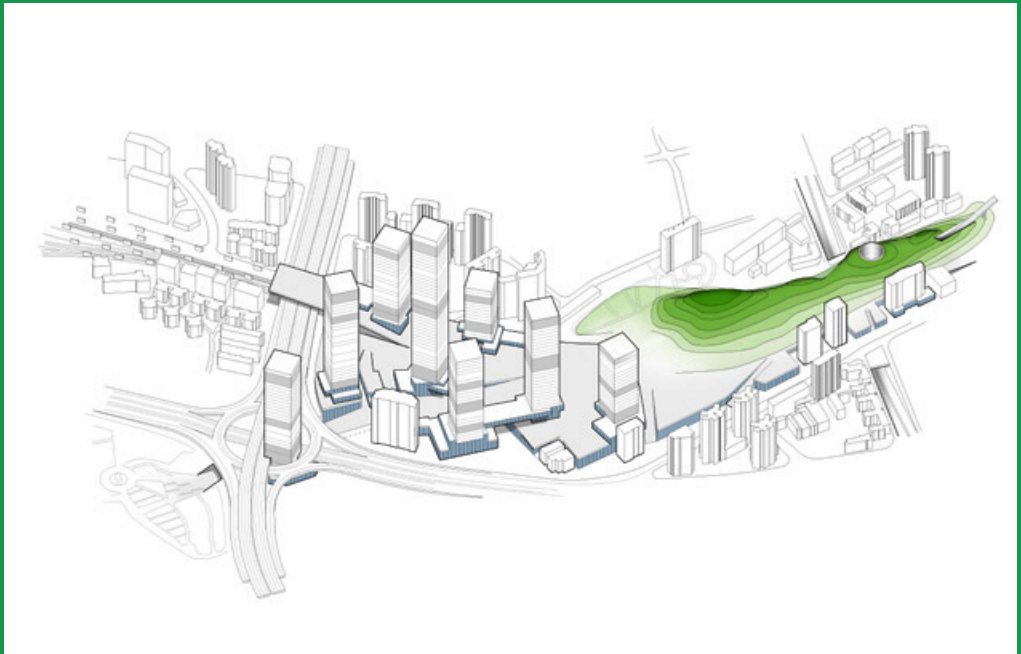
PROGRAM HYBRIDIZATION
程序化混合



INFRASTRUCTURE CROSSPOINT
基础设施建设交叉点



HUB TO ENHANCE INTERMODALITY
中转站优化道路



MOUNTAIN AS A SYMBOL
山脉作为象征



GREEN CONTINUITY IN DIFFERENT LEVELS
不同平面上的绿地连接



Phase 2

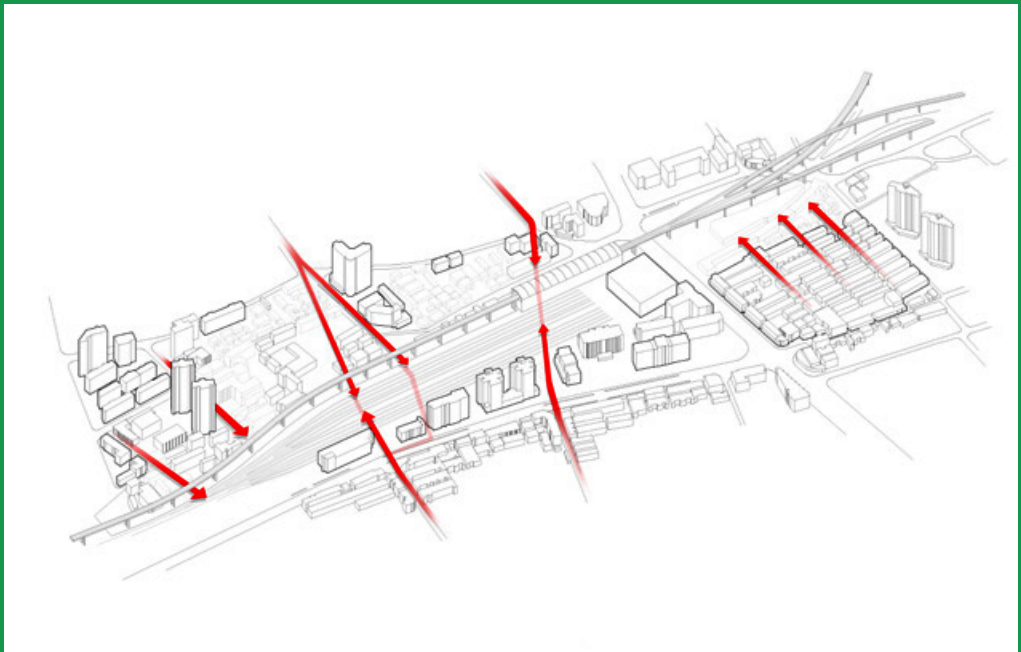
Technological campus, residential blocks and market

阶段二

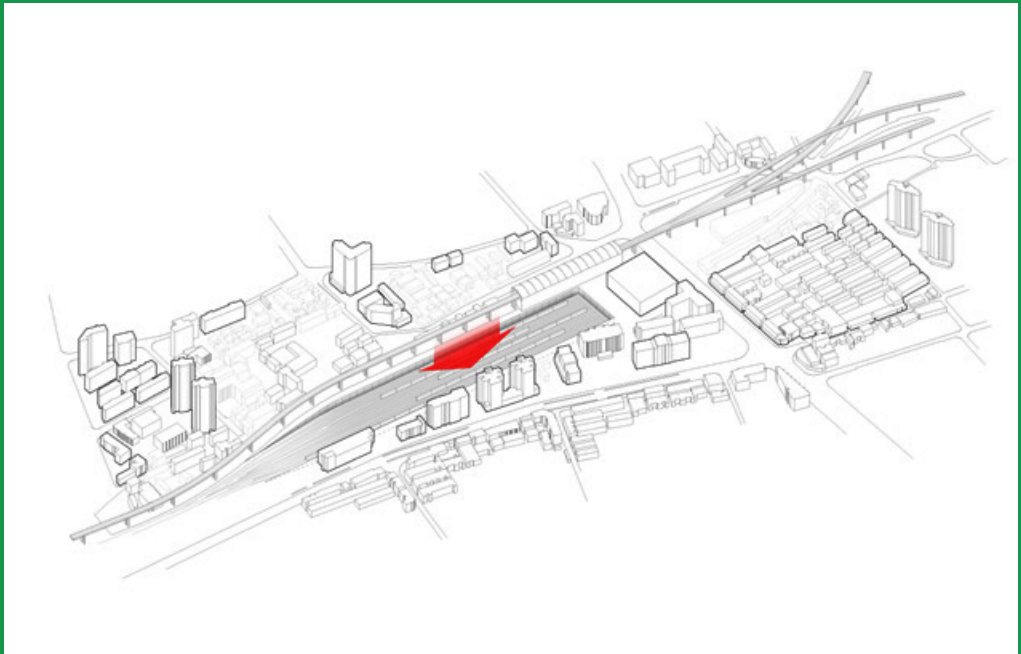
高科学院区，闭合的街区，市场



RAILYARD AS AN URBAN FRACTURE
被铁道切断的联系



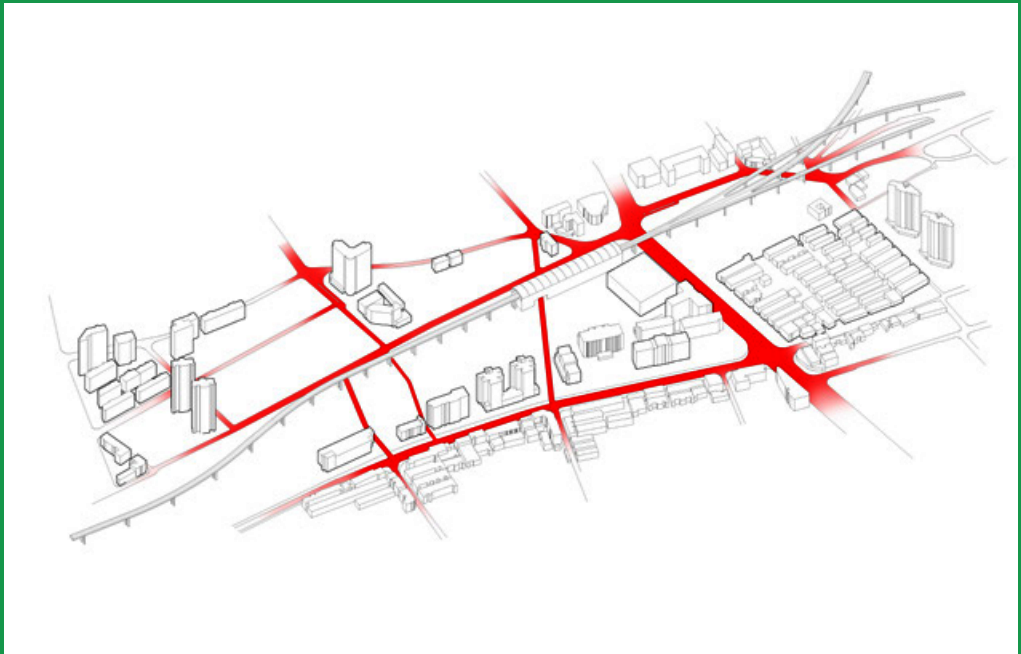
EXTEND EXISTING AXIS TO GENERATE TRANSVERSAL CONNECTIONS
延伸现存轴线形成纵向联系



