

Monuments for Capital

The production of urban centralities for a global economy

By

Yaacov Eyal Ruthenberg

Bachelor of Architecture

Technion – Israel Institute of Technology, 2008

SUBMITTED TO THE DEPARTMENT OF ARCHITECTURE IN PARTIAL
FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF SCIENCE IN ARCHITECTURE STUDIES
AT THE
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

June 2013

©2013 Yaacov Ruthenberg. All rights reserved.

The author hereby grants to MIT permission to reproduce
and to distribute publicly paper and electronic
copies of this thesis document in whole or in part
in any medium now known or hereafter created.

Signature of Author: _____
Department of Architecture
May 23rd, 2013

Certified by: _____
Alexander D’Hooghe, MAUD, PhD
Ford International Career Development Associate Professor of Architecture and Urbanism
Thesis Supervisor

Accepted by: _____
Takehiko Nagakura, MArch, PhD
Associate Professor of Design and Computation
Chair of the Department Committee on Graduate Students

Monuments for Capital

The production of urban centralities for a global economy

By Yaacov Eyal Ruthenberg

Thesis Committee:

Thesis Supervisor:

Alexander D'Hooghe

Associate Professor of Architecture and Urbanism

Thesis reader:

Miho Mazereeuw

Assistant Professor of Architecture and Urbanism

Monuments for Capital

The production of urban centralities for a global economy

By Yaacov Eyal Ruthenberg

Submitted to the Department of Architecture
on May 23, 2013 in Partial Fulfillment of the Requirements
for the Degree of Master of Science in Architecture Studies

Abstract

Keywords: Monument, CBD, Office tower, Podium, Global economy, China.

The Central Business District (CBD) is the monument of the regional urban condition. A monument, which is expressive of financial competence and global connectivity. A monument for capital accumulation. The CBD of the global city is a representational tool manifesting bureaucratic capability and economic ambition. Historically originating in the United States, the CBD grew in an organic manner out the city's core and thus articulated a natural tie between congestion and financial growth – embodied in the typological invention of the skyscraper. Today the CBD of the developing city rises as a “pure” device of the planning and political authorities, a projection of the western paradigmatic “downtown” models into foreign contexts that fail to embody or represent the idea of their city or the collective domain of its inhabitants. Manifested as a cluster of towers, this urban and architectural project has seemingly detached itself from both context and content and appears to be increasingly self-sufficient.

Yet while the CBD plays an essential role as a designed urban element that expresses financial progress, this thesis would contest its emphasis on the production of aesthetic contrast and uniqueness, and propose to consider it first and foremost as an operative device with real economic and social validity – not merely a representation of business but a business and an urban asset by its own right. Thus this thesis proposes a strategic revision of the typical CBD models by formulating a set of principles to correspond with key planning and design based challenges, namely issues of: Dimensional, Social, Symbolic and Organizational. These principles would hypothetically promote the mediation of contrast between the global capitalist drive for geographical expansion and the local circumstances that are often facing a process of radical transformation, while maintaining the necessary morphological flexibility and programmatic structuring, which is fundamental for the proper operationally of the CBD.

China's current economic rise, which is both facilitated by and materialized in an intensive process of national scale urbanization and centralization, will be used as the geographic, economic and social context of this thesis. Operating within the gap between the automatic production of monumentality through the CBD and the geographic and political structure of the region, this thesis would conclude with a master plan proposal for a new CBD for the rapidly developing regional city of Chang-Zhu-Tan, the newly constructed capital of Hunan province.

Thesis Supervisor: Alexander D'Hooghe - Associate Professor

Thesis reader: Miho Mazereeuw - Assistant Professor

Contents

Acknowledgments

Propositions

Introduction

1. Architectural monumentality in the regional scale
 - 1.1. The image of the regional city
 - 1.1.1. Centerpiece monument
 - 1.1.2. Monumental voids
 - 1.1.3. Group forms
 - 1.1.3.1. Compositional
 - 1.1.3.2. Networks
 - 1.1.3.3. Clusters
 - 1.2. The possibility for a contemporary monument
2. Monumentality in the service of the market
 - 2.1. The CBD as a device of the capitalist global economy
 - 2.1.1. What is a CBD?
 - 2.1.2. The building blocks of the CBD
 - 2.1.3. Why towers?
 - 2.1.4. Podiums
 - 2.1.5. Arenas for competition
 - 2.2. A timeline of Skylines
 - 2.2.1. 1870 – 1933: Early Visions of the city of business
 - 2.2.2. 1945 – 1975: Post War Megaprojects
 - 2.2.3. 1975 – Present: ‘Being rich is glorious!’
 - 2.3. Types of markets and their spatial organization
 - 2.4. Towards a distributed regional centers model
 - 2.4.1. Dimensional
 - 2.4.2. Social
 - 2.4.3. Symbolic
 - 2.4.4. Organizational
3. Changzhutan – the fabrication of a regional megacity
 - 3.1. The urban / rural divide
 - 3.1.2. Building culture – global and local
 - 3.2. Regional considerations for the design of a new CBD
 - 3.2.1. Infrastructure
 - 3.2.2. Geography
 - 3.3. Key design propositions

Afterword

Notes

Bibliography

Image Credits

Acknowledgments

I owe a debt of gratitude to many people who were involved in the development of this thesis, as well as in guiding and inspiring me throughout these past two years:

To Julian Beinart, thank you for your critical feedback throughout the earliest phases of this thesis. Your input and advice played a key role in shaping the initial argument and my overall ambition.

To Michael Dennis, your studio and theory class in the first semester were fundamental for everything I had done since and will undoubtedly continue to be.

To Miho Mazereeuw, for your encouragement and acute insights. Your comments and critique added clarity to the project and helped push me forward.

And a special thank you to my thesis advisor, Alexander D'Hooghe for your direction and inspiration. Your guidance throughout these past two years played an instrumental part in my training and development.

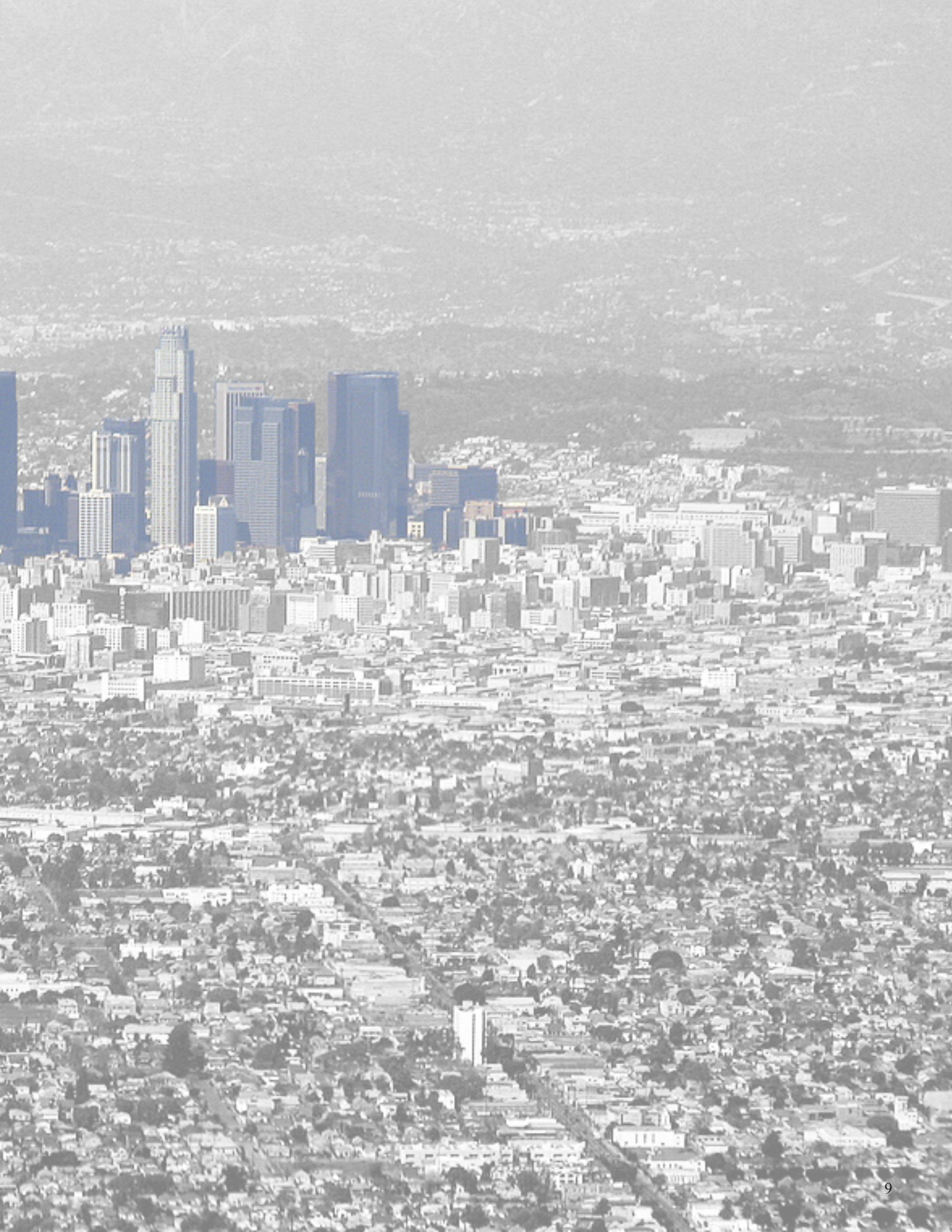
Thank you to the wonderful friends and colleagues that inspired and stimulated my work throughout these two years.

Above all I want to thank my dear family for their care and love. Thank you Anna, for you uncompromising support, encouragement and love. Without you all this could have never happened. And lastly, thank you Naomi – our three months old daughter. This work is dedicated to you.

An aerial photograph of a city skyline, likely Los Angeles, with a white text box overlaid on the left side. The text box contains the title 'Propositions' and a list of four numbered items. The first item is a single line. The second item is a single line. The third item is a single line. The fourth item is a list of five bullet points. The background shows a dense urban landscape with many buildings and a hazy sky.

Propositions

1. The CBD is the monument of the regional urban condition.
2. As long as the global capitalist system will continue to expand geographically, so will we see new CBDs erected in previously underdeveloped areas of the world.
3. The tower is the fundamental device for speculation in the global office market.
4. Four critiques of the contemporary CBD:
 - *Dimensional* – there is an inherent relation between the size of the center and the possibility for assimilation into its peripheral context.
 - *Social* - The podium is a haven for the public and should be considered as a form-giving device.
 - *Symbolic* - Staging a competition for global speculators requires signifying spatially the position of the host and its local stability.
 - *Organizational* - Business cycles should be considered in advance as moments of future regional intensity.



Introduction

This thesis opens by pointing out to the CBD as the monument of the regional urban condition. A monument, which is expressive of financial competence and global connectivity. Possibly the monument, which best represents our culture and time.

Since the 1970's international capital flow has surged dramatically and currently comprises almost 35% of total global GDP. As capital become more mobile so does it spread geographically across a larger number of cities. The result of this is that cities worldwide are competing for their share of mobile capital by doing their best to attract foreign investors. Towards the complete globalization of the economy and culture we are experiencing today, it appears that the contemporary CBD rises increasingly faster than ever and in previously unexpected geographical locations as a manifestation of these processes. This brings forth the necessity to study and theorize the CBD as a whole unit rather than a random collection of independent private projects.

Particularly with the recent rise of emerging markets as major players in the global economy, and with a considerable number of potential locations available for further expansion, It seems like an adequate moment in time to perform a study of CBDs, both as a form of summary for a historical and disciplinary phenomena, as well as a projective study – looking for challenges and opportunities previously neglected, as tools and alerts for future CBDs to rise.

The thesis is composed out of three chapters:

The first is a historical study on the topic of architectural monumentality in the regional scale – to propose that the CBD is the contemporary monument of the regional urban condition. This chapter, which is meant to ground the thesis theoretically and to support the central argument in regards to the objectification of the CBD. This generally builds upon two key works – the first is F. Maki's paper “ investigations into collective form” and the second is S. Giedion's ‘three space conceptions in architecture’. Both of which share a common position regarding group form and its novelty at the time (mid 1960's).