PULL DOWN THE TRACKBED TO ACHIEVE CITY LEVEL
下沉铁道至城市平面



CONSOLIDATE LONGITUDINAL AXIS
巩固横线轴线



DEFINE A NEW URBAN GRID
定义新的城市网络



ESTABLISH POTENTIAL DEVELOPMENT AREAS
建立具有凝聚性的区域



BAR-CODE SYSTEM
条形街道系统



EXTEND LILONG GRID TOWARDS NEW MARKET
延伸里弄网络至新的市场



REORIENT BAR-CODE SYSTEM TO ENHANCE PERMEABILITY
重新定向条形街道系统以优化区域通透性



COURTYARDS RESPECTING EXISTING BUILDINGS
创造中庭，保留现存建筑



RESHAPE THE FORM FOR BETTER INSOLATION
重新定形以优化日照条件



GREEN CONTINUITY TO SEW URBAN FABRIC
绿地连接建立新的城市纹理

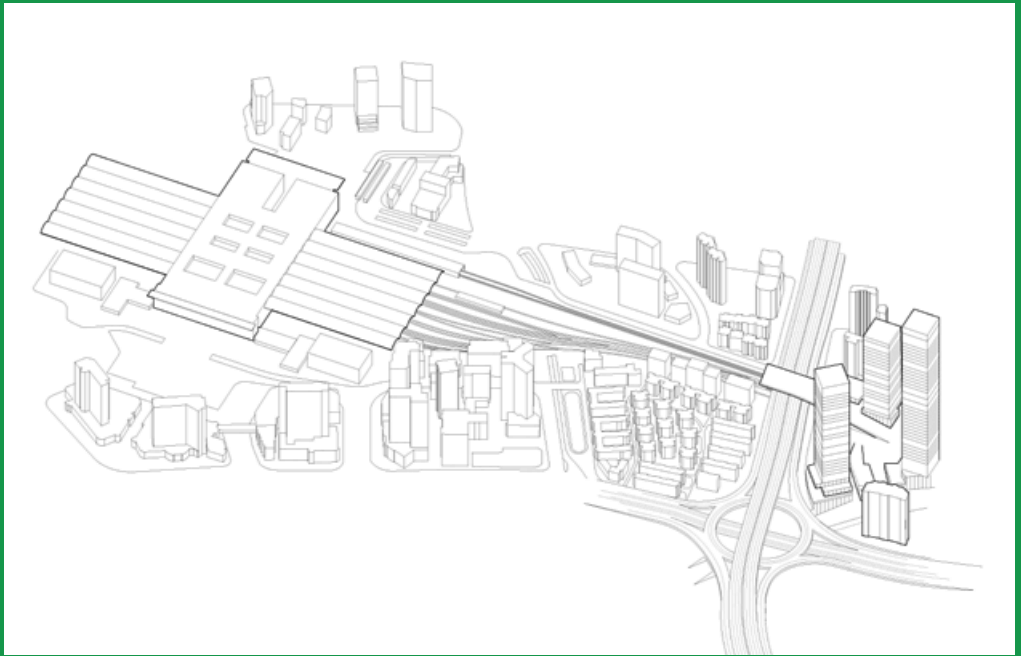


Phase 3

Commercial front

阶段三

沿街商业区



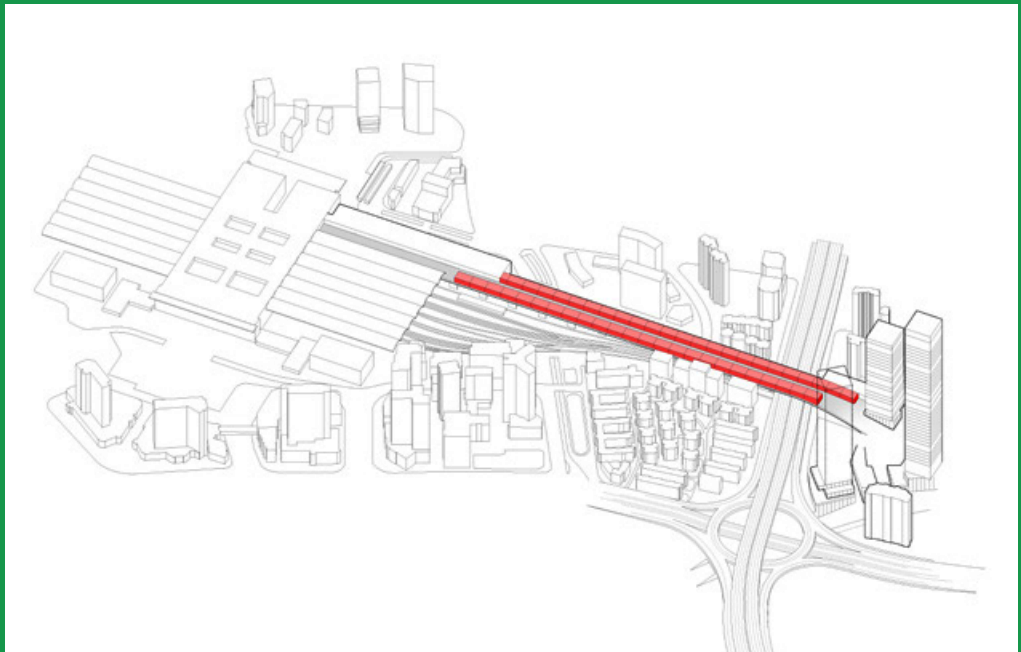
SHANGHAI RAILWAY STATION AS AN MAGNETIC POLE
火车站作为一个凝聚点



GENERATE LINEAL CENTRALITY
创造线性凝聚区域



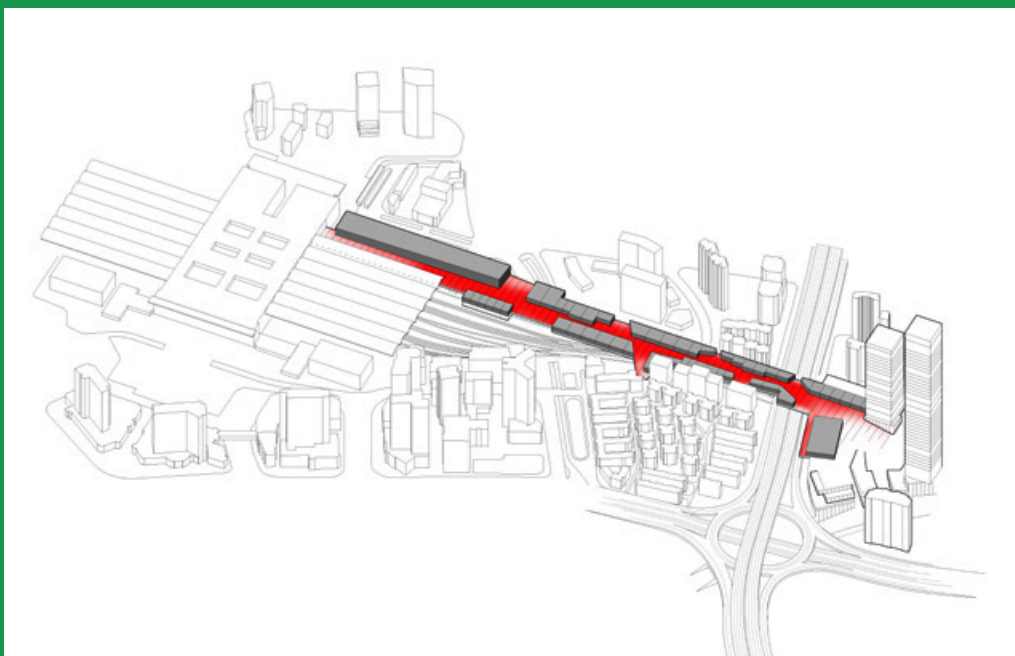
ADAPT COVER STRUCTURE
融入覆盖结构



INSERT PROGRAM
插入模块



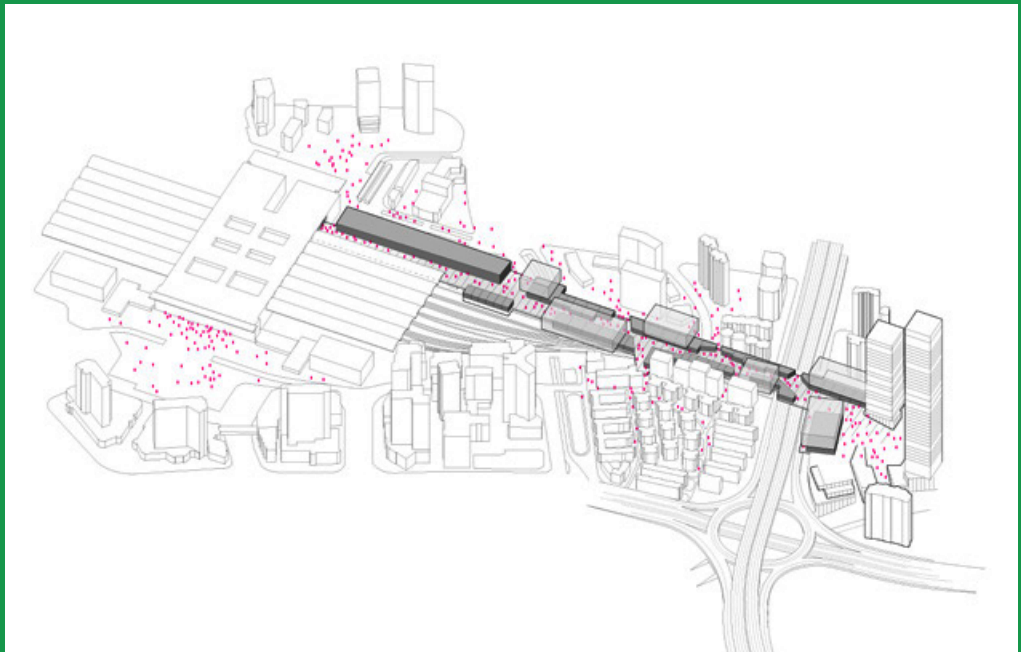
RECOGNIZE TRANSVERSAL CONNECTIONS
重铸纵向连接



RESHAPE THE PLATFORM
重塑平台



ADD BIG BOXES
添加大型模块



CONFORM INTERIOR BOULEVARD
塑造室内走廊

Urban metabolism

城市新陈代谢和可持续

DURABILITY

In order to apply the concept of durability to the proposal, it is essential to accurately examine the entire metropolitan area, its geography and primary structuring elements such as waterways, parks and green spaces. With regard to the competition area, we have paid special attention to its functional characteristics and its historical development in order to explore its capacity to provide for diversity.