The chapter proposes a general distinction between three types of monumental forms in the regional scale; - Centerpiece monument, - Monumental voids, - Group forms. To finally raise a question in regards to the very nature and meaning of monumental expressions in our time. To resolve this dilemma I use a paper by G. Vattimo titled “post-modernity and new monumentality”, that effectively suggest to avoid the historicist trap – and to pursue monumentality which is neither an expression of ‘Genius’ – inspired by some higher idea of truth nor a mere corroboration of a ‘Natural condition’ which surrenders to

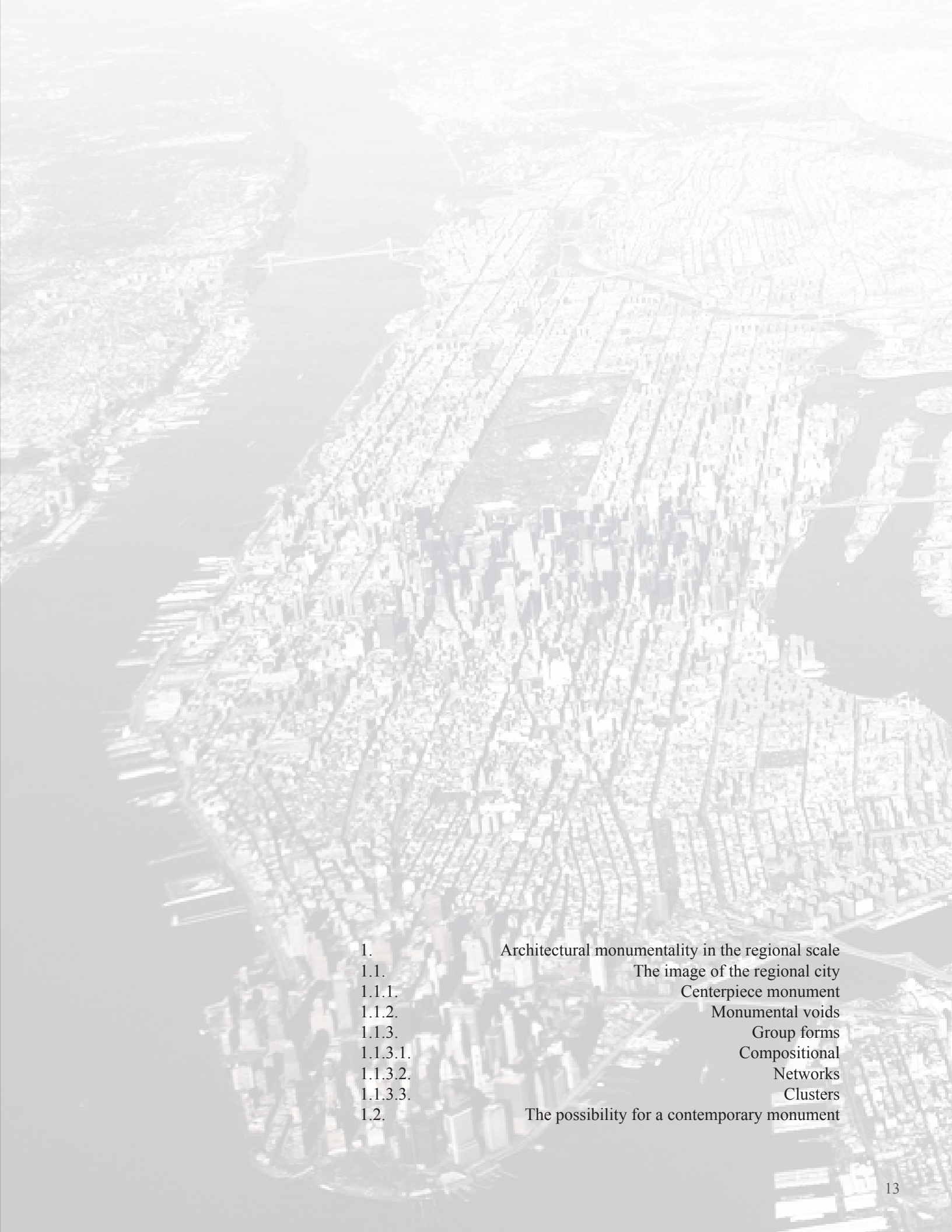
the secret will of an a-priori determination of place or culture.

The second is a chapter analyzing CBDs as a product of the global market economy. Studying the historical origins and developments of CBDs from the united states in the mid 19th century with the invention of planned labor and the development of the office tower as a speculative device, following it to post war Europe and Asia to finally reach China in the late 80's and 90's until our time. It analyzes trends and searches for commonalities between a set of global case studies. It proposes a number of general observations in regards to the economic and operative nature of the CBD as a business model rather than as a model for urbanization. And finally it formulates four key critiques and propositions of the contemporary CBD; namely of (1.) aspects which relate to the general dimension of the CBD (2.) The use of the podium as a formative device (3.) The incorporation of symbolic elements which operate on the scale of the CBD as a whole and (4.) a preemptive approach to future expansion and regional distribution.

The third and final Chapter is a case study of a design proposal for a new CBD in the rapidly developing regional urban condition in the heart of Hunan province in China, where currently three cities (Changsha + Zhuzhou and Xiangtan) - comprising several millions of residents each and are in a process of unification and regional centralization to form a provincial megacity called Chang-Zhu-Tan – estimated to inhabit about 13 million residents after unification. This CBD proposal builds upon and tests on ground the four critiques and propositions developed at the 2nd chapter.

1.

Architectural monumentality in the regional scale



1.	Architectural monumentality in the regional scale
1.1.	The image of the regional city
1.1.1.	Centerpiece monument
1.1.2.	Monumental voids
1.1.3.	Group forms
1.1.3.1.	Compositional
1.1.3.2.	Networks
1.1.3.3.	Clusters
1.2.	The possibility for a contemporary monument

1. Architectural monumentality in the regional scale

This chapter proposes an outlook into the possibilities for an application of monumental architectural and urban design principles into the boundless field of contemporary regional urbanization. This is not to say that the regional scale could be treated as an architectural project, to be designed in a fully controlled manner but rather to explore the potential in which design knowledge, especially from the monumental aspects of past projects, could be used as part of a broader set of tools for the urban designer or planner. Naturally, this chapter will not go into the specifics of each example but rather attempt to categorize well-known examples into a comprehensive system in order to point out sufficient commonality to make a generalization about the nature of each category.

There are two principle conceptual bases for this paper on which the method of classification and a general attitude in regards to the interpretation of monumental types will be based. The first is S. Giedion's book from 1971 "Architecture and the phenomena of transition", which proposes a complete theory in regards to the changes of space conceptions through history into three general periods; internal, external and the two at the same time – internal and external. The second will be F. Maki's 1964 paper "Investigations in collective form", which presents three approaches to collective form and addresses directly the issue of design in the regional scale. These two sources will serve here as a broad framework for the arrangement of the different categories of the types of design strategies for the contemporary vast urban condition.



Figs 1. Athens - Acropolis, 2. NY - Central park, 3. Chicago CBD

1.1. The image of the regional city

In 1960, K. Lynch published his seminal book “The image of the city”, to be one of the first instances where the problem of the imageability of the metropolitan scale is raised. Lynch describes the ways in which the perception of the city is changing in our time, as a result of the rapid expansion of our cities and the increased speed of movement through our cities. He tells us that the metropolitan region is our contemporary unit of habitation and that as such we should consider the imageability of the area in a new scale that relates to the functional organization of our lives.

Lynch proposes two main techniques, which could assist in solving the problem of the visual conception of the metropolitan scale.¹ The first is the composition of the entire region as a static hierarchy of centers, a strategy that although could possibly perform as a rather clear image, would probably be very difficult to orchestrate without a very strong dominating planning authority and could as such prove to be extremely rigid for contemporary needs. The second technique is the use of one or two very large infrastructural elements, which would help organizing the visual clarity of the region. This technique, although seemingly more feasible than the first, still raises a concern in regard of the scale of the dominant element and its possibility of expansion in relation to the growth of the settlement. Finally, Lynch proposes to negotiate between the two techniques and devise schemes that would be able to perform in a sequential manner, dissecting the image into smaller localities in which it would have clearer quality while still operating on the larger scale of the metropolis with a more loose and temporal aesthetics.

In his book “The architecture of the city”, Aldo Rossi suggests a hypothesis which describes the city as a man made work of art and as a



Fig 4. NY CBDs

consequence urges the designer to rethink concepts such as continuity of culture through time, the shared memory of the public and especially the embedded meaning a city reveals through its architecture.² Rossi differentiates between monuments and fabrics, or primary elements and dwellings in his own words, and points out to the dominance of the primary elements not only in the symbolic aspect of the city's cultural heritage but also as a structural component of the city over time. This emphasis on the formal impact a single artifact in the city has over its surrounding, for Rossi, is a sign for the way in which the city preserves its past in a continuous manner and in fact maintains a living continuum to the present.

Similarly P.V. Aureli, proposes to trace the political origin of city projects in order to test the political instrumentality of architectural form.³ Thus, Aureli suggests a localized reading of the process of city building, focusing on the production of the city in set pieces rather than a wide view on the city at large. Using the narrow perspective on archetypical projects, Aureli claims that we could trace the special ties between the social processes and the formal definition of the project in order to finally relate it to a larger family of projects or rather group of forms. Aureli further argues that while the changes of the city can be thought of as the evolution of urban types, its realization can only happen within a politically specific situation and thus explicitly embodies the power relations, which

formed it.

Through this variety of positions to the issue of monumentality and its relation to city building, I would like to propose a brief overview of several formal attitudes to the problem of monumental artifacts and its relation to the city, and explore their potential capacity to serve as tools for designers in an age of endless urbanization. First I will present two traditionally acceptable examples for monumental formal gestures – The single object and the formed void – both represent a historically accepted notion of monumentality and the city. Following that, I will present three approaches to large-scale monumentality based on F. Maki's three types of grouped forms.



Fig 5. Shanghai CBD

1.1.1. Centerpiece monument

“The beginning of architecture is closely linked with the development of a sense of order: a sense of the vertical and its corollary, the horizontal plane” - Sigfried Giedion ⁴

The first category of types of monumental elements of the city is best explained through Giedion’s theory of the historical first space conception. Giedion suggests that one single aspect of the formation of ideas in regards to space is common to all three space concep-tions, which is the acceptance of the vertical as a dominant quality in space. Thus, Giedion suggest an abstract affinity between the Egyptian and the Greek space conception and says that since both the pyramids and the Parthenon stand as individual volumes in space, they essentially represent a similar understanding of the monumental artifact. ⁵

The stand-alone object operates as a glorified marker of centrality and domination, a singularity that has an unmistakable authority over its surroundings, whether expanded or local. The clarity of the image that the stand-alone vertical element proposes, enables it to perform as a very strong constituent in space which presents above all contrast between its homo-geneous surrounding built fabric and its own exceptionality. Yet although the monumental object seems like a rather obvious design tool, it appears that progressively through history,

we can notice several different strategies of utilizing the singular exception in the urban context.

While earlier cultures exploited the local topography to locate the unique monument on raised ground – whether in Athens or Jerusalem, it is once technological advancement enabled the construction of enormous manufactured objects that they were able to defy geography and project their image across vast areas – magnificently exhibited in the Paris expo of 1889. Yet it is rather interesting to notice that while the Eiffel tower might be seen as an extreme interpretation of the radiant spectacular object, it displays a rather limited consideration to its locality. The Sydney Opera on the other hand, is spectacularly positioned in the heart of the larger expanded urban territory and thus radiates its own monumentality to an area of influence, which is united through the use of the singular object. The extraordinary relation between the positioning of the object and the geographical condition of the Sydney bay area is what establishes the strong effect the object as an indicator of centrality has over the region.



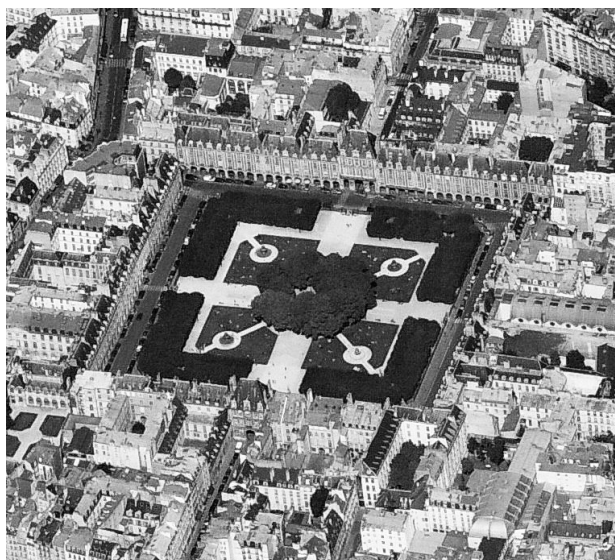
Figs 6. Paris - Eiffel tower ,7. Sydney Opera house

1.1.2. Monumental voids

The origin of the formally bounded common space dates back to the early Roman forums. From the forum of Julius Cesar to the forum of Trajan, all were laid out on axial principles and framed internally by colonnaded corridors. From the outside they were enclosed by boundary walls and entered only through axially oriented gates that were usually marked by triumphal arches. These central spaces were strategically placed at the intersection of the two main streets and traditionally used as the center of the Roman public life, whether as sites for triumphal processions, venues for public speeches and where the statues of the city's great citizens were raised.

While traditionally the forum has evolved as the centers of the public life and thus symbolically if not functionally, were tied to the political power, it was only at the turn of the 17th century that exterior places began to adopt a more civilian and mundane character. The construction of the Place Royale at 1605, conceived as a monumental space enclosed by anonymous architecture is a great example of such a transition. Its regularity through the repetition of the windows and decoration, realized the political desire to overcome any specific symbolic identity but rather a united framework. Space here is a mere framed void, which founds the potentiality of social and economic relationship, the possibility of circulation and of empowerments.⁶

The generous park space proposed by F.L. Olmstead in 1858 as a late addition to the commissioner plan, was probably a marker for a new conception of the traditional town square in a scale before unimaginable. The formal clarity of the park enables for an extraordinary relation between the high density built fabric on the island of Manhattan and a sense of stability in regards of the permanence of the open space, which is clearly bound.



Figs 8. Paris - Place des Vosges, 9. NY - Central park

1.1.3. Group forms – types of collective formations

Postwar discourse on monumentality, led by the C.I.A.M based trio, J.L. Sert, S. Giedion and F. Leger’s 1943 paper titled “Nine Points on Monumentality”, was focused around a search for a possibility of a contemporary theory of monumentality which will be culturally relevant for the post catastrophic era. In their nine pointed manifesto, it was argued that with the contemporary lose of frontiers between architecture and town planning, as well as the lose of frontiers between the city and the region, we should investigate into new forms of monumentality for the newly discovered regional scale. This new monumentality should be formed through a collective work of the city planner, architect, painter, sculptor and landscapist. Together all these different disciplines would form a communal alliance and express a new spirit through their monuments.

“The third step lies ahead. In view of what has happened in the last century and because of the way modern architecture had come into being, it is the most dangerous and the most difficult step. This is the reconquest of monumental expression.” - Sigfried Giedion⁷

In the year following the publication of the nine point manifesto, Giedion wrote an article titled “The need for a new monumentality”, in which he adds another formal layer on top of the previous claims which were mainly social and political in nature. The formal attitude Giedion endorses here is most explicitly identified through an example he gives of Le Corbusier’s 1927 proposal for the place of the League of Nations. Retroactively, it could possibly be read as a precursor to Giedion’s

third space conception, explained only at 1971, and published posthumously.

Giedion argues for a new space conception in which architecture considers outer space while expressing inner space at the same time, in opposition to the previous Roman and Greek space conceptions that were focused mainly around a singular attitude to space. Giedion describes the contemporary space conception as a new kind of relation and interpretation of volumes and space. The fluctuation of volume and void, interior and exterior, a continuous space, which establishes new relations between, contained and projected and manifests an intricate spatial appearance.⁸

F. Maki’s paper “investigation into collective form” is given by Giedion as one of the clearest examples of the way in which the new space conception is expressed through the conceptualization of “group form”.⁹ In this paper, Maki proposes a critique on the CIAM hierarchical ordered theories and asks the contemporary designers to think of “master programming” as an alternative to master planning. This calls for a new understanding of the urban formations designers should consider. Maki proposes three key structural approaches that reflect a possibility for a new conception of collective form:

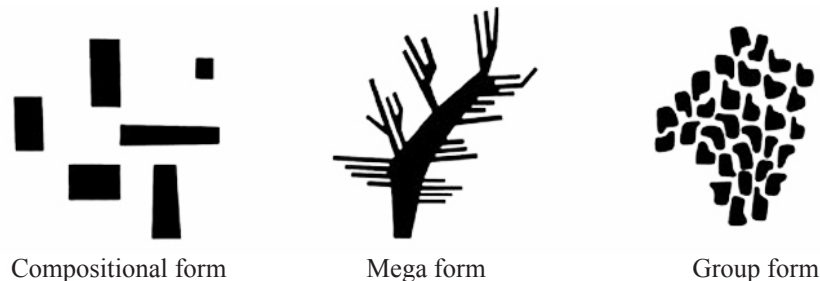
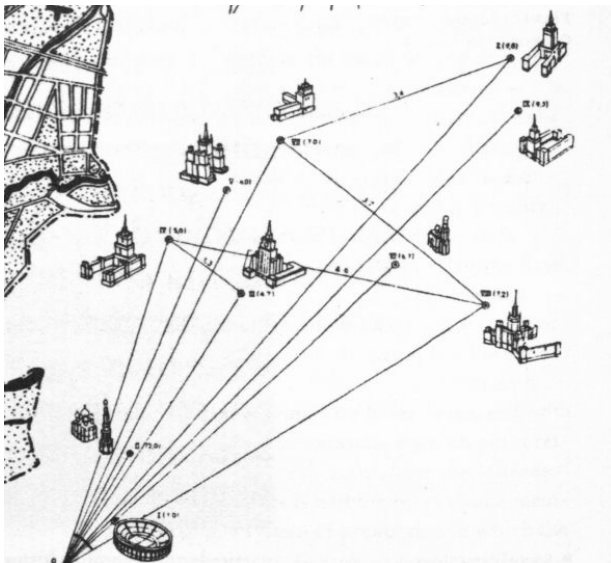


Fig 10. Maki’s three types of collective formations



1.1.3.1. Compositional – Systematic object distributions

Maki argues that the compositional form approach is the most common of the three approaches he presents, where a proper functional, visual, spatial and symbolic relationship are established on a plan between independent elements that are pre-conceived and predetermined functionally and spatially. Maki continues to describe this approach as a natural extension of the architectural project and as the most static approach of the three because of the mere act of composition itself has the tendency to complete a formal statement.¹⁰



The various examples for the uses of this compositional and artistic technique of duplication as the orchestration of its collective form through a systematic logic of positioning, is possibly sufficient evidence for its inherent relation with the representation of greater power, whether political or economical. The Egyptian pyramids and Moscow's seven sisters are both extraordinary examples to the way monumentality of the vertical object is enhanced and exaggerated through repetition and distribution.



As for the World trade Center, I would like to suggest that there is a rather sophisticated internal mirroring between the two towers that enables to read the projects as a symbol fo the region as a whole, even though it is a radical example of a private project and not a public one. The silent form together with its duplication suggest a position which is outside of the speculative market and thus in a way does not participate in the speculative market which essentially activates the skyline. I will discuss this point and the possibility for a symbolic gesture that negates the message of teh CBD as a whole, later in the 2nd chapter.

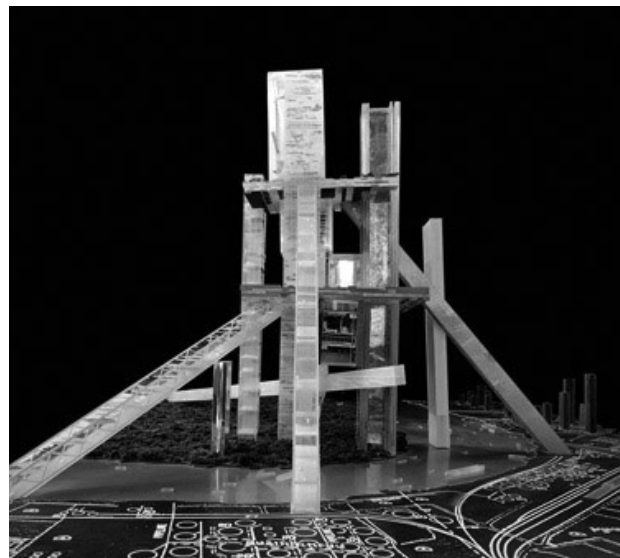
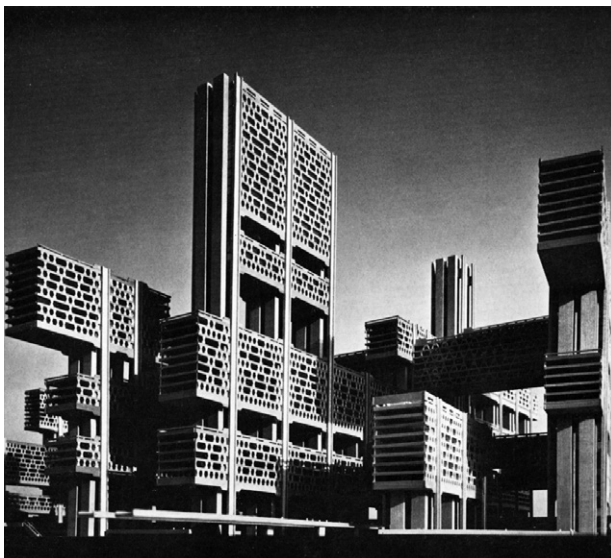
Figs 11. The pyramids of giza, 12. Moscow's 'Seven Sisters', 13. The World Tade Center in NY

1.1.3.2. Networks – Multi dimensional formations

“In the second space conception – very noticeably in the late Baroque period – spatial accents were given to the urban scene by creating open plazas and squares with space defining walls. In the third space conception this function is preformed by the spatial interplay between sculptural volumes”. - Sigfried Giedion ¹¹

Giedion gives the example of Kenzo Tange’s Tsukiji project as an illustration of his third space conception, where the structure is a sculpturally articulation of various volumes, projected upwards – animating the project. Tange describes the project as “a system that would permit differentiation and blending and would organically unify the relationship among the constantly expanding and changing city, its transportation and its architecture.” The fundamental significance of such a project is clearly about the expression of complexity and the spectacular richness of space in a radically novel way. Newness and innovation are perhaps one of the key words for this category, both for Tange and his Metabolists colleagues as well as for Giedion. ¹²

More than thirty years after Tange designed the Tsukiji project, Rem Koolhaas has completed the CCTV towers project in Beijing, possibly as the first built project to express Giedion’s third space conception in the radical manner which he proposed it. Although the rich plastic articulation of the spatiality of the project is very clear, Koolhaas argues for this type of project in a rather different manner. Koolhaas makes a point for big architecture as a substitute for urbanism, and claims for the possibility of bigness to perform in a radically original way through the use of new technology. Interestingly, Koolhaas does not discuss aspects of expression of his big designs, and prefers to keep the discourse on the programmatic performance of his architecture.



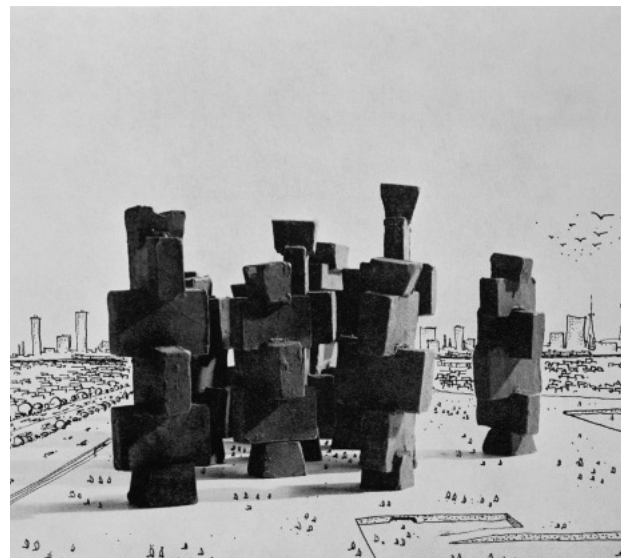
Figs 14. Kenzo Tange - *Tsukiji* 1966, 15. OMA - *Hyperbuilding* 1995

1.1.3.3. Clusters – The monumentalization of fabric

“Forms in group-form have their own built in link, whether expressed or latent, so that they may grow in a system.” – Fumihiko Maki¹³

As the third and final category of collective form, Maki presents Group Form as a possibility for architects and urban designers to relearn from vernacular town formations. He says that although these historical examples are developed over a period of time, which is much longer than that, our contemporary cities are being built in, still he claims for a useful lesson through those examples. Maki suggests that a further inquiry of the basic elements and particularly the relationship between the elements and the group reveals an interesting principle, which involves the creation of a collective form.

At the very same year Maki publishes his paper – 1964 – Bernard Rudofsky publishes a curiously similar approach to group form through a categorized presentation of vernacular architecture, titled “Architecture without architects”.¹⁴ Rudofsky presents as one of his examples a series of fortified towns, which explored the tower building type as an instrumental vantage point for battle scenarios. These examples not only project for the possibility of involving a consistent typological application in the contemporary city for the benefit of group form but also opens a new perspective into the cities which we inhabit today that may present similar formal characteristics. Thus the New York skyline is suddenly perhaps available for a reinterpretation that could counterpoint Le Corbusier’s critical stance on the unordered nature of the modern city, and suggest by that a possibility for a new understanding of hidden features and logics which form our contemporary cities.



Figs 16. New York Downtown skyline - 1941, 17. Fumihiko Maki - *Shinjuku* 1964

1.2. The possibility for a contemporary monument

Lewis Mumford depicts the architectural monument as a manifestation of periodical power of the governing authorities. He tells us that the citadel walls are a clear example as such monumentality as well as the mausoleum.¹⁵ Perhaps similar to Rossi's thesis in regards of the permanence of the monuments over time and its dominant performance in the dynamics of the city, Mumford claims for a historical reading of the monument as an expression of a moment with all of its political and social meaning. Yet following the past examples presented throughout this paper, I would like to propose that the historical understanding of monumentality is insufficient and argue that we should develop a typological formal understanding of the project, in a way which inherently embodies meaning.