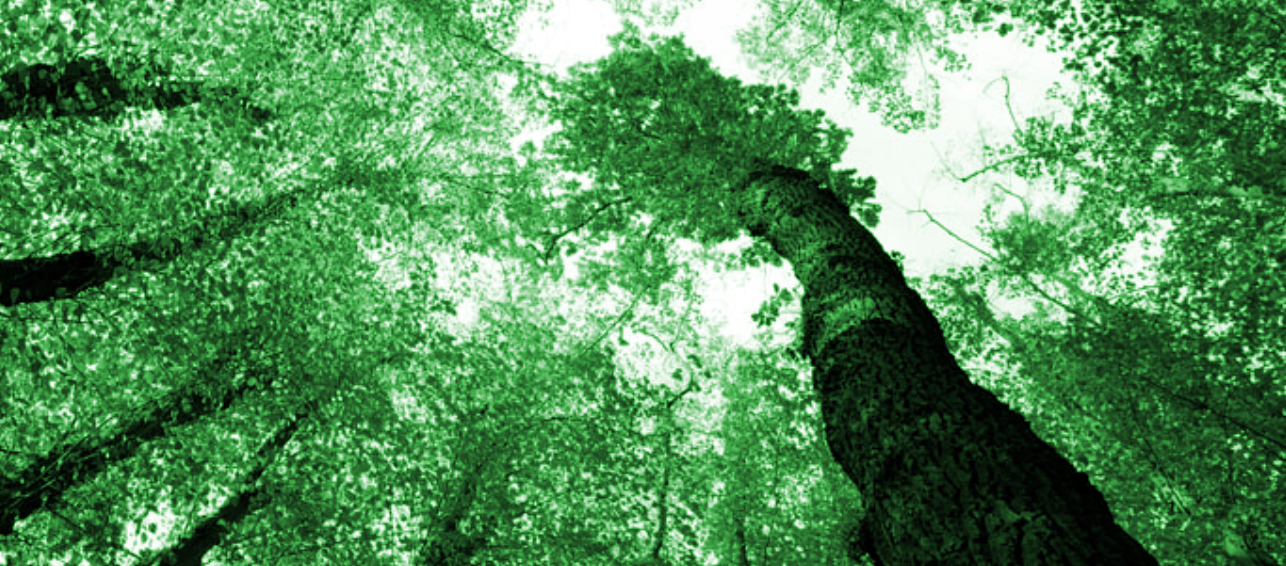
In our proposal, we recommend enhancing the nearby riverfront by linking it with small linear parks, in some cases parallel to the road system. This approach will retain the large metropolitan corridors while at the same time minimizing the dependence on the car, and strengthening the capillary structure. This network at the local scale will link all metropolitan access points, such as parking lots, bus stops, subway and train stations. Furthermore, we propose to develop new green areas, which will follow the course of canals enhancing their urban value, which will contribute to the recreation of wetlands and water

持久性

正如竞赛场地的限定一样，作为城市的一部分，其持久性需要结合所处的场地，地理环境，构成元素，例如水道、公园和绿化地带，还有结合其范围，它的物理和功能特点，与历史相结合，发掘它们满足多样化的潜力。

关于场地，建议通过修建小型线型公园来连接和改善附近的滨河地带，有时也可借助道路系统。这一支撑着大都市通道的系统，试图减少项目范围内对汽车的依赖，增强一个能够连通都市所有入口和各个节点（停车场与公交车，地铁与火车）的毛细结构。此外，也建议建造相互协调的绿地，重新发掘河道，湿地休闲和污水处理的价值，设计、恢复植被以及散步路线。最后也是非常重要的一点是，精心打造高质量的功能区和标志性区域，通过活动来增强社会凝聚力。

关于地点，我们强调有必要突破土层，克服障碍，也就是基础设施方面的困难，同时优化土壤的经济和社会收益。这种突破是项目范围内部的土方移动，以避免给项目边界以外的环境造成破坏。



treatment, the design of forested and pedestrian routes and the development of functional and distinctive areas to generate activities and enhance social cohesion. In order to achieve this, we emphasize the need to overcome the barrier that this infrastructure currently represents in the intervention area, as this will help to optimize the economic and social profitability of the territory. We are aware of the complexity of this proposal and so we propose specific methods that will allow an internal relocation of the excavated soil, thereby avoiding environmental impact outside the project boundary.



ADHERENCE / ATTACHMENT

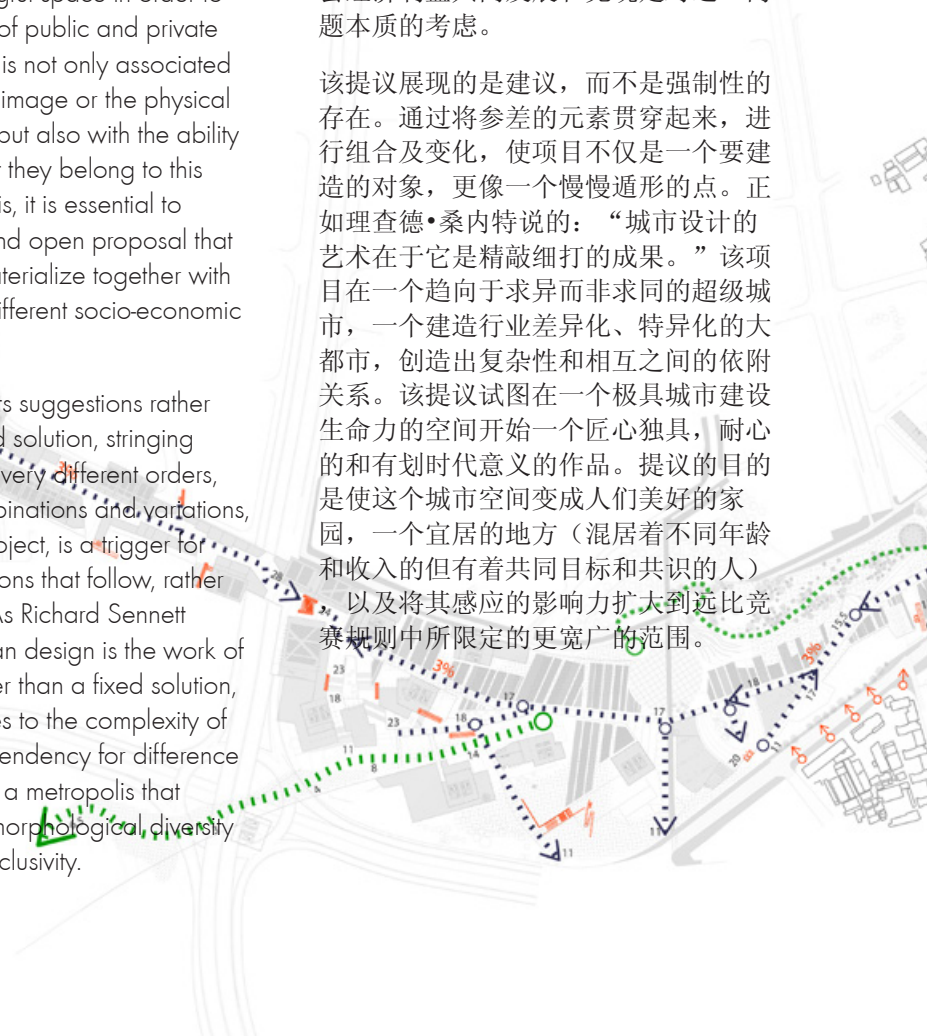
The durable or sustainable city is above all a liveable city built for its citizens. It is therefore a place that is able to interact with the people living in it, and so it is important to transform the intervention area into a new centre focus. Exploring new functions and typologies of buildings, sites and blocks, creating new connections, establishing a scalable urban network are all important urban design strategies. This approach will help to establish a basic urban function that will lead to the development of complex social relationships within the area promoting adaptation, invention and diversity. It is essential to design the city as a liveable and meaningful space in order to reinforce the identity of public and private urban areas. Identity is not only associated with the architectural image or the physical presence of the city, but also with the ability of citizens to feel that they belong to this place. Because of this, it is essential to consider a flexible and open proposal that can develop and materialize together with citizen groups with different socio-economic interests.

The proposal presents suggestions rather than imposing a fixed solution, stringing together elements of very different orders, which allow for combinations and variations, and therefore, the project, is a trigger for the multiple interventions that follow, rather than a final design. As Richard Sennett says: "The art of urban design is the work of craftsmanship" - rather than a fixed solution, this project contributes to the complexity of the megacity with a tendency for difference and variety, showing a metropolis that accepts social and morphological diversity and that reinforces inclusivity.

附着/吸引力

然而，“持久的城市/可持续发展的城市”首先是一个活跃的城市，是人性化的，因此是一个能够与生活在其中的人互动的空间。所以，将这一空间变成一个新中心是很重要的。研究功能性的建筑、基地或街区的新组合和混合，创造大量的连接性建筑设施和一个有效的城市基准，是开发其适应，发现和多样性能力的关键。为了让城市成为一个能居住，能被感知和能被欣赏的空间，有必要向城市居民对城市空间（公共的和私有的）推广其特点。这些特点不仅来自建筑形象，城市的实际存在，也是城市居民感知它的能力。基于此，一个灵活而开放的，能够与市民群体和不同的社会经济利益共同发展和兑现是对这一问题本质的考虑。

该提议展现的是建议，而不是强制性的存在。通过将参差的元素贯穿起来，进行组合及变化，使项目不仅是一个要建造的对象，更像一个慢慢遁形的点。正如理查德·桑内特说的：“城市设计的艺术在于它是精敲细打的成果。”该项目在一个趋向于求异而非求同的超级城市，一个建造行业差异化、特异化的大都市，创造出复杂性和相互之间的依附关系。该提议试图在一个极具城市建设生命力的空间开始一个匠心独具，耐心的和有划时代意义的作品。提议的目的是使这个城市空间变成人们美好的家园，一个宜居的地方（混居着不同年龄和收入的但有着共同目标和共识的人），以及将其感应的影响力扩大到远比竞赛规则中所限定的更宽广的范围。



The proposal attempts to start work in an artisanal, patient and evolutionary manner to develop an area of great vitality for the further development of the city. With our project, we aim to transform the intervention area into a place to live in, a home for different social groups promoting the diversity of age, gender and income, as we believe that this is the first step towards sustainable urban development.



EFFICIENCY

In relation to urban metabolism, we have anticipated measures for self-sufficiency in terms of energy and water supplies, and we propose the same approach to material flows: to reduce waste by reusing and recycling excess produced within the area. Our strategy is to make the urban system more efficient by implementing an educational approach and creating awareness within the population. We propose increasing the degree of information and knowledge available, thereby reducing the consumption of resources, and aiming to achieve minimal impact on the natural ecosystems.

GREEN CITY

- Planting and maintenance of roadside trees to increase the number of shaded areas.
- Selection of vegetation for landscaping, using local species of roadside trees adaptable to the climatic conditions.
- A careful study of the vegetation in the area of intervention is an essential part of the project, as the choice of the correct species will ensure good adaptation.

Furthermore, the variety of vegetation will highlight different aspects of the project.

The proposed trees have been selected according to the different seasons of the year. In our proposal, we have sought to balance the demands of the climate with visual and aesthetic aspects. We propose to combine trees local to the Shanghai region with species that could successfully adapt to the same conditions.