Gianni Vattimo in his attempt to describe what should the meaning of monumentality in our postmodern age be, tells us that we must first reexamine the areas of our environment that we currently struggle with preserving – The historical and the natural.¹⁶ Through this, he claims, we can understand a great deal about our conception of monumentality and perhaps its confusion with what is given. By that he means that certain basic conditions of life might look more like nature than culture only because of our inability to see its historical origins. Vattimo continues to warn us from resolving the opposition between nature and history with a dialectic polarization, since in his view, this would only result in a naturalistic attitude combining the two drives in a rhythmic movement which will surrender to a permanent normative structure. Thus, the actual need for a renewed “natural” foundation that is keenly felt is a deeply cultivated, artificial and historic one in which the striving to reconstruct a cyclic temporality as the endpoint of a linear process of development, is historical by itself. To summarize this point, the need for monuments, according to Vattimo, is more ancient than the need for a “natural environment”, or better still the latter is only a metaphorical mode of the former.

Perhaps Giedion's attempt to define a new spatial conception is in the lines of the way in which Vattimo proposes we should investigate. Through the manifestation of spatially innovative expressions of monumentality we are perhaps able to find result for the temporal concerns we currently hold. Space rather than time? What should the monument of the city regions express? In order to avoid the risk of the nostalgic monument we must let ourselves be guided by the metaphor of “space” rather than the metaphor of “time” and memory. As a result we would possibly better express the contemporary rather than the continuous and thus manage to intensify our reference to community and society.

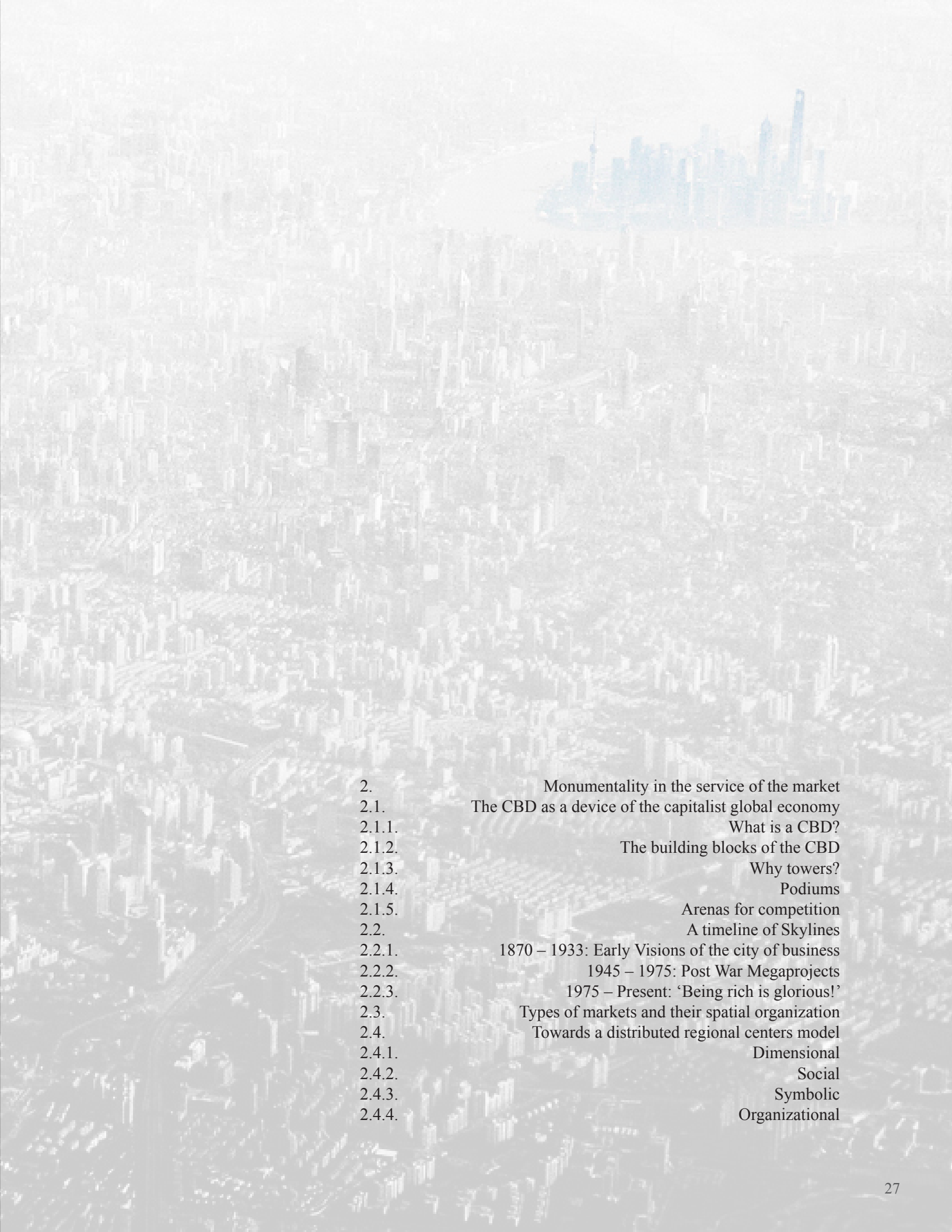
The global city's CBD, manifested as a cluster of high rises, is perhaps the exemplary contemporary monument of the region, if one follows Maki's reading of Group-Form. Yet such a definition of the downtown, might confuse us in regards to consecutive definitions such as; districts of the city, the meaning of sprawl in the political sense, or even in regards to issues of preservation of the downtown as an organic whole. These questions, which explore the political definition of the urban monument in the regional urban condition, are increasingly appropriate with the loose of our traditional definitions of urban design in this large-scale context, confronting our ideals in regards to the formations of our cities and the politics it implies.



Figs 18. Superstudio - *The Continuous Monument* 1969, 19. Los Angeles CBD

2.

Monumentality in the service of the market



2.	Monumentality in the service of the market
2.1.	The CBD as a device of the capitalist global economy
2.1.1.	What is a CBD?
2.1.2.	The building blocks of the CBD
2.1.3.	Why towers?
2.1.4.	Podiums
2.1.5.	Arenas for competition
2.2.	A timeline of Skylines
2.2.1.	1870 – 1933: Early Visions of the city of business
2.2.2.	1945 – 1975: Post War Megaprojects
2.2.3.	1975 – Present: ‘Being rich is glorious!’
2.3.	Types of markets and their spatial organization
2.4.	Towards a distributed regional centers model
2.4.1.	Dimensional
2.4.2.	Social
2.4.3.	Symbolic
2.4.4.	Organizational

2. Monumentality in the service of the market

“This age found its form, as early as the eighteen-eighties in America, in a new type of office building: symbolically a sort of vertical human filing case, with uniform windows, a uniform façade, uniform accommodations, rising floor by floor in competition for light and air and above all financial prestige with other skyscrapers. The abstraction of high finance produced their exact material embodiment in these buildings, and the tendency to multiply bureaucratic services and extend the far-reaching system of controls has not, even now, reached a terminus.” L. Mumford ¹⁷

At the first half of the 19th century, as part of a global transformation towards an industrial age, a particularly urban phenomenon emerged, that which is known today as planned-labor. Traceable to the rapid growth in commercial activity spawned by the American industry at the time, planned-labor rapidly influenced the physical form of the emerging business centers of the US, namely Chicago and New York. Coupled with the commercial use of newly invented communication technologies such as the telephone, the telegraph, and improved mail systems, production and service could effectively be divided between distant areas of the city. Factories were separated from the historical urban centers, while large enclaves devoted to bureaucratic services began to take form, with the office taking its place as a programmatically dedicated building type. ¹⁸

Typologically, the new science of planned-labor resulted in a particular classification of two distinct building types dedicated for work; the factory took the form of a shed, while the tower became pronounced as an appropriate building type for office work.¹⁹ The steel frame structure facilitated advances in spatial aspects of construction such as; an open and versatile space, a permeable building skin which is not load bearing and above all, the ability to attain ample building height. This combined with the pioneering commercial application of the elevator, finally made possible for the tower to emerge as the most economic and rational building type for office use. ²⁰

Thus, through a repetitious application of the increasingly programmatic specialized building type – the tower, both in Chicago and New York towards the end of the 19th century, began to articulate a distinctly business oriented district which served the rise of managerial and corporate capitalism and marked the historical birth of the modern conception of the ‘City of Business’ or what is presently often called the Central Business District - CBD.

In this chapter I would like to propose a study of the underlying tie between the tower as a building type specialized for office use and the CBD as the effective consequence of its collective mechanical replication, to eventually serve as an archetypical model of the contemporary global modern ‘city of business’.

2.1. The CBD as a device of the global capitalist economy

Since the 1970's international capital flow has surged dramatically and currently comprises about 35% of total global GDP.²¹ This has mainly to do with post WWII recovery policy and deregulation of foreign investment. This phenomenon with time has led to a condition where a growing number of cities (currently about 300) worldwide account for 40% of Global GDP.²² Which means that as capital become more global so does it concentrate geographically across a larger number of cities. The result of this is that cities worldwide are competing vigorously for their share of mobile capital by doing their best to attract foreign investors by offering office space dedicated for the management of their regionally local business operations.

This global phenomenon is particularly evident in China, where in the past two decades cities aggressively compete for their position within a world financial order as they are desperately looking for means to diversify their economic base as part of long-term strategies for a sustainable Chinese economy. The significance of the participation of the Chinese cities in the global world economy should not be understated. World systems scholars such as Minqi Li note that the rise of China in the global economy will bring to a massive change in the conception of globalization in relation to the environment and place

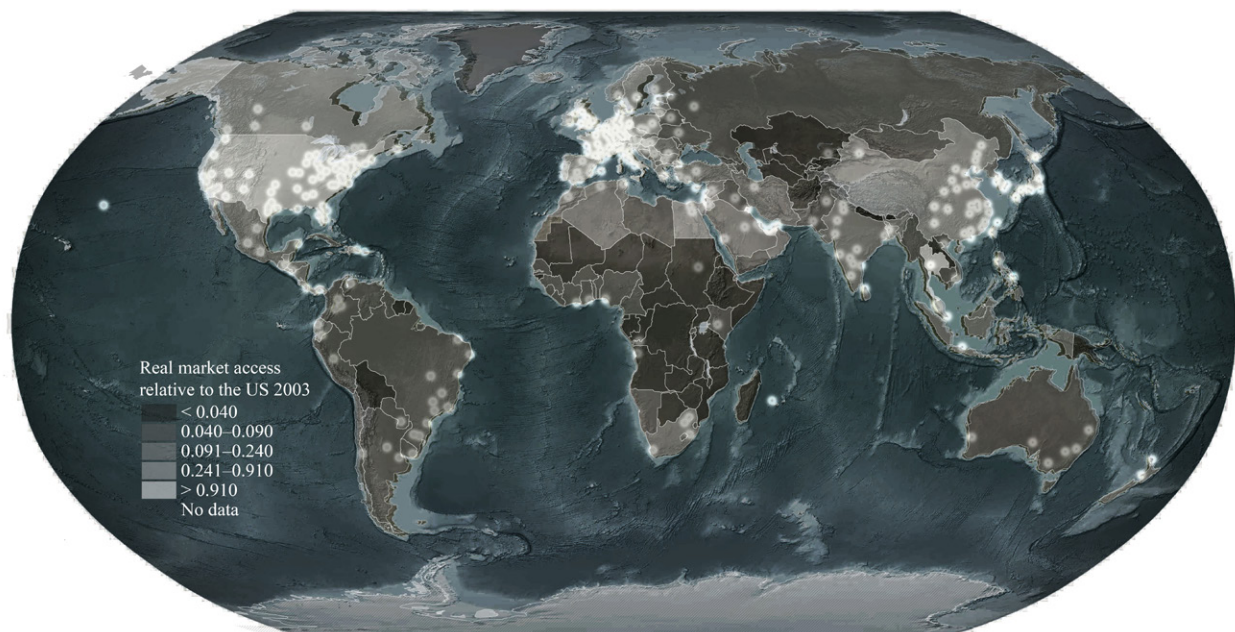


Fig 20. 300 cities account for 40% of global GDP

and possibly to a structural conflict within the mechanism, which drives the global economy as a whole.²³

The scale of capital flowing into China since the open door policy which was initiated in 1978 has been enormous. This Foreign Direct Investment is strongly desired by the Chinese state in order to facilitate a rapid development process, maximize foreign exchange earnings, relieve domestic capital supply bottlenecks, transfer technology and skills to Chinese enterprises and workers, promote employment, and increase interaction between domestic economy and the outside world.²⁴

In order to enable the incorporation of the Chinese economy into the global system as a result of these macro economic incentives, a set of micro / local incentives have been regularly produced through the establishment of Special Economic Zones (SEZ). These preferential areas for FDI are administered by the relatively autonomous regional and local levels of government. These offer a wide range of incentives to foreign investors, to set up export oriented projects, or invest in infrastructure and property development projects. Thus, the incorporation of a large socialist state into the capitalist world economy is possible through the application of territorially defined regulations that are unevenly applied.

These SEZ in turn enable the formation of a global / local market activity that draws upon the local urge for rapid development and integration into the global scene as well as the foreign appetite for early investment in a promising economy. These rapidly attract global financial houses, brokers, investment banks, chartered accountancy firms, engineering firms and legal firms, and generate a demand for Grade A office supply to finally form the newly devised CBDs.²⁵



Guangzhou



Shanghai



Chongqing



Tianjin



Changsha - Meixi Lake



Changsha



Beijing

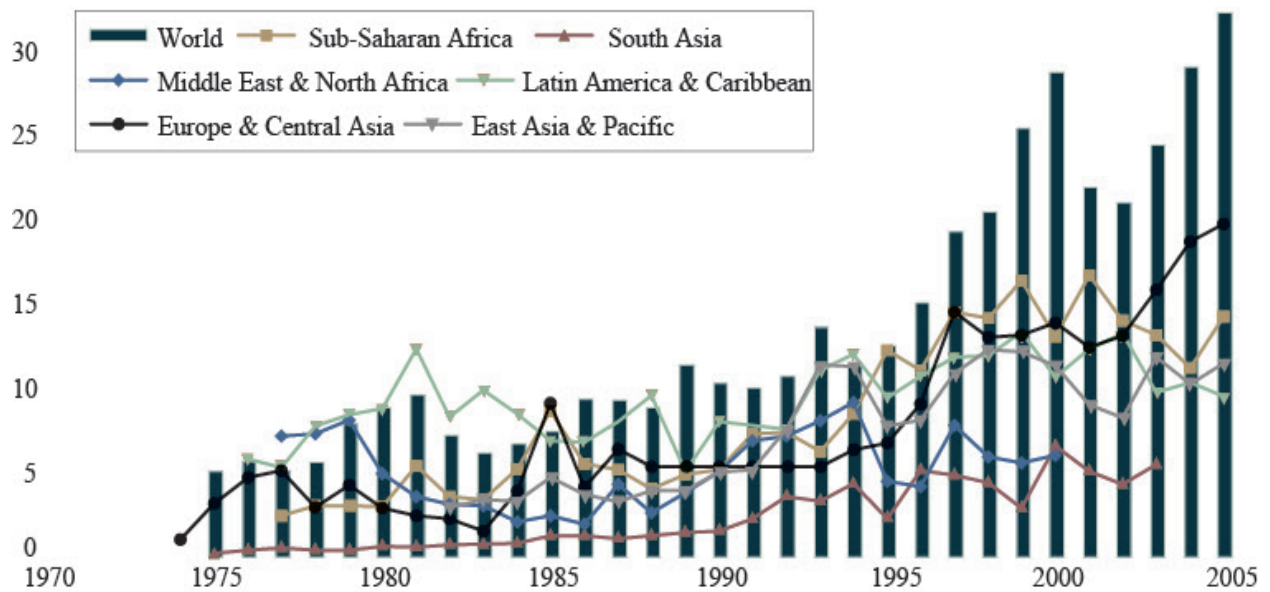


Shenzhen



Wuhan

Percentage of GDP
35



Figs 21. A selection of contemporary Chinese CBDs, 22. International Capital Flow since the 1970s

2.1.1. What is a CBD? – Centrality as a business model

In the context of this thesis, I would like to suggest that the CBD is first and foremost a business model, for the creation and accumulation of value for all actors involved. By defining the CBD as an economic model for the benefit of all participants, this thesis essentially negates the possibility for designers to operate from outside of the economic system, through ‘purly’ design operations, in order to essentially provoke a definite attitude which is internal to the architectural and planning discourses in regards to the design of the CBD as a whole unit.

Through the various construction cycles of office towers in global cities, the vast majority of them have been speculative (represent about 66% to 75% of new construction in CBDs in nearly every period and place). Which means that they were not corporate buildings meant for ownership but rather as space for rent.²⁶ Thus value relates directly to the intensity of use – the human traffic or the number of occupants – and the income it can generate over time, either as rents or in revenues from sales. This results in a closed feedback loop of capital between the key actors, which is inherently tied to the office tower as a type, which maximizes the capacity for rentable space in ratio to the cost of the plot.

Through the logics of the systemic flow of capital

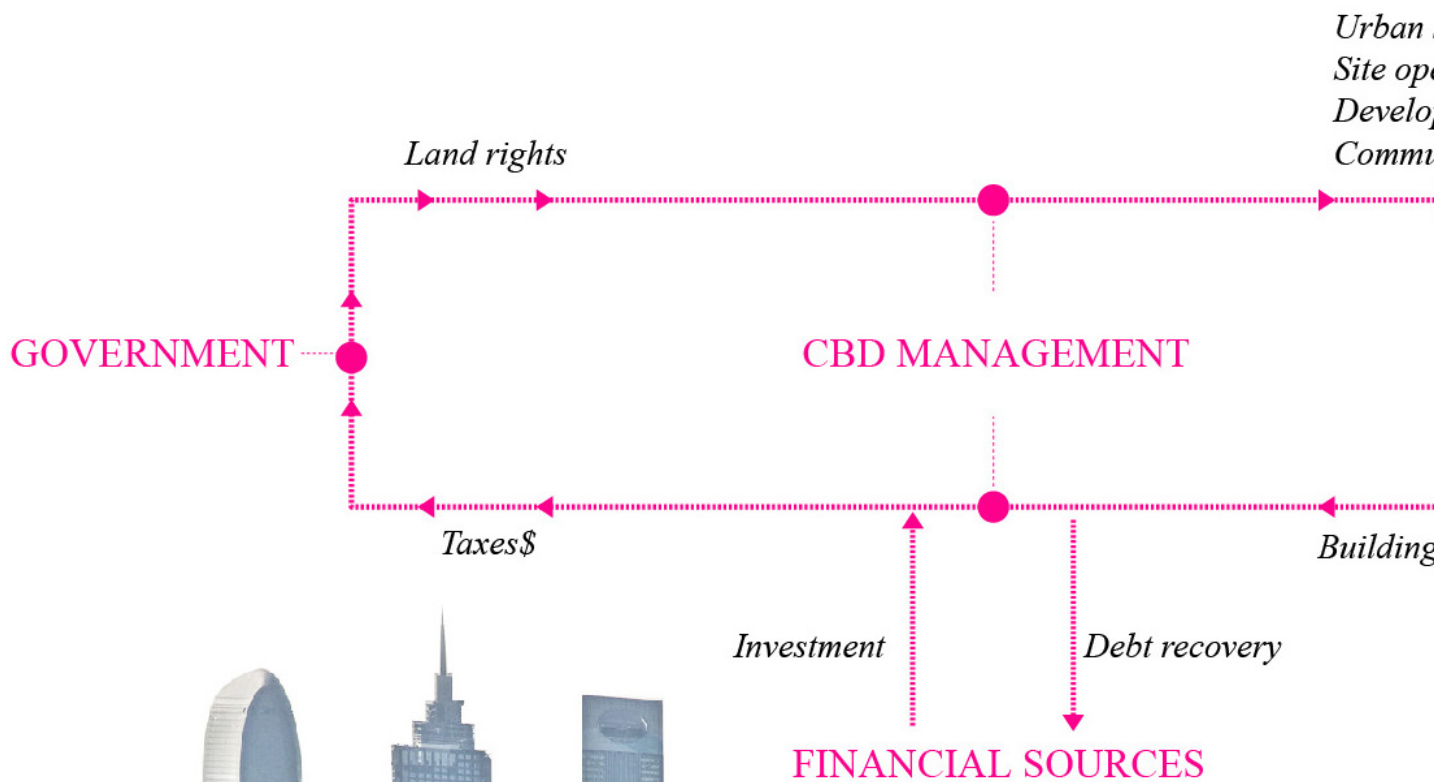
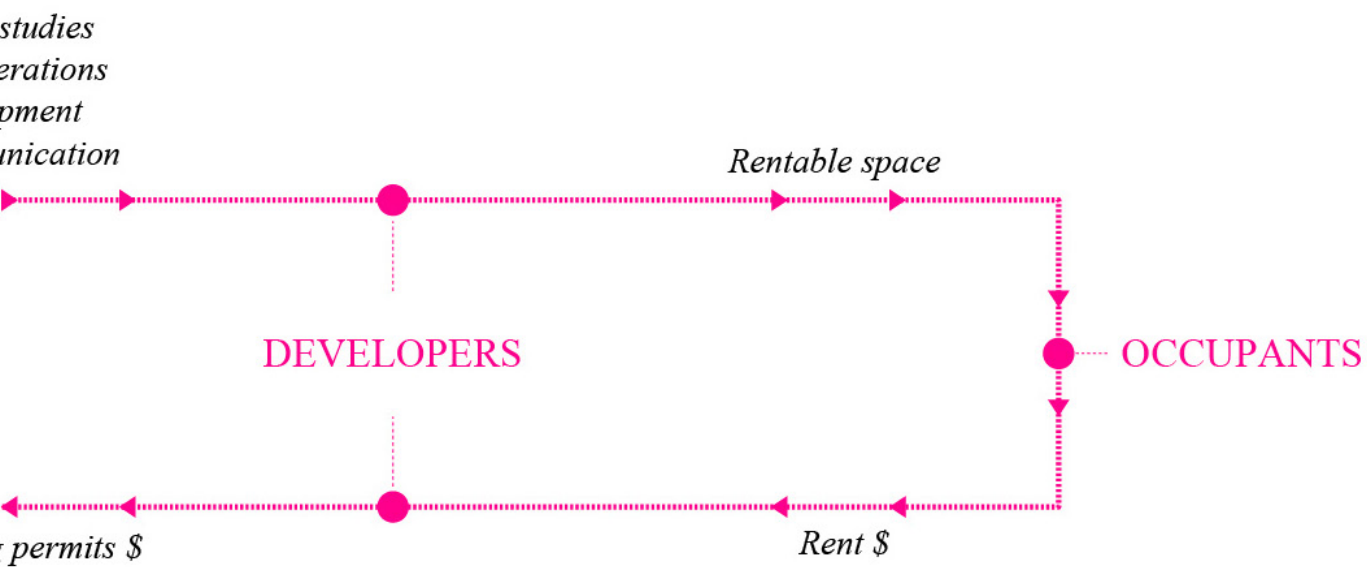


Fig 23. Guangzhou CBD

between all actors which operate within CBDs world wide, this thesis attempts to expose the agency of designers to both operate from within the capital driven system while maintaining a sense of autonomy in regards to our own knowledge and to suggest an added value through the spatial and typological operations we have to offer across a range of scales. This subversive criticality is not necessarily meant to disrupt the current capitalistic system but rather to realistically detect possible entry points for an increased agency of designers in CBDs.

By detecting key players which are invplved with the production and management of CBDs globally, designers could potentially enhance their spectrum

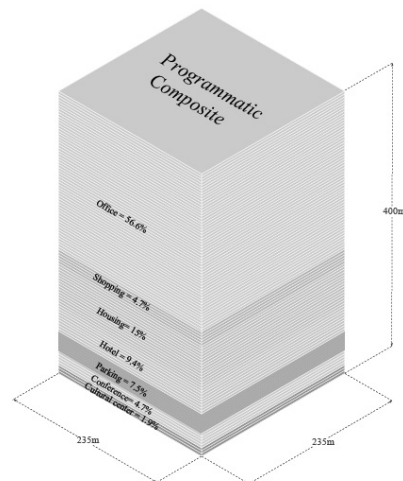
of action by addressing indirectly the circular loop of power. Thus it is not neccesarily the direct comisioner of the office tower that holds the capacity ot affect the CBD as a whole but rather the local government and the CBD management in particular that are the ones which should be involved in design decisions, and not to recive seconed hand resulosions through the developers architects.



2.1.2. The building blocks of the CBD - Towers and Podiums

The term speculative refers to structures erected as rent producing properties. Developers thus speculate on the future value of the property, estimating an income flow over the life of the building. Both building forms (or rather the evolution of type) and the very morphology of CBD itself has a temporal dimension: the cyclical character of the real estate industry shapes them. Because escalating land prices drive up the number of floors needed to spread the cost of the lot, the tallest buildings generally appear at the end of the boom cycle. Thus value relates to the intensity of use – the human traffic or the number of occupants – and the income it can generate either as rents or in revenues from sales.²⁷

In order to accommodate the uninterrupted circulation of capital between the various actors participating in the design, management and financing of CBDs, both the tower and the podium, I would argue, are essentially connected through a range of factors to the very form in which the CBD operates as a business. This essentially ties these types specifically to districts which host financial service providers and would typically not exist in anywhere else across the urban field.