效率

关于对城市代谢（智能城市）良好管理的贡献，我们将采取这些措施来争取能源和用水上自给自足，并且注重材料的流动使用，减少废料（减少，再利用，回收）。这样做的目的是增加城市系统的效率，提高信息和知识的等级，并减少资源的消耗，寻求对自然生态系统最小的破坏。

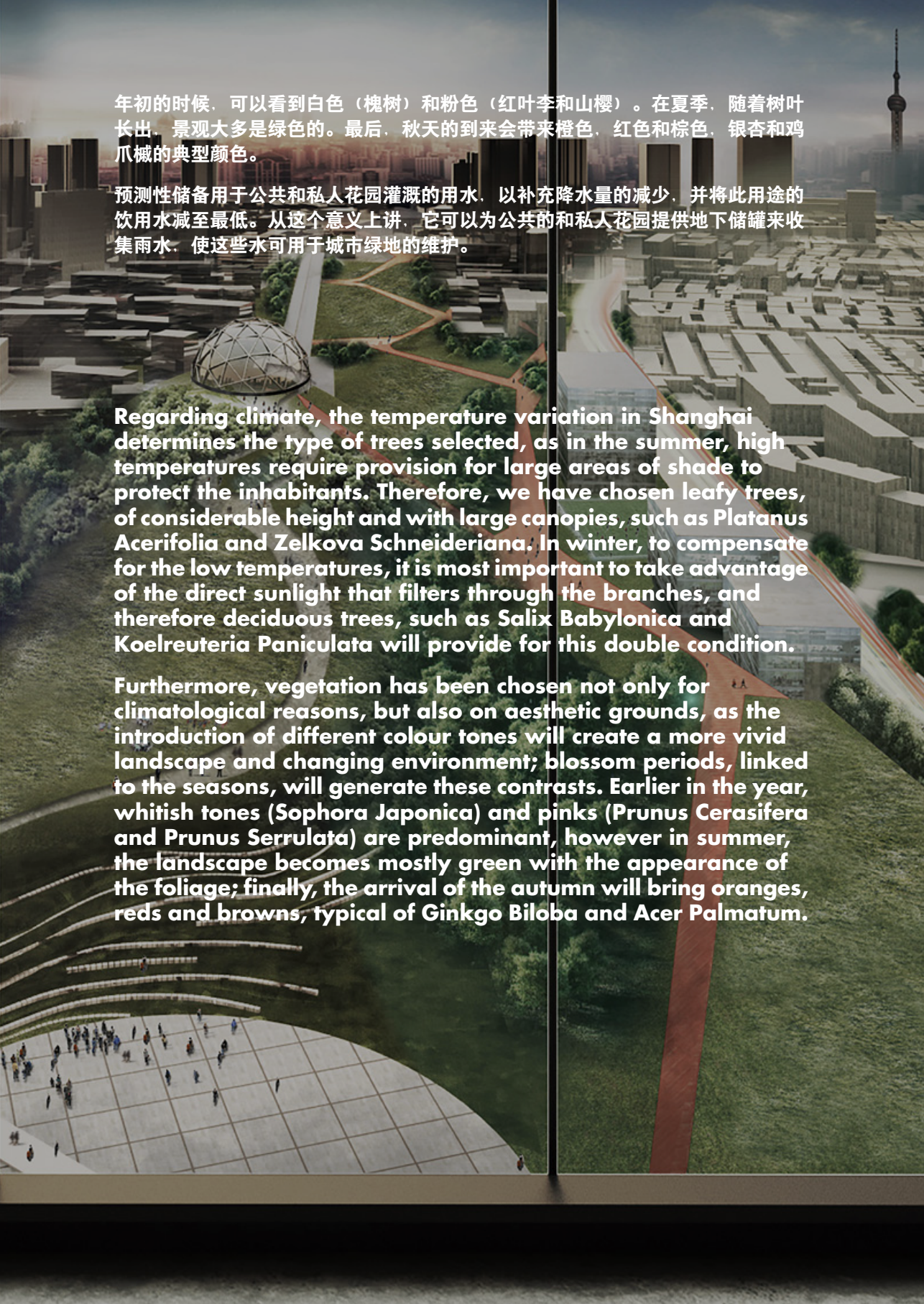
绿色城市

- 栽种道旁树，创造树荫区域。
- 选择景观的植被和适应新的气候条件的道旁树。上海本地的树种被选中。
- 在项目范围内的植被研究是该项目的一个重要组成部分。选择正确的树种将确保它们能良好地适应当地的生态系统，植被的特点将点亮项目的不同方面。

根据一年四季的情况，我们建议的树木已被选中，以期它在每个季节都能在视觉效果和舒适性上满足气候的需求。它已被选定为与可以成功地适应相同条件的树种相结合。

关于气候，在上海这座城市气温的变化决定了树木的种类。在夏季，高温要求树木能提供大面积的树荫，以供乘凉者歇息。因此，选择的是树叶茂密，具有相当高度和大树梢的品种，如悬铃木或榉树。在冬季，相反，为应对低温袭来，人们获得经树枝过滤后的直射阳光很有必要。落叶乔木，如垂柳和栎树满足了这种双重条件。

此外，决定植被选择的不仅仅是气候因素。引进不同色调的可以创造一个更加生动的景观和变化的环境。与季节变化关联的开花时期，会产生这些差异。

An architectural rendering of a city landscape. In the foreground, a large, white, geodesic dome structure sits on a grassy slope. A wide, reddish-brown path winds through the landscape, leading towards a cluster of modern buildings. In the background, a city skyline is visible under a hazy sky, with the Oriental Pearl Tower on the right. The overall scene is a blend of nature and urban architecture.

年初的时候，可以看到白色（槐树）和粉色（红叶李和山樱）。在夏季，随着树叶长出，景观大多是绿色的。最后，秋天的到来会带来橙色，红色和棕色，银杏和鸡爪槭的典型颜色。

预测性储备用于公共和私人花园灌溉的用水，以补充降水量的减少，并将此用途的饮用水减至最低。从这个意义上讲，它可以为公共的和私人花园提供地下储罐来收集雨水，使这些水可用于城市绿地的维护。

Regarding climate, the temperature variation in Shanghai determines the type of trees selected, as in the summer, high temperatures require provision for large areas of shade to protect the inhabitants. Therefore, we have chosen leafy trees, of considerable height and with large canopies, such as *Platanus Acerifolia* and *Zelkova Schneideriana*. In winter, to compensate for the low temperatures, it is most important to take advantage of the direct sunlight that filters through the branches, and therefore deciduous trees, such as *Salix Babylonica* and *Koelreuteria Paniculata* will provide for this double condition.

Furthermore, vegetation has been chosen not only for climatological reasons, but also on aesthetic grounds, as the introduction of different colour tones will create a more vivid landscape and changing environment; blossom periods, linked to the seasons, will generate these contrasts. Earlier in the year, whitish tones (*Sophora Japonica*) and pinks (*Prunus Cerasifera* and *Prunus Serrulata*) are predominant, however in summer, the landscape becomes mostly green with the appearance of the foliage; finally, the arrival of the autumn will bring oranges, reds and browns, typical of *Ginkgo Biloba* and *Acer Palmatum*.





WATER CYCLE

We also propose water storage systems for irrigation of green urban systems, with underground tanks collecting rainwater that will be used for the maintenance of public and private gardens. This will supplement natural rainwater and minimize the use of potable water.

COMPACTNESS

We understand the importance of creating functional, dense and compact residential and tertiary areas, as both these types of configuration require less land consumption together with a better use of infrastructure and an appropriate arrangement of built volumes designed to be more energy efficient.

HIGH MOBILITY AND EASY ACCESS

With the proposed creation of parking areas associated with major road and rail infrastructure, several interchanges articulate metropolitan access to encourage the use of public transport, together with a structure of thin and permeable pedestrian and bicycle networks.

Our goal is to align the project with a sustainable urban development agenda, illustrated by institutions such as LEED, BREEAM and CASBEE, which are already consolidated in the market for sustainable construction and certification, and have launched their certificates for urban development projects. These certifications verify that the location of development and design meet high standards of sustainability and environmental responsibility, the main objectives of which are:

紧凑性

创建密集紧凑的功能区（住宅和服务业）。这种类型的配置对土地消耗更少，更好地利用基础设施，使得合理安排后的建筑群从能源的角度来讲更为高效。

高流动性和易达性

创建与城市干道和铁路基础设施相联系的停车区域。提议修建几个换乘点，将构成项目的渗透性步行窄道和自行车网与城市大型通道（鼓励公共交通）联系起来。

与可持续城市发展的标准一致：同样，市场上强势存在的可持续建设认证，如绿色能源与环境设计先锋奖（美国），英国建筑环保评估体系和建筑环境效率综合评估体系（日本），这些相同性质的机构正给出他们各自对城市开发项目的认证。

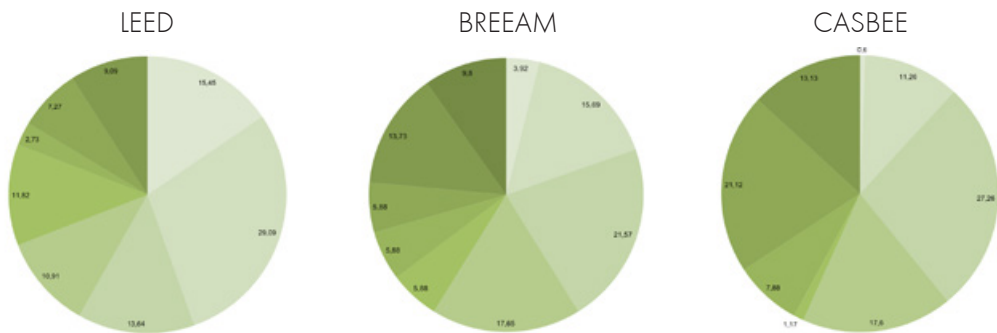
这些评估确定项目开发和设计的区位符合可持续性标准和环境责任方面的高标准。此城市发展评估的主要目的是：

- 提供了城市可持续项目的市场认可，提升价值并促进其销售。
- 确保最佳的城市项目实践，使之更具有可持续性。
- 建立标准以及比一般规则要求更高的标准挑战市场，激发出无论是在设计还是正式实施的过程中，都满足可持续城市项目目标的创新方案。
- 提高规划者，开发商，居民，顾问和可持续发展项目优势政策制定者的认识。

在这些方面，我们提出考虑这些认证的基本标准：LEED, BREEAM 和 CASBEE。以及《白皮书：西班牙城市规划的可持续发展体》中提议的标准。

- Providing market recognition for sustainable urban projects, increasing their value and facilitating their sale.
- Ensuring that best practices are incorporated into urban projects to make them more sustainable.
- Establishing criteria and standards higher than those required by law, and challenging the market to provide innovative solutions that meet the objectives of sustainable urban projects, both in the design process and the standards of formal materialization.
- Raising the awareness of planners, developers, residents, consultants and policy makers to the benefits of sustainable projects.

In this regard, we propose to take into consideration the basic criteria of these LEED, BREEAM and CASBEE certifications, as well as the criteria proposed in the "White book: Sustainability in Spanish Urban Planning".