Figs 24. Guangzhou , 25. An average programmatic composite of a typical CBD

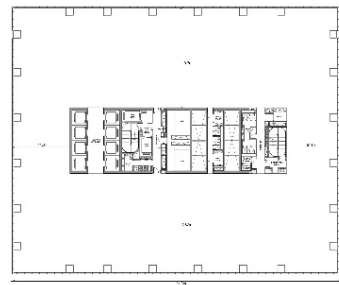
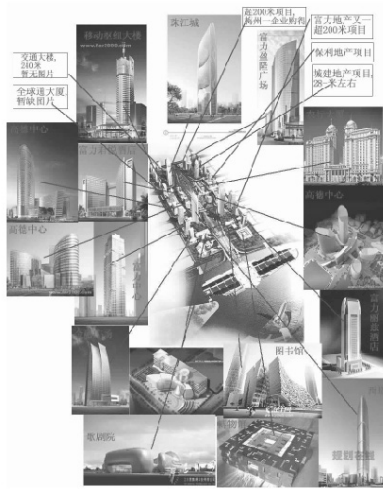
2.1.3. Why towers?

“ A skyscraper is a machine that makes the land pay ” – Cass Gilbert, 1900

So why necessarily towers for the maximization of capacity? Are there no other ways to provide these high figures of density? The answer for this question is twofold:

First there is the issue of ‘Connectivity value’ – this essentially means that the CBD as a regional center provides its occupant access to a highly connected node as a form of service, and therefore it is not sufficient to propose similar FARs in different forms of distribution but to relate directly maximum density and immediate proximity to the most connected locations.

Secondly there is the issue of regional visibility and the projection of image afar - as rent a producing factor, I would claim it is inherent in the tower as a type as well. While image can be seen as an essential aspect of the speculative building, it should not be confused with the very fundamental nature of the speculative office building as a generic space, fundamentally offering maximum flexibility of arrangement as well as identity for the prospective resident.



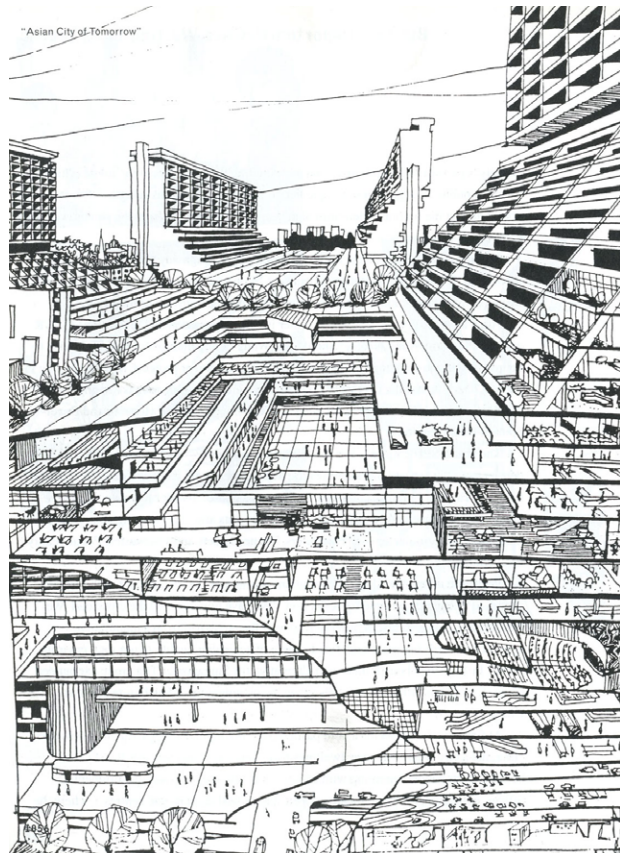
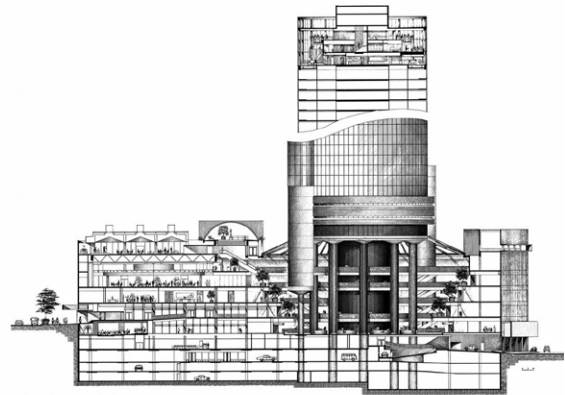
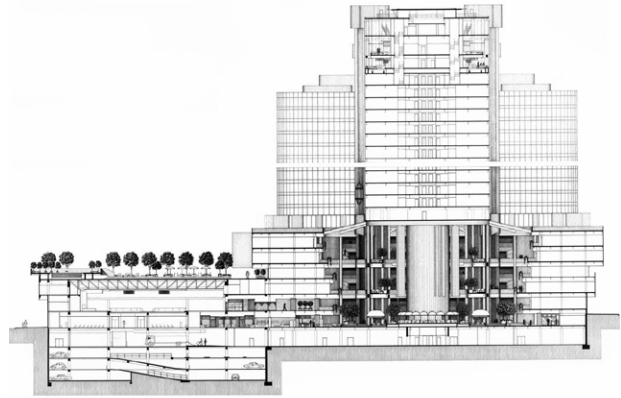
Figs 26. Guangzhou CBD, 27. Generic Office tower floor plan

2.1.4. Podiums

“ But the tower is only a minuscule part of a vast presence - more and more of the world’s ground floor is handed over to Jerde - at first a harmless alternative to the flawed geometries of exhausted planners or the poetic straight jackets of landscape architecture, scripting entertainment on the least promising surfaces in accidental, but evermore captivating configurations, but now his slack doodles are chiselled by our best brains into sky high extrusions of antiform, in a kind of desperate situationism gone corporate.

... Jerde & Co.’s universal blueprint seamlessly closes all horizons, blocks all the exists, eliminates all perspective... A permanent house of horror for all.” - Rem Koolhaas ¹

The podium as a type is perhaps a form of resolution derived from the conflicting urge of complete utilization of the ground for the speculation of office space, and the increasingly stronger possibility for developers to gain revenue from sales by accommodating the public’s habits of shopping. This has to do also with the increased ability to air condition larger pedestrian areas and thus to enclose what previously was know as the street. This evolved annex to the tower is progressively asserting increasing importance and visibility in newly constructed CBDs as well as in more established ones.



Figs 28. J. Portman - *The Westin Bonaventure*, LA, 1976, 29. J. Portman - *The Westin Peachtree plaza*, Atlanta, 1978, 30. Lim and Soon - *Asian City of Tomorrow*, 1966

¹ Content - p. 509

2.1.5. Arenas for competition

For all these reasons, CBDs must be understood as competitive commercial markets where space is a commodity, and position and appearance count first and foremost as key ingredients for the attraction of rent-producing residents. Thus I propose to consider the CBD as the stage for the business of speculation on office space, and us – the designers of CBDs, first and foremost as the organizers of the arena for this competition. By defining the CBD as an arena for competition, this thesis essentially ties the speculative role the tower plays in this arena while stressing the fact that the competition has to be orchestrated and managed – by the designer as well as by the hosting locality.

Perhaps the most basic question in respect to the organization of a competitive arena is, what can design add in a way that the market would not take care of on its own? If the market is in charge of the competitiveness and the instrumentality of architectural types, what is there to add on top of this that will not disrupt the financial operability of the district yet add value in various potential moments?



Fig 31. MIBC - *Moscow International Business Center 2010*

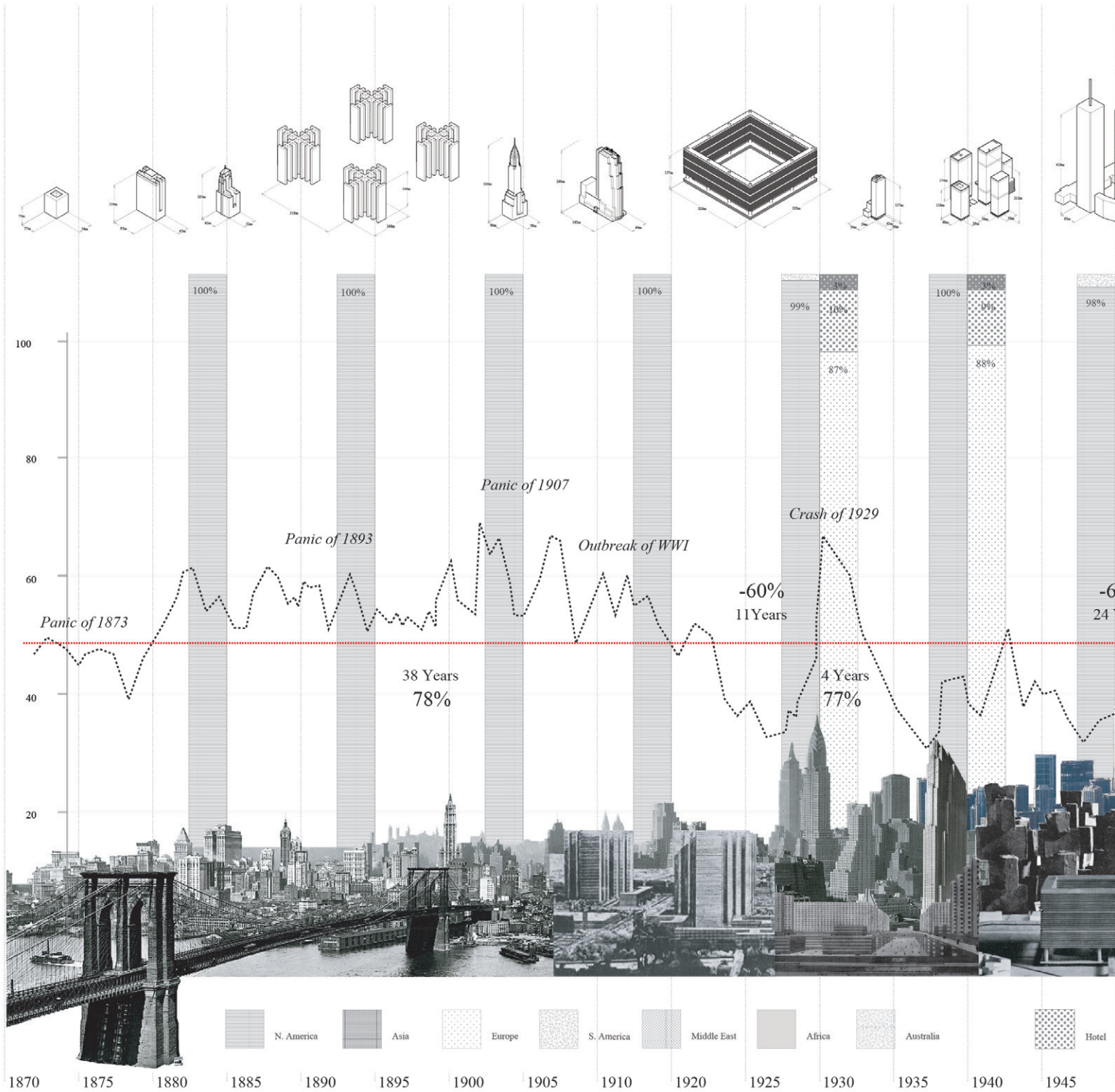
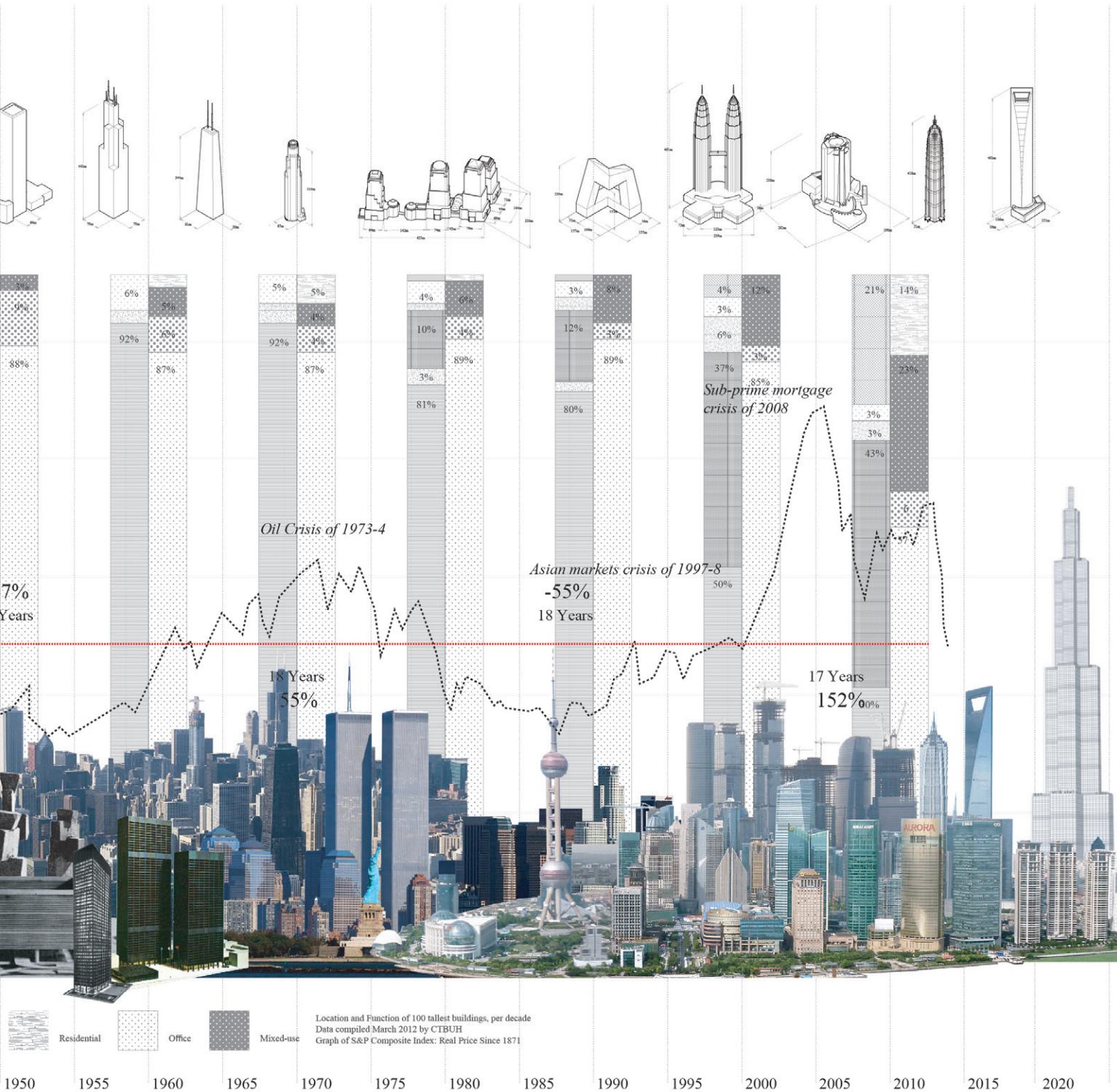