NOGUEIRA, Gabriela. "Certifications planning. Comparative analysis and cross-certification programs with sustainability criteria". Master Thesis, UPC, 2010.

- Morphology and organisation
- Metabolism
- Transport and services
- Territory
- Biodiversity
- Environmental quality
- Cohesion and context
- Economy
- Others

GENERAL CRITERIA

总体建议

Criteria for action on the city's environment

Preserve, maintain and protect the natural capital

Criteria for action on urban land

Define a more sustainable urban structure and model

Foster more sustainable use of built heritage

Promote the diversity, quality and versatility of public spaces in the city

Favour access to nature - green areas

Improve access to facilities

Criteria for action on transport issues

Reduce travel distances

Increase non-motorized means of transport

Reduce private motor traffic by strengthening public transport

Criteria for action on resources

Optimize and reduce energy consumption

Optimize and reduce water consumption

Minimize the impact of building materials

Criteria for action for minimizing residues

Reduce waste

Manage waste to reduce its impact

Criteria for action on social cohesion

Favour the cohesion of the social fabric and prevent exclusion

Urban program complexity

Criteria for action on governance

Enhance administrative transparency

Encourage the formation of citizen groups

Integrate participation in planning

关于城市环境的行为准则

保存，维持和保护自然资本

关于城市土地的行为准则

定义更加可持续的城市结构和模型
鼓励更为可持续地利用建筑遗产
促进城市公共空间的多样性，品质和多功能性
热爱与大自然（绿色区域）的接触
加强向基础设施的通道

关于交通问题的行为准则

减少距离
强化非机动车交通方式
通过加强公共交通以减少私人机动交通

关于资源的行为准则

优化，降低能耗
优化和减少水的消耗
最小化建材的影响

关于残留物的行为准则

减少浪费
管理浪费以降低其影响

关于社会凝聚力的行为准则

热爱社会集体的凝聚力，防止排斥
城市网络的复杂性

关于政府治理的行为准则

提高行政透明度
鼓励市民参与
将参与纳入到总体规划

Technical

Proposal

覆盖结构的技术提案

Several successful urban projects propose covering railway tracks and generating multifunctional public spaces. Among them are La Sagrera Park, Paris Rive Gauche, Operation ATM Paris (Austerlitz-Tolbiac-Massena), Yokohama maritime terminal - all these examples have faced challenges similar to those of the competition area in Shanghai.

In our case, we propose covering the railway in the western part of the project area, paying regard to the required average height. By contrast, in the eastern sector, we suggest relocating and covering the railway below ground level, in both cases using the same system of construction.

This proposed construction system has a direct reference to that implemented in Paris-Tolbiac, which also covers the area occupied by the railway tracks. In our project, we propose to build this covering from shielded in-situ elements, located in the spaces between the tracks in order to support a system of prefabricated elements forming a slab covering the track bed.

This covering structure will rest on concrete screen foundations inserted in the spaces

我们研究并比较了巴塞罗那和一些曾面对过与上海相似的挑战的城市的提案，他们都为如何覆盖铁路的同时激活上层空间以满足城市需求提供了一个模式。

面对此项目的情况，如同上一段所说，我们将在从项目区域东侧开始为铁路设计了一个覆盖结构系统，同时在西侧将片区内铁路逐渐下沉并掩埋。

该提案的建造系统的理念借鉴于纽约和巴黎的案例，在巴黎Tolbiac区域有一段区域的铁路被实施了覆盖。为此，我们设计一套这样的建造系统，在建造场的地铁路之间现场制作支撑结构，随后在其之上安置用于覆盖的预制水泥板。

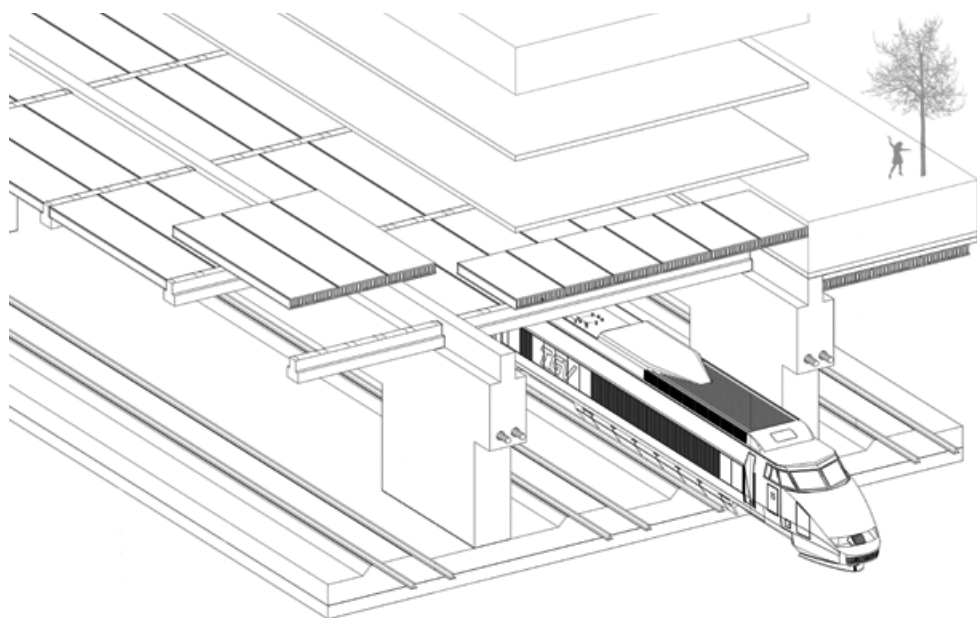
这一系列的预制水泥板将由下面的线性主结构支撑，在铁道之间每隔12到17米设置一片钢筋水泥板墙，在这些水泥板之上架制T字型预制钢强化梁，再在这些梁结构上放置中空水泥板。用这样一个结构布置可以将整个构架的高度控制在铁路空间所需的高度内，实际上这些主梁与铁道水平排列。加之中空水泥板的运用，我们可以实现8米宽的梁距。用这样一种模式，可以实现大梁距结构预制的可能。



between the rails every 12-17m, which will form the main structural axes. Inverted T-section beams will rest on top of these screens supporting prestressed concrete hollow core slabs; this structure will allow the overall depth to be significantly reduced through allowing the main beams to be placed between the hollow core slabs. Larger spans will be covered using prefabricated elements.

由于此结构系统是双向结合且不连续的，我们可以在不影响铁路运行的情况下在不同的阶段进行施工。另外，大量的预制组件能显著降低施工成本与工期。

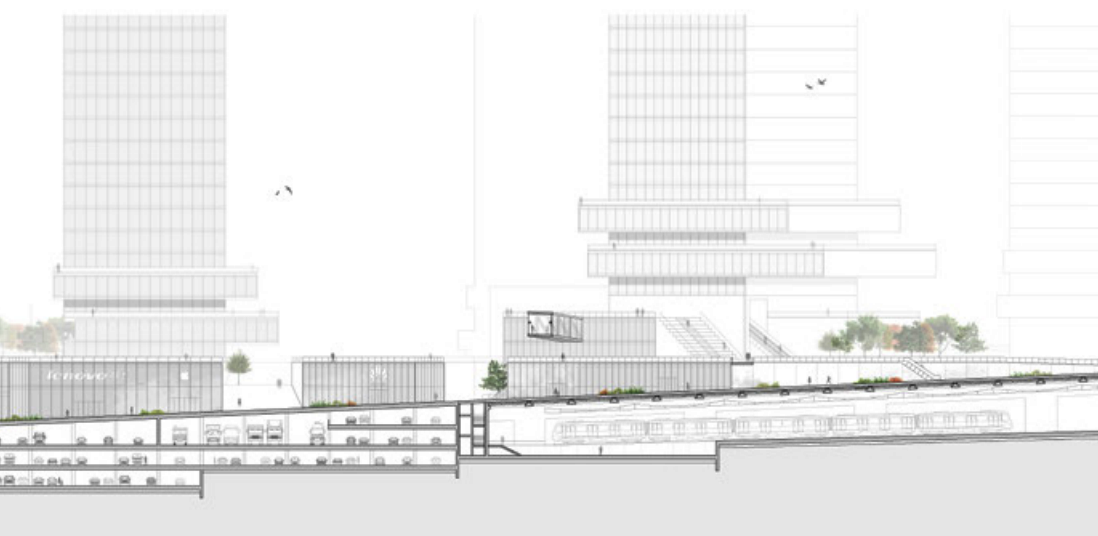
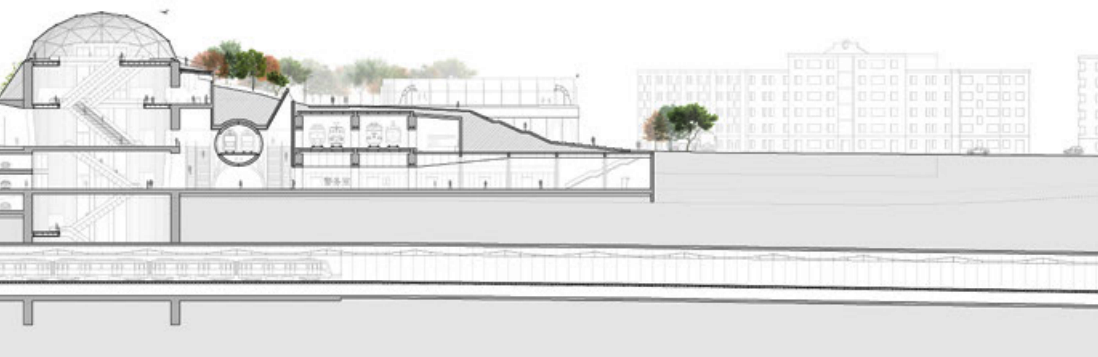
支撑结构的钢筋水泥板墙作为地基向上垂直延伸至地表为在其上层建造房屋提供了可能性，我们可以预见未来建成的建筑将以这些板墙为支撑结构悬挂在覆盖铁路的水泥路面之上，建筑的高度就如同这段结构的梁厚。



Due to this bi-articulated system, project implementation can be easily organized in different phases without interrupting the current railway service. Furthermore, using a prefabricated system will substantially reduce the time and cost of implementation as conventional auxiliary assistance will be minimized.

Construction above these elements is possible either from the primary screen walls, which rise above the slab covering of the tracks forming support points for the planned buildings. Alternatively, buildings are supported externally, cantilevered above the roof slab of the track beds, due to the significant height of the buildings, which act as beam ridges.





Economic

feasibility

发展进程与经济可行性

Temporal project planning

Given the nature and complexity of the Zhabei area, we propose to implement the project in three phases in order to contribute to the technical and economic viability of the project.

The first phase includes the development of the downtown area proposed as the hub of the operation in the central part of the project area, which implies covering the train tracks. It also concentrates the majority of the urban uses, especially in the eight towers dedicated to tertiary activities. This phase of the project produces economic profit and should enable the generation of resources that will contribute to financing the second phase.

The second phase involves the excavation of the railways in their final stretch to allow maximum permeability at the city ground level between the north and south parts of the district. It also involves the creation of two levels of underground parking, and includes

项目规划进程

根据闸北区改造的特点和复杂性，我们提出分三段进行在技术与经济上可行的规划方案。

第一阶段为中心区域的发展，拟在研究区域的中心地段建立该项目的核心。该部分的方案为使用一系列水泥平板以遮盖火车轨道，但是同时注重建设具有经济效益的部分，特别是那八座用于服务业的超高层建筑。该阶段的项目会产生经济效益并为第二阶段项目的建设提供所需的资金。

第二阶段的重点在于铁道最后段的下沉掩埋，为项目区域南北两边在水平于城市的高度上最大范围通透连接提供可能性。此外，还包括此区域的地形重塑，利用北部邻区拆除建筑的遗留材料建造一些小山丘（大多位于第一阶段的区域）。本阶段的开发涉及大面积的公共空间的建设，但也包括具有经济效益的建筑，如形成该区域视觉外观的住宅和高新产业园。这个阶段包括对东部区域的现有市场进行重塑，增加一个地下停车场。另外，还包该市场南边的现有里弄老城区的改造。我们提出了创造一个舒适的公共空间的战略（一个小广场系统）。这个最后的改造项目将使用新建成的



the topographical transformation of the area creating an artificial mountain which will be made from the remains of demolished buildings. This phase involves the construction of large open spaces and public facilities including residential and technological buildings, which will give form to the urban facades.

This second phase also includes the renewal of the existing market at the eastern end of the area with the

construction of new underground parking; it also considers the renewal of the existing Lilong area to the south of the market, creating a rich and multifunctional public space as a set of small squares. This last intervention is self-financed by increasing the urban uses around the new public spaces. In its overall funding strategy, this second phase will benefit from the profits of the first phase.

Phase three consists of a commercial centre with facilities linking the future downtown area with Zhabei railway station. This part is located outside the given intervention area, nevertheless we see it as a key aspect of our proposal that will be perfectly embedded in the new metropolitan context. This phase, which also proposes covering the railways, would be self-financing thanks to the urban uses and its functional program.

公共空间提供的可建空地，在资金方面，第二阶段将会依靠第一阶段获得的经济效益来实现。

第三阶段是建设用于连接未来闸北区中心商务区与上海站的商业项目。这是一个原项目区域起点以外的区域，然而我们认为这是把整个区域容入周边城市环境的重要步骤。这一步也涉及到对铁路的遮盖，其资金源自前两个阶段产生的衍生项目所产生的经济效益。

Strategy for the economic and financial viability of the project

The main value of the proposed new development comes from its capacity to incorporate added value. For this reason, the key aspects of successful urban development in Zhabei would be:

- The city leadership by Zhabei Planning and Land Resources, while formulating the project - a municipal initiative - the capacity to build relationships with other agents acting in the area, and the availability of economic, human and technical resources.
- The ability of the project to fit market demand - both that of the City and in its' competitive environment at both local and global level.
- The competitiveness of this proposal considering alternative location opportunities offered by the market and the territory.

From the economic and financial perspective, urban development should not be seen as an attempt to change land uses, but rather as an effort to fit potential business into the national and international markets.

On the one hand, there are difficulties that Zhabei Planning and Land Resources must face to make new uses

项目可实施性、经济和金融可行性的战略

土地的主要衍生价值在于它的增值能力。因此，本操作的成功关键因素为：

- 市领导（通过闸北区规划和土地管理局）对项目的制定（市政举措，与相关部门的交涉能力，和财政、人力、技术资源的可用性）。
- 此项目与市场需求的结合，无论是与城市的需求还是与它的竞争环境的需求（本地的和全球性的）。
- 本方案关于为地区市场提供就业与发展可能性的竞争力。

在经济和金融方面，此操作不应该是提供一些现今被遗弃土地的购置，而是提供一块让城市能在国际环境下发展与产业链升级的地域。

闸北区规划和土地管理局必须面对两个困难，其一是为与铁道交界处形成的不规则地块提供新的用途，其二是为这些土地招商引资提供战略方案，以实现未来区中心的可行性。

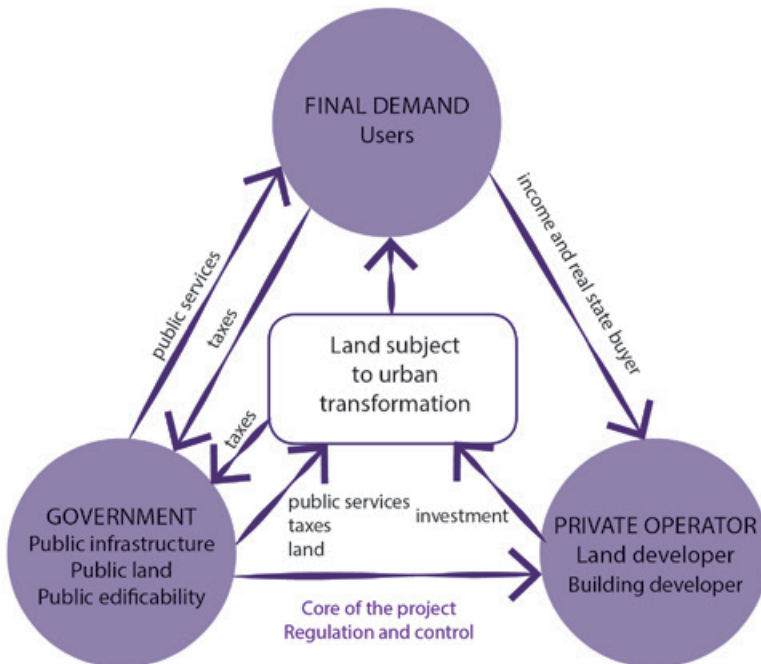
实际上，在认识新区域中心的隐藏价值后，我们能更加正确的分类即将转化到这些土地上的资源。但是在为新城提供生机，吸引投资的操作上，我们不仅必须考虑到土地增值的可能，而且应当设置相应的城市战略。我们应当兑现这些操作能为城市现存市场需求与城市区域竞争力发展做出贡献的承诺。从经济层面上分析，在任何经济发展进程中，土地价格便是这个承诺是否兑现的指标。总而言之，为保证我们的方案的可行性，我们应该着重于分析能够为未来投资者提供附加值的战略方案。

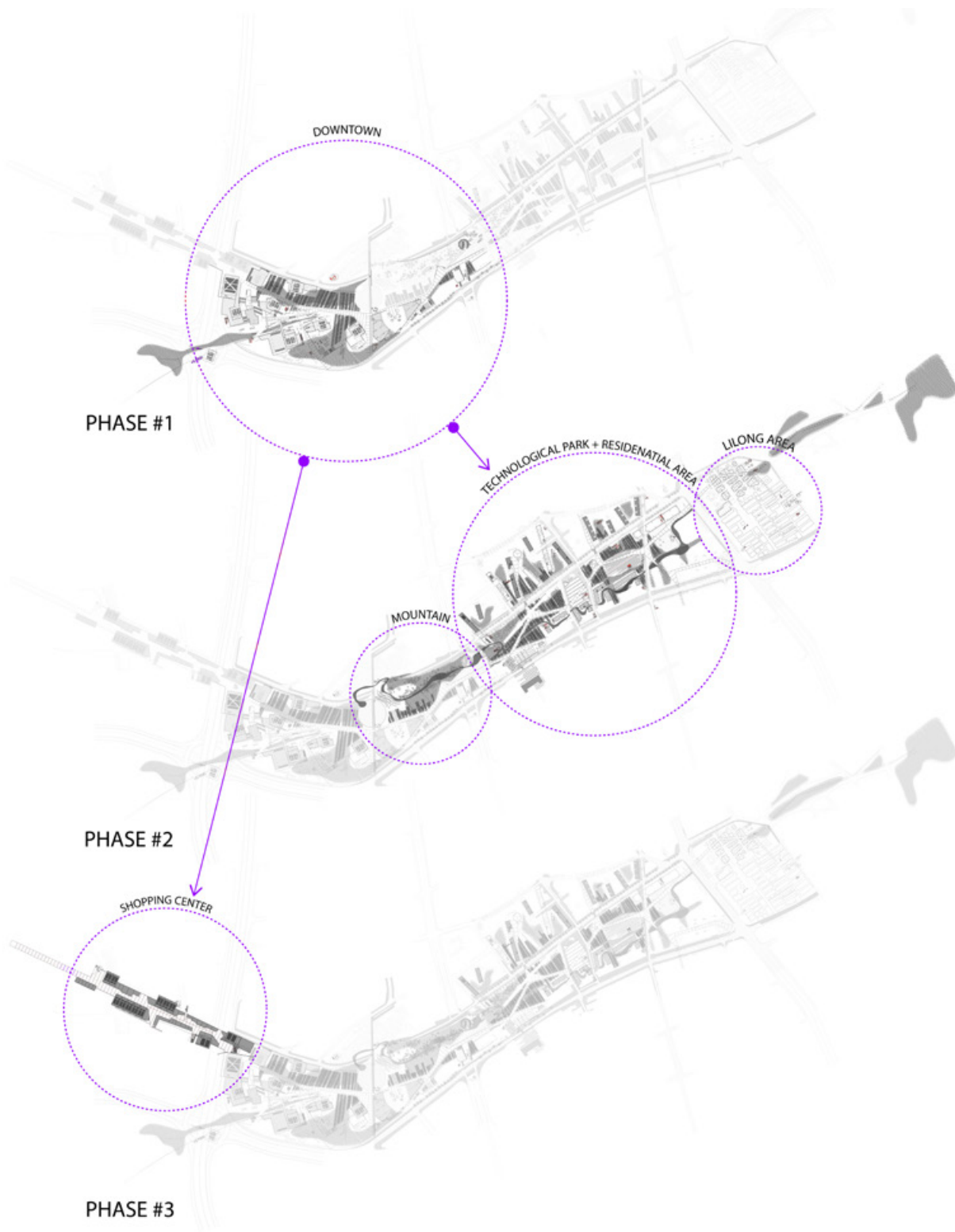
城市转化方案成功的关键在于正确的与投资者(政府和私人)合作，最终形成这批土地发展的动力。所谓私人投资者，是指以资本为基础融资经营，具备一定量的资本成本以调整产量，具有明显世袭传统的法人代表（主权基金，房地产投资信托基金，资本市场等），同时致力于购置土地，投资建设各种房地产产品。

possible in the areas currently occupied by railways without compromising the activity of the railway, and on the other, there is a need to attract investors to fund the future central area.