Fig 32. A Timeline of Skylines



2.2. A timeline of Skylines – the CBD through history

“In Europe the idea of the tall building was apt to be the substance of a dream; but in America, the idea become fact was prone to be little more than an aspect of a too emphatic reality.” Colin Rowe, 1956²⁹

In an attempt to define long term trends in the relation between designers and the issue of the CBD, this thesis uses Colin Rowe’s insight in regards to the opposing nature of criticality of the architect who operates from within the capitalist development system (as the early Chicago architects did at the turn of the 20th century) and the architects which by operating from a distance can afford to critique and simplify the reality in more abstract terms (such as Le Corbusier and L. Hilberseimer did at the twenties). Using this oppositional condition of operating from within vs. operating from outside - or even against - this historical overview will propose a division into 3 general periods of time:

- 1870 – 1945: U.S capitalist vernacular vs. European modernism
- 1945 – 1975: International style vs. A. Rossi, F. Maki, and Gruen
- 1975 – present: From post-modernism to the global generic



Figs 33. *NY Downtown 1932*, 34. *WTC in mid 80's*, 35. *Shanghai CBD - artistic render*

2.2.1. 1870 – 1945: Early Visions of the city of business

This segment focuses on the early period of industrialized economy – from the end of the 19th century until the great depression and the Second World War as markers of its end. This period of time is especially relevant for a typological study of the skyscraper and CBDs not only because of the very invention of the skyscraper as a typical condition, but especially because before the 40's office interiors depended primarily on sunlight for illumination and thus the building related more to the boundaries of their sites in ways that were no longer necessary after the development of the florescent lighting and air-conditioning in the early 50s.³⁰

Since the cases of New York and Chicago can seem to be rather similar - I will follow them with an oppositional example of a vision for an unbuilt CBD proposed by Le Corbusier in 1922 – ‘Ville Contemporaine’ and present the Cruciform tower as a visionary manifestation of a radical social vision on the topic of CBDs.

First Vertical Extrusions

Chicago was planed in the 1830's with large squerish blocks of about 120m / 110m with corresponding wide streets of about 22m to 27m wide. This combined with the height control first set at 1893 gave birth to the local typical courtyard building type. Due to concerns in regards to high vacancy rate as well as aesthetic considerations, in the first 30-year period between 1893 to 1923, the maximum allowed building height ranged between 130' to 260' (45m to 85m). This was naturally the result of an economic height as well of steel construction cost, especially considering the costly foundations, which were



Figs 36. *Chicago CBD - 1900*, 37. *NY Brooklyn Bridge looking to CBD - 1900*

required for the muddy nature of the ground in the loop area.³¹

At this period, Chicago presented two distinct types of office buildings that corresponded almost perfectly to their block sizes. The first was at the southern part of the loop where the blocks were long and narrow – 60-70 feet wide over about 400' (35m over 130m). These produced long slim high buildings, which normally covered the entire width of the block. The other type of building was the courtyard building that typically held about a quarter of the squerish blocks that were laid on the northern part of the loop.³²

In New York, after code approval of steel frame construction in 1892, office buildings regularly began to top 16 and more floors and to reach heights of above 60m. Since there was no regulation at the time for the height of the buildings, it was rather customary to see buildings reaching their maximum economic height, which corresponded mainly with the speculative nature of the construction.³³

“The Zoning Law is not only a legal document; it is also a design project. In a climate of commercial exhilaration where the maximum legally allowable is immediately translated into reality, the “limiting” three-dimensional parameters of the law suggest a whole new idea of Metropolis.” Rem Koolhaas³⁴

The concept of the zoning envelope was nothing less than revolutionary. Instead of the rigid restriction on height as enforced in Chicago, the NY new law established a three dimensional envelope. Zones of setback regulations were applied for the first time through a legal plan, which effectively divided the tower into three parts; first the vertical bottom part that rises in relation to the width of the street, and the zone it is assigned to. Then the set backed ziggurat part that is sloped according to the zone as well. Finally the third part is where the tower is built without any restriction of height but the financial



Fig 38. NY Downtown - 1950

viability of such a construct in relation to the promise it holds as a speculation on future rent. The tower thus begins its extrusion according to a predetermined ratio to coverage percent, which is why normally skyscrapers were found only on large plots. Thus both the logic of the zoning and the economics of development argued for big buildings on large sites.³⁵

In 1923 influenced by the recently passed zoning law in Manhattan, Chicago relinquished its cap on building height and passed a zoning law that permitted towers for the first time. This came as a response to great pressure for increasing the stock of office in the city as part of a general real estate boom that Chicago experienced at the time. By 1930 more than twenty new towers punctured the old 260' limit (85m).³⁶

Alternative vision of 'cités d'affaires'

"All over the world the problem of the great city is one of tragic importance. Men of business have at last settled what environment best suits their affairs: they have now definitely concentrated in the centers of towns. The rhythm which actuates business is obvious; it is speed and struggle for speed. It is important to be housed close together and to be in touch; important also to be able to act easily and quickly." Le Corbusier³⁷

While the first American CBDs emerged at the turn of the century as clusters of high rises, in Europe, older urban fabrics and legal height limitations prevented the construction of skyscrapers. Yet the phenomenon of planned labor and the rise of the managerial sector was not foreign to the European context and discussions about them did take place. In Berlin, as in New York, the issue of skyscrapers came up in connection with the downtown business district. Capped at six stories, the Berlin CBD had expanded horizontally, a fact that produced increasing problems of communication and circulation. In 1910 the business community began to lobby for the elimination of



Fig 39. Chicago CBD - 1950

height restrictions, and the American skyscraper, as the most advanced solution to the problem, became the natural reference of debate. The government took the issue seriously enough to ask the German technical attaché in New York, to survey the advantages and disadvantages of skyscrapers.³⁸

The situation in Paris was different. The prewar planning debate centered on future use of the ring of fortifications, declared of no further military value at the turn of the century, and on the related plan for the extension of the city. The problem of a downtown business district also came up, but in Paris the normal reference remained to the financial City of London and not Wall Street, which made the question of skyscrapers for the business use less urgent.³⁹

Yet although the issue of the CBD seemed to be minor to the European discourse at the time, Le Corbusier seemed to understand the Central Business District of the American cities to be a factor that will radically affect the form of cities worldwide. It was the manifestation and direct consequence of the changes that industrialization imposed on the city and for that reason he viewed the skyscraper and the business district as developments destined to transform the urban context of industrial society as a whole; hence the urgent need in his first urban projects such as the Ville Contemporaine (1922) and the Plan Voisin (1925), to anticipate a massive flow of foreign capital. These projects expressed above all, an aspiration to impose a rigorous formal order on the 'chaotic' state of the American CBDs.⁴⁰

"If the centers of our cities have become a sort of intensely active form of capital for the mad speculation of private enterprise (New York is a typical instance), this projected zone would represent a formidable financial reserve among the resources of municipalities." Le Corbusier⁴¹

Compared to the structure of the American city, the CBD presented



Fig 40. Le Corbusier - Model of Plan Voisin - 1925

through Le Corbusier's projects argued for a massive change in scale in respect to the urban structure, as well as in attitude towards the very mode of capitalist development itself. Stated explicitly in his book published from 1925 on the matter, Le Corbusier criticizes the American city for expressing capital in an unregulated form and theorizes on the possibility for a construction of a CBD for Paris, which will represent the public's wealth rather than the wealth of private development. The Cruciform towers, now conceived as 'cities' by themselves, were autonomous and could be freely sited regardless of block size and location. Le Corbusier's urban innovation consisted of concentrating while simultaneously expanding, destroying by that the density of the historical fabric.⁴²

In Europe of the early 1920s it is clearly evident through the work of Le Corbusier (as well as Mies Van der Rohe and Hilberseimer) that the office tower served the European architect first and foremost as a tool for the representation of ideals and as a symbol for his societal beliefs formulated as an agenda in respect not directly to the tower as a type but rather to the urban phenomena of industrialized economy and planned labor. The Tower by that still serves as a marker of technological progress but by clearly misplacing it outside of the American congested reality, Le Corbusier was able to expressively promote the role of the CBD as a monumental project for the benefit of the city as a whole rather than as a pure mechanic manifestation of capitalist economy.



Fig 41. Ludwig Hilberseimer - High-rise City - 1924

2.2.2. 1945 – 1975: Post War International Style

After the end of WWII, and by the late 1960's only five American cities contained more than two buildings taller than 25 stories: Detroit had 8, Philadelphia had 6, and Pittsburgh had 5. NY and Chicago were the only cities to inhabit a large cluster of office towers.⁴³ Yet this was about to change rather rapidly as in the 1950's advances in technology and changes in architectural ideology liberated the tall office building from its dependence on nature and site. Fluorescent lighting and air conditioning were as important to the transformation of post-World War II Skyscrapers as were the elevator and the steel-cage construction to the first tall office buildings to the late 19th century.

According to M. Tafuri, the single skyscraper, which operates within the city as a speculative business enterprise, seems at this period of time to be increasingly in conflict with the growing need for control over the urban center as a structurally functional whole.⁴⁴ Considering the problem of ensuring the efficiency of the Central Business District in terms of its function as a 'city for business' the emphasis on the uniqueness of the skyscraper is rather futile. The corporations and developers, obviously incapable of conceiving the city as a comprehensive service of development, in spite of their power, were inept of organizing the physical structure of the business center as a single coordinated entity.

The increased sense of autonomy the towers began to exhibit was combined with an appropriate typological adjustment. Of the 109 buildings erected in New York from 1947 to 1960, only 20 were 30 or more floors of which 5 exceeded 40 floors. These medium height towers proved to be very space efficient, providing an average of 60% more rentable space than structures erected between 1925 and



Fig 42. NY Downtown - 1974

1933.⁴⁵ In Chicago, as a result of a 1955 revision of the zoning ordinance that raised the floor area ratio (Far) to 16 from a formula that had imposed an FAR of approximately 12, the average rentable space of new structures of the 60's grew substantially, from around 200,000 in the 50's to about 317,000 from 1960 to 1965. This essentially means that as towers became more mechanically air conditioned and lit, so did they exhibit more efficient floor plans and allowed developers to build more economically while increasing their profit rates.

In NY the first finite limits on volume were imposed in 1961, when the 1916 zoning ordinance received its first major revision. The main motivation for the new zoning law was to reduce overall density in the city. Like in Chicago it did so by establishing an FAR formula, eliminating the open-ended provision for unrestricted height over a quarter of the lot. This essentially keyed the amount of floor space permitted in the building to the area of the lot; the highest basic FAR in office districts was 15. This could be increased by 20% to an FAR of 18 if the scheme included a plaza or arcade.

This period of time in New York and Chicago was fertile ground for a set of marvelous office towers, marking the final decline of the historical modern movement, designed by SOM (Lever House - 1952, Inland Steel - 1957, John Hancock Building - 1970, Sears Tower - 1974) and Mies Van Der Rohe (Seagram Building - 1958, Federal Center -

1960-1974, Dominion Centre - 1967-1969). This collection of master piece architecture, set the standard for new office tower construction world wide, both thechnologically yet more importantly with their expression of sophistication and advancement through the use of the curtain wall, which perhaps until today is inevitably associated with global CBDs office towers.

Towards the end of the 50's, as a result of a post war boom in office construction both the United States and Europe as well as in Japan, the architecture dicipine began increasingly to face large scale master plans comissions and competition for new Business Districts. This global trend was soon answered by a corosponding set of ideals and propositions which would serve or attack the capitalist mode of expansion and accumulation as expressed through these projetcs.

Three facinating figures, when it comes to the post war period, when cities worldwide struggled with issues our cities have not known before which essentially relate to problems of definition between the centrality of cities and their fast expanding peripheral suburbs, are Victor Gruen, Fumihiko Maki and Aldo Rossi. Each one naturally displays a very diffrent set of Ideals yet all of which confront in a similirly bold manner a complete revision of the scale architecture was dealt with prior to the war and the possibility of intrgrating systemic thought of the region as a whole, while maintaining a rep-



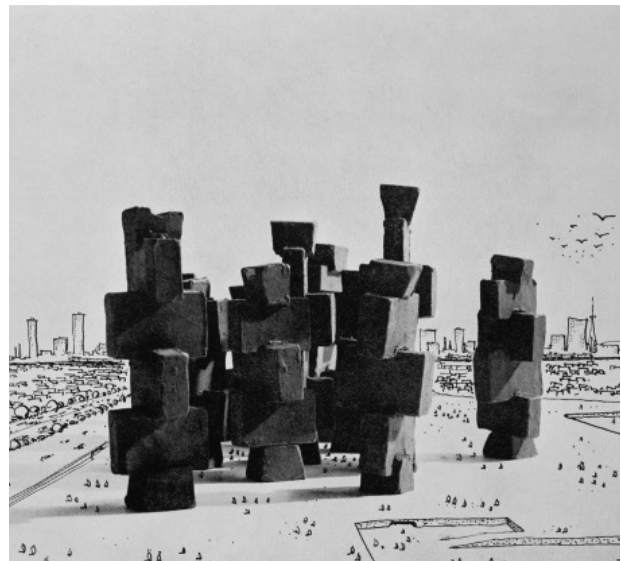
Fig 43. Chicago CBD - 1974

representational idea that relates back to the public.

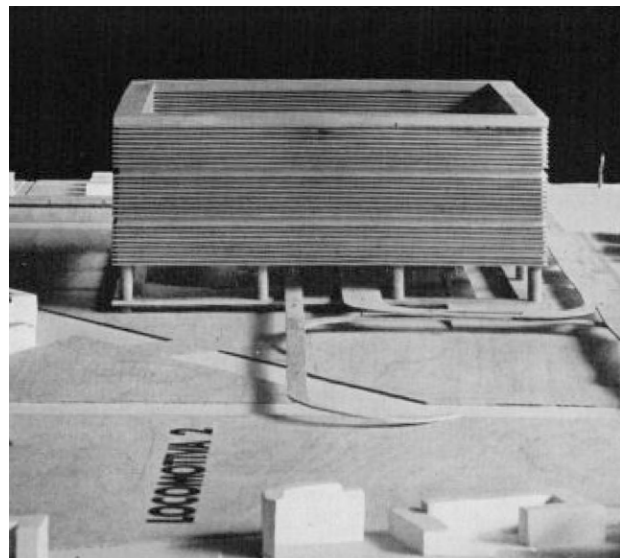
In 1955 Gruen's team began an extensive analysis on the future performance of the 'downtown' of Fort Worth. Gruen proposed a radically new concept when it came to city centres by making the entire CBD a pedestrian area, surrounded by a unifying ring road. This ring road would be supported by a series of large parking structures, arranged perpendicularly to the ring, in order to shorten walking distances to the very center. The result of this scheme was that the longest distance between a parking garage and any building in the CBD is less than 200 meter. These garages would serve as gateways to the radically remodeled CBD. ⁴⁶



Fumihiko Maki, an early member of both team 10 and the Japanese Metabolist groups, published "Group Form" in 1960. Maki's interest in the design of the city as a living organism, subject to dynamic growth and change, led him in 1966 for the proposal for the design competition of the Shinjuku Train Station and the adjacent blocks which were to hold a high degree of offices. Maki believed that the investigation into group form would lead to a new regional scale of planning and design and coined corresponding terms such as "Master Program" and "Regionalism in collective scale".



In 1962 the young Rossi submits a competition entry for a new CBD for Turin, showing an extreme disassociation from the formal complexity typically expected in large scale designs as this. The radically simplistic language the CBD displays is a public manifestation of an essential negation of the market economy which inherently advocates the project. Rossi thus essentially opposes the very essence of the project by fighting the ability of the CBD to be composed by office towers. ⁴⁷

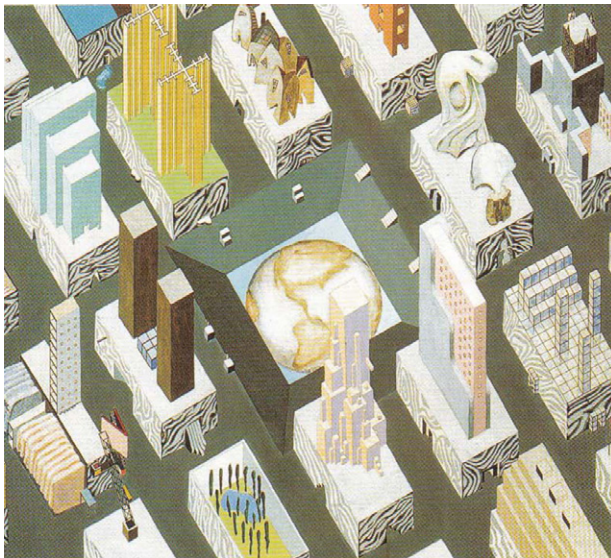


Figs 44. Victor Gruen - Fort Worth CBD - 1956, 45. F. Maki - Shinjuku - 1964, 46. Aldo Rossi - Turin CBD - 1962

2.2.3. 1975 – present: ‘To get rich is glorious!’

As we have seen earlier, economic cycles largely define the behavior of the market and subsequently form our cities skylines. In that respect, the markers for the end of the second generation of CBDs are abundant, yet they fail to exhibit themselves as propellers for the beginning of a new period. The World Trade Center, Sears and John Hancock, all completed just as the 1973 oil crisis was about to erupt, “...pausing the race for taller buildings by instilling doubts about the solidity of an oil-based economy.”⁴⁸ The dramatic peak to which the second generation of CBDs reached was soon followed by an appropriate summary, written by the outrageously brilliant mind of R. Koolhaas, to describe the Manhattan delirium as a result of 3 distinct architectural operations; Grid, Lobotomy and schism⁴⁹. This elaborate account of the relation between an emergent culture of spectacle and congestion and the built ‘folklore’ which is presented as evidence, this book seems to be the clearest and last stone to be laid upon the grave of American speculative vernacular.

Yet surprisingly, the story of the American CBD, post oil crisis is hardly told in relation to the architectural innovation and determination it required. The recent history of Texan CBDs, as well as West coast ones is overshadowed by the utter amazement and disgust evoked by Po-Mo attempts to mix and match ideology and style in exceedingly awkward combinations. Philip Johnson J. Portman and I.M.Pei seem to dominate that field without much competition. Still the casual manner in which the architectural discourse accepts the deterioration of the ability of contemporary architecture to position itself in a critical manner as an opposition to the ‘nature’ of the market and the expectations this imply, are disappointing to say the least. This perhaps has to do with the increased sense of globalization of the office tower as a type, which eventually results in the externalization



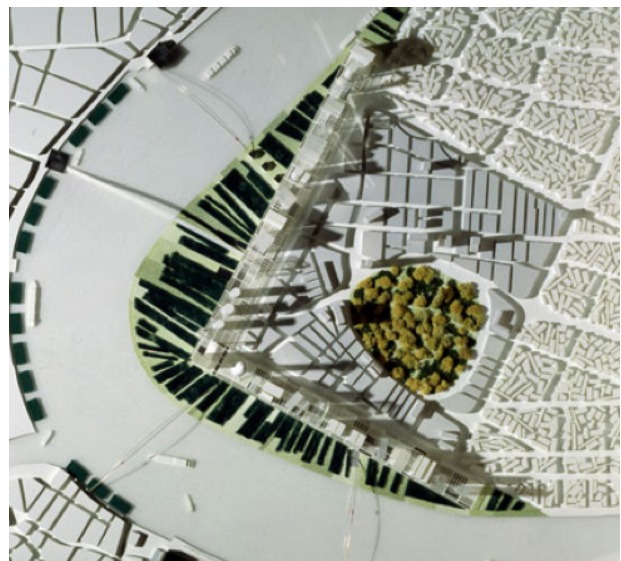
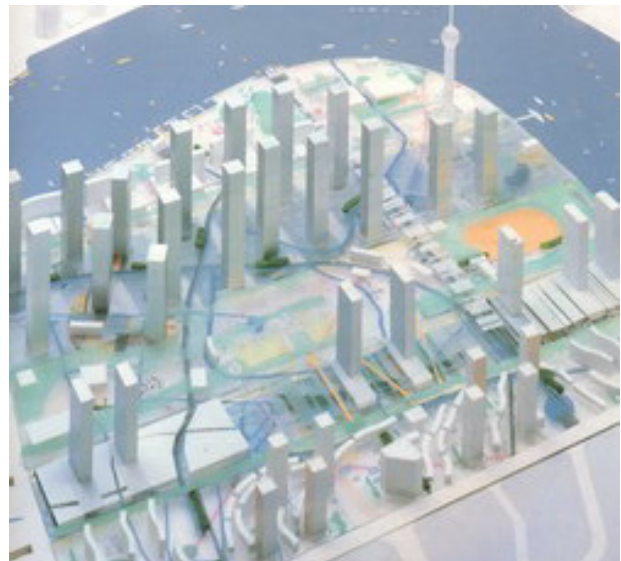
Figs 47. Rem Koolhaas - the city of the captive globe - 1972, 48. Houston CBD - mid 90's

of a sense of locality to an ambiguous designated responsible - in the form of the client. This results in a subordinate mind set which is driven primarily by problem solving as a way to exhibit competence and an extremely loosened ideological stance, to allow for almost any scenario the market calls for, to be immediately approved.

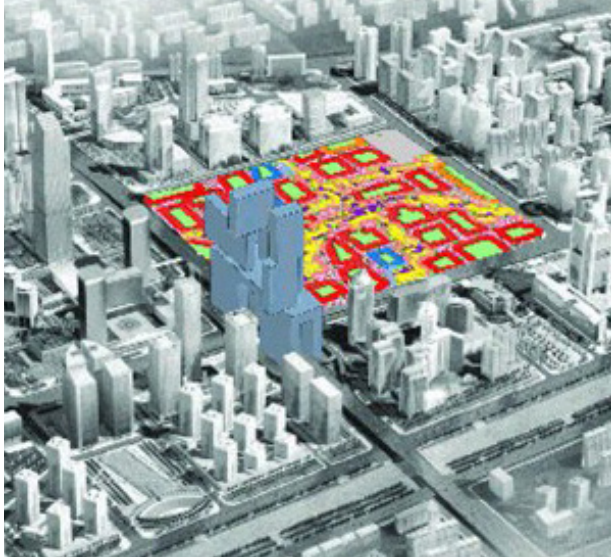
Still as the global economy drove speculators to operate in increasingly underdeveloped conditions worldwide, the architectural culture of post modern confusion did its best to enable economies asserting global power while avoiding the historically modern confidence and clarity. This is perhaps best exhibited through the design proposals for the competition held in 1992 for the design of the new CBD in Shanghai. Especially if one goes back to compare the nature of this set of proposals to similar competitions for CBDs in post war Europe, it is rather amazing to see how architect at the beginning of the 90's exhibited a stronger sense of compliance towards forms which the market could perhaps otherwise take care of by itself.

A complete lack of opposition towards the use of architectural types - especially the tower and the podium - perhaps due to an increasingly confident economy which knew how to operate its own building blocks in an ever more confident manner, is extremely evident through studying the design proposals for the Shanghai competition. These display alternative arrangements of a predetermined tool kit which was left utterly unquestioned. Toyo Ito arranged the speculative towers into parallel strips, Perrault managed to arrange all towers into a folded continuous line, while Rogers arranged them into a full circle, followed by an extensive explanation in regards to the nature of mobility and environmental considerations for our contemporary threats. All seem to comply with the basic nature of the CBD as a speculative competition between office towers, yet at the same time use the extremely meager tool left in their hands to form into a clear gesture the new development.

Surprisingly perhaps, even though none of the architects in the competition for the Shanghai CBD attempted at being critical of the very economic rational which drove the design competition, and



Figs 49. Toyo Ito - Shanghai CBD proposal - 1992, 50.
Dominique Perrault - Shanghai CBD proposal - 1992,
51. Richard Rogers - Shanghai CBD proposal - 1992



fully accepted their role as enablers of the speculative global economy, still none of which was either chosen or even managed to convince the client in respect to the importance of a clear projection of image for the CBD as a whole. Thus the reality was rather random and circumstantial to finally collect fragments of each proposal into an unintelligent messy conclusion