Knowing the potential value of the new city centre, the administration of Zhabei will decide on the resources needed to change the land-use of the intervention area. The action to attract stakeholders in order to bring economic and urban activity to the developed area must not be considered only in terms of land value, but also as a metropolitan urban strategy. It is necessary to highlight the commitment of the city to provide the urban transformation, the existence of market demand and the competitiveness in relation to other opportunities. Land prices are economic and financial indicators for the development of any economic activity. Hence in order to ensure the viability of the project, and so the focus must be on the analysis of the public initiative, to demonstrate that the project is able to produce surplus value for future private investors.

The success of the urban transformation will depend on the correct combination of stakeholders, both public and private. The private stakeholders have to hold passive capital that will allow them to operate with adjusted yields; they must have a clear patrimonial vocation - sovereign funds, Real Estate Investment, capital markets - and be committed to investing in building a variety of real estate products.





DOWNTOWN

PHASE #1

TECHNOLOGICAL PARK + RESIDENATIAL AREA

LILONG AREA

MOUNTAIN

PHASE #2

SHOPPING CENTER

PHASE #3

Business plan, chain of value and value capture

The business plan in any urban development, encompasses the period from the conception of the project until the final moment when the real estate products are put onto the market. It is important to consider the entire cycle of the business plan as it is not limited to the land transformation process, but also includes the building process and putting the final real estate products on the market.

Only by considering the total process of land development, will we be able to know the chain of value and risks of the project, and then be in a position to propose strategies for successful operation.

The business plan reflects money flows related to the investment and economic returns of the project; however, considering that the initial land is in 100% public ownership, the expected economic return for the public stakeholders can be calculated through the administrative concessions, land rights, taxes and other possible means of value capture. For private stakeholders however, the economic returns will be seen through the sales or rents of the final real estate products.

Below you can see a generic scheme for the investment costs and economic returns after a complete cycle of the business plan.

商业计划书，价值链和引 资方案

商业计划书与城市转化方案需要谋求一个互补，从方案的准备阶段开始就应当将其考虑在内，并一直持续到其实施阶段，同时确保它的实现与投资商的方案实施适应该区域的不动产市场。招商计划周期的完整性非常重要，因为不能忽视土地转化施工存在一个周期，应当在土地转化项目开工后，再将这些不同的不动产放入市场售卖。

只有注重土地的改造与建设，并把最终的地产产品放到市场上，我们才能认识到在这个项目的价值链中，谁承担什么样的成本，其风险因素以及项目操作成功的一些要点。

商业计划是指投资项目衍生出的经济回报和其货币流通。由于土地所有权是完全公布的，预期中的经济回报可以通过管理费用，土地以及税务收费中估算出来，以及运用另外一些可能的手段来引资；私人投资者的经济效益将由最终房地产产品的销售与租赁中明确出来。

紧接着我们制作了一个能表现在商业计划的完整周期中投资花费与经济效益关系的图示。

该项目的核心是使不动产市场中不同产品与之相应的区域相对应。在这种情况下，土地的转变将如同输入值一样具有明确的价值和功能，为其相应的土地转化提供可能性，而且如同其他的生产因素一样，其收益与土地转化的收入与支出的余额一致。

我们发现了为投资者创造条件的重要性，使政府和投资者能够被其期待的项目所吸引并将其转化为具有活力的产业。在启动阶段最重要的不是开

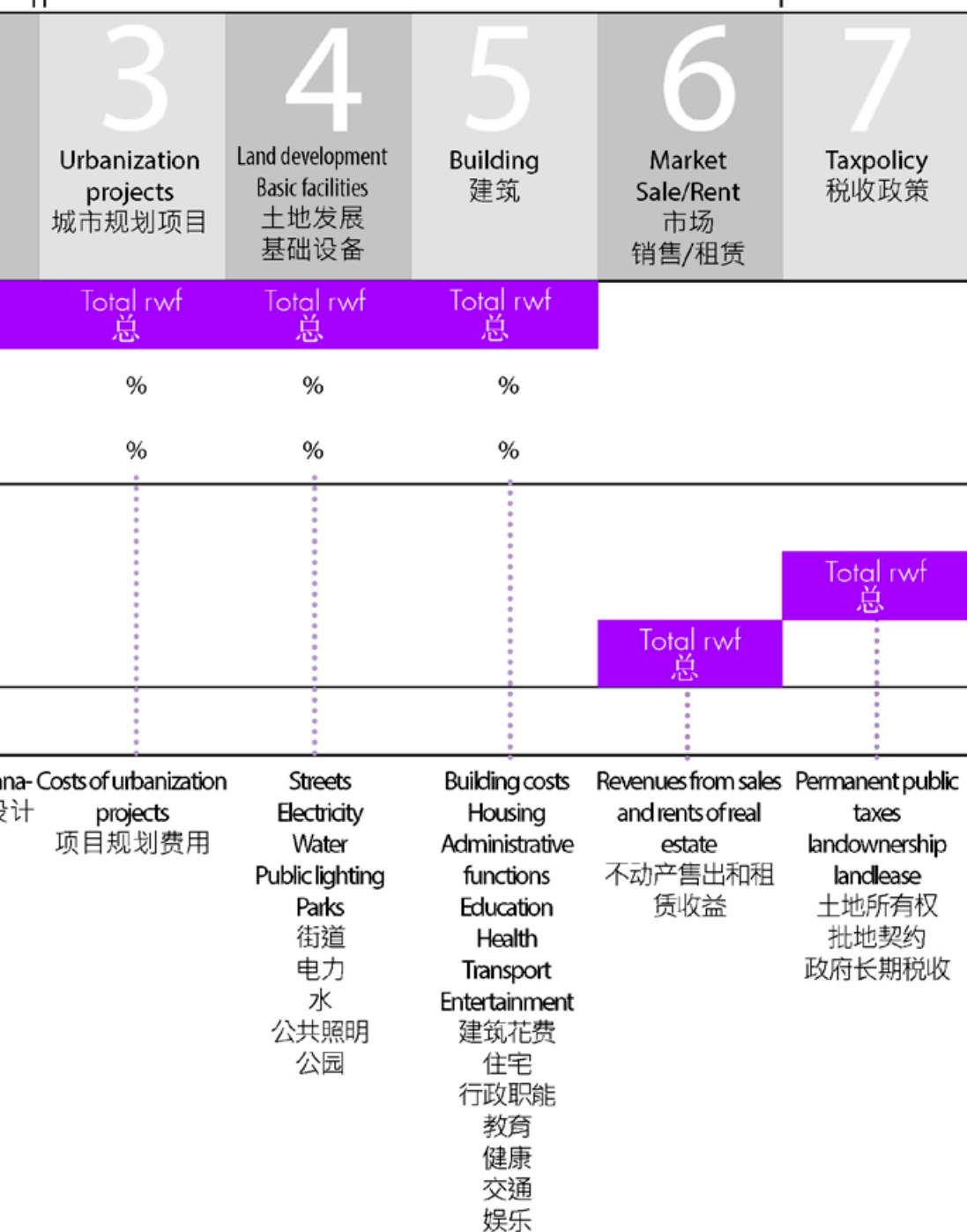
The project's backbone fits into different real estate products that already exist in the area, and therefore the land presents a calculable value that should be taken into account in order to achieve a successful urban development. Like any other product value, the price of land will be established considering all the costs and revenues of the entire operation.

The creation of a pool of public and private developers is essential for the production of an economically sustainable final real estate product. The initial group of developers should consist of investors rather than final users who will buy, rent and use the real estate. In order to find those private investors and achieve good results, the public investor should initially drive the development, and therefore the return for the public investor should be seen as (1) real estate assets, (2) externalized infrastructural investments, (3) promotion of economic dynamism that produces long term social and collective benefits in terms of value capture - employment, diversification of the economic structure, environmental improvement, and improvement in tax return.

These strategies will allow the project to achieve economic and financial viability for the urban development within the Zhabei area. Based on this, we would estimate investments costs and return benefits that can be expected based on our proposal. To calculate the profits we have considered different market prices taking as a reference the "2014 China Statistical Yearbook". To calculate the costs, we have taken as a

	Planning 设计费	
	1 Land acquisition 土地征收	2 Planning 设计费
Expenditures (-) 支出	Total rwf 总	Total rwf 总
Public investment 公共投资	%	%
Private investment 私人投资	%	%
Revenues (+) 收益		
Public revenues 公共收益		
Private revenues 私人收益		
Balance (=) 余额		
	Land acquisition costs 土地征收费	Planning and management costs 设计和管理费

Urban development execution



reference the RLB- Honk Kong Cost Report from March 2015. Such values can be adjusted later on as the project is developed.

The tables below show the overall costs and profits (value-added tax was not taken into consideration in this calculation). The first table shows the profits that may be obtained after selling the newly generated real estate products. These profits are calculated by deducting sale prices from the costs of building housing, offices, parking lots, etc. The second table shows the cost of urban development, including all the interventions necessary to prepare the terrain for the construction of the final real estate products. These costs reduce the profits of the first table. Finally, the third table shows the costs of the actual building, and enables the required investment to be calculated. However, this will not reduce the profit indicated in table one as this has already been taken into account in the calculation of the profits; as a consequence of this process, the balance of every transformation phase is positive.

发商而是投资方。只有当政府投资方从开始便积极参与资本的推动，才有可能获得私人投资者的预付款。因此，政府投资方的收益不应只从公共住宅和基础建设投资中显现，同时更应该从社会经济活力与社会引资等长期利益的增长中体现。（比如，经济结构、就业和自然环境的改善，土地财政收入的增长以及城市总体环境的明显改善）。

考虑到所有这些具有战略地位的方案，具有提高闸北区域的经济和财政活力的能力，同时我们的方案可预见的投资成本和运营利润的估算结余将得到优化。为了准备开发收益的报表，我们从2014年《中国统计年鉴》中权衡了不同市场的价格，最终选取了利比提供的《2015年三月香港建设造价报表》。

接下来展示的便是我们准备的投入与收益报表。（这些报表不包含增值税）第一个报表对应的是该项目建设的房地产产品的销售所获得的收益。这些收益的数据是由售卖价格减去建造成本计算而来的。第二个报表显示出的是将项目区域转化为可建造房屋的土地所需要的投入。此外，这些花费将会小幅度降低第一个报表中的收益。最后，第三个报表介绍的是整个项目完全建成所需的总投入，（但需要注意的是我们不能直接用此报表与第一个报表的收益进行直接比较，因为第一个报表已包含建造成本。同时报表一二中所有阶段的余额均为正数。）

Costs 成本	Phase I 阶段一	Phase II 阶段二	Phase III 阶段三	Total 阶总计
Benefits 收益, ¥	7.023.366.880,00	2.626.114.000,00	192.600.000,00	9.842.080.880,00
Land development cost 土地开发投 入, ¥	-1.259.138.850,00	- 661.736.773,75	- 126.468.750,00	- 2.047.344.373,75
Total 总计, ¥	5.764.228.030,00	-1.964.377.226,25	66.131.250,00	7.794.736.506,25

Tables of costs and benefits

The proposal seeks both economic viability and long-term sustainability, aiming for the economic and financial self-sufficiency of the project illustrated by incomes in the form of taxes, licenses and rents that enable funding the maintenance expenses of the project area.

支出与收益及其余额图表

最后，我们希望表明的是，我们的方案不只是在方案开始部分的发展提供经济可行性，而是在提供一个长期可持续发展的可能性，这便是本方案的经济自给模式，这个模式保证闸北新中心区域的经济收入足以应付其税务，维护与保养等费用。

TABLE 1. Benefits
收益

Entry 条目	Phase I 阶段一		Phase II 阶段二		Phase III 阶段三		Total 阶总计
	Area(m ²) 面积	Value 收益, ¥	Area(m ²) 面积	Value 收益, ¥	Area(m ²) 面积	Value 收益, ¥	
8 Downtown towers 八座摩天大楼	570.700	7417958.600					7417958.600
Comercial streets 商业街			14.500	93.090.000			93.090.000
Residential area 住宅区			93.000	1.467.396.000			1.467.396.000
Technologies 高科区			28.000	486.444.000			486.444.000
Comercial building (connection with the railway station) 商业中心					37.500	240.750.000	240.750.000
Parking 停车场	180.000	1.361.250.000	148.000	1.119.250.000			2.480.500.000
Parking (market) 市场停车场			15.400	116.462.500			116.462.500
Lilong Market 里弄市场翻修			*	*			
SUBTOTAL 小计		8.779.208.600		3.282.642.500		240.750.000	12.302.601.100
FINANCIAL COST 财务成本		-1.755.841.720		-656.528.500		-48.150.000	-2.460.520.220
TOTAL 总计		7023.366.880		2.626.114.000		192.600.000	9.842.080.880

*We propose to increase the private urban use around the new squares in order to relocate removed dwellings and bear the cost of demolition and development of new public space

*为了控制新公共空间的拆除与转化费用，在转移老旧住宅的同时，我们计划在新的广场上增加私人用地。

TABLE 2. Urban development costs

土地开发投入

Entry 条目	Phase I 阶段一		Phase II 阶段二		Phase III 阶段三		Total 阶段总计
	Area(m ²) 面积	Value 收益, ¥	Area(m ²) 面积	Value 收益, ¥	Area(m ²) 面积	Value 收益, ¥	
Demolish and transformation 拆除与区域转化	113.300	8.848.730	107.500	8.395.750			17244.480
Railway covering slab 原铁路覆盖	140.000	397.600.000					397.600.000
Connection slab 火车站连接区域					107.500	101.175.000	101.175.000
Burying system and recovering slab 掩埋铁路及其覆盖			74.000	367.780.000			367.780.000
Pedestrian streets 广场及人行道	33.000	23.430.000	30.000	21.300.000			44.730.000
Green areas 绿地及线性公园	75.500	16.081.500	10.913	2.324.469			18.405.969
Artificial mountain 人工山脉			47.000	33.370.000			33.370.000
Transportation exchanger 地铁综合换乘站		497.000.000					497.000.000
Streets reforming 新街道建设	50.300	28.570.400	129.400	73.499.200			102.069.600
Passage under the Nanbeigaojia Road and Tianmuzhong Road 地下通道	20.158	35.780.450					35.780.450
Market renewal 市场翻修			8.000	22.720.000			22.720.000
SUBTOTAL 小计		1.007.311.080		529.389.419		101.175.000	1.637.875.499
Management cost 管理费		251.827.770		132.347.354		25.293.750	409.468.874
TOTAL 总计		1.259.138.850		661.736.773		126.468.750	2.047.344.373

TABLE 3. Construction costs**建造成本**

Entry 条目	Phase I 阶段一		Phase II 阶段二		Phase III 阶段三		Total 阶总计
	Area(m ²) 面积	Value 收益, ¥	Area(m ²) 面积	Value 收益, ¥	Area(m ²) 面积	Value 收益, ¥	
8 Downtown towers 八座摩天大楼	570.700	4.850.950.000					4.850.950.000
Comercial streets 商业街			14.500	116.000.000			116.000.000
Residential area 住宅区			93.000	283.500.000			283.500.000
Technologies 高科区			28.000	140.000.000			140.000.000
Comercial building (connection with the railway station) 商业中心					37.500	300.000.000	300.000.000
Parking 停车场	180.000	639.000.000	148.000	525.400.000			1.164.400.000
Parking (market) 市场停车场			15.400	54.670.000			54.670.000
Lilong Market 里弄市场翻修			*	*			*
SUBTOTAL 小计		5.489.950.000		1.119.570.000		300.000.000	6.909.520.000
Manangement cost 财务成本		1.372.487.500		279.892.500		75.000.000	1.727.380.000
TOTAL 总计		6.862.437.500		1.399.462.500		375.000.000	8.636.900.000

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Estanislau Roca holds a PhD in Architecture from the UPC (1993) and is a chaired professor affiliated at the UPC ETSAB (Barcelona). He has been a guest scholar at many prestigious universities around the world. He received the UPC University Teaching Quality Award (2011) and the Jaume Vicens Vives distinction. He has been an international teaching evaluator since 2015. For 30 years, he has acted as a member of thesis examination committees at the ETSAB and, since 2012, as chairman.

Currently he is Vice-rector for Infrastructure and Architecture at the UPC. He was awarded the triennial Lluís Domènech i Montaner Prize for research and, in 1995, the Europa Nostra Medal of Honour. He is the author of some 20 research books and over 100 scientific articles, book chapters and international conference papers, and is a reviewer for several indexed journals.

Estanislau Roca是UPC的建筑学博士（1993年）以及UPC ETSAB（巴塞罗那）的附属主讲教授。他是世界上许多著名大学的客座学者。Estanislau Roca荣获了UPC大学教学质量奖（2011）并且获得了Jaume Vicens Vives奖。自2015年以来，他一直担任国际教育评估员。30年来，Estanislau Roca一直是ETSAB的论文考试委员会的成员，自2012年起担任主席。目前，他是UPC的建筑和城市构架的副校长。他获得了三年一度的Lluís Domènech I Montaner奖，并于1995年获得了Europa Nostra Medal of Honour。他是二十多本研究书籍和一百多篇科学论文，以及书籍章节和国际会议论文的作者，也是几本索引期刊的评论员。



Aliaksandra Smirnova is an urbanist and visual artist based in Barcelona. Through her research and artistic practice, she explores the political, social and emotional dimensions of emerging technologies. Aliaksandra has participated in various architectural competitions and congress, published papers in peer-reviewed urban research journals and has taken part in several publications.

Her works were presented and shown at Färgfabriken Stockholm, Vapaan Taiten Tila Helsinki, MAO Ljubljana, Strelka Institute Moscow, Moscow Urban Forum, Haishang Cultural Centre of Shanghai, UPC Barcelona, AESOP Conferences, and the Royal Academy of Arts Architectural program.

Aliaksandra Smirnova是一位在巴塞罗那的城市规划师和视觉艺术家。通过研究和艺术实践，她探索了新兴技术的政治，社会和情感关系。Aliaksandra参加过各种建筑竞赛和大会，在同行评审的城市研究期刊上发表过论文，并且参与制作了多个出版物。她的作品在多个地方均有展出，包括Färgfabriken Stockholm, Vapaan Taiten Tila Helsinki, 建筑与设计博物馆（MAO Ljubljana），莫斯科Strelka研究所，莫斯科城市论坛，上海海上文化中心，UPC巴塞罗那，AESOP会议，以及皇家艺术学院的建筑项目。



Sebastian Harris holds a PhD in Architectural Design from the UPC and an MA from the University of Cambridge (UK). He is currently a lecturer at La Salle, Universitat Ramon Llull (Barcelona), and has taught numerous workshops and given lectures in collaboration with the Biennale di Venezia, RCR arquitectos, ETSAB-UPC, Oikonet, IED, and the City College of New York School of Architecture.

His current research focuses on the intersection between in-situ sketching, architectural design and urbanism. Sebastian has presented his work in several international conferences and has published drawings and articles in books and academic journals.

Sebastian is an RIBA Chartered Architect and is director of Harris Architects & Designers based in Mallorca and Catalunya. His architectural work has been awarded several prizes such as the Mallorca Architectural Prize 2007-2010 for the best private house.

Sebastian Harris 加泰罗尼亚理工大学建筑学博士，剑桥大学建筑学硕士。现为拉蒙·柳利大学(巴塞罗那)建筑学院讲师，曾指导过多个工作坊，并曾在威尼斯双年展，RCR建筑事务所，加泰罗尼亚理工大学巴塞罗那建筑学院，Oikonet建筑事务所，IED巴塞罗那设计学院，纽约城市大学建筑学院等多处作为合作讲师参与教学活动。现在的主要研究领域为现场草图与建筑和城市设计的交汇。Sebastian在多个国际性的讲座上介绍过自己的作品，并在多个书籍和教学性杂志上发表过自己的研究成果。

Sebastian拥有英国皇家建筑师协会注册建筑师资质，同时作为总监任职于Harris Architects & Designers这个成立于马略卡和加泰罗尼亚的事务所。他的设计作品荣获了诸多奖项，如2007至2010马略卡最佳私人住宅设计奖。



Continuity and connectivity, transversality and linearity, permeability and porosity are the urban concepts that we took into account to understand and design within the Zhabei district in order to propose a project that suits the ideas of a well-networked, inclusive and sustainable city.

商业计划书与城市转化方案需要谋求一个互补，从方案的准备阶段开始就应当将其考虑在内，并一直持续到其实施阶段，同时确保它的实现与投资商的方案实施适应该区域的不动产市场。招商计划周期的完整性非常重要，因为不能忽视土地转化施工存在一个周期，应当在土地转化项目开工后，再将这些不同的不动产放入市场售卖。

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Shanghai Railway Station International Competition



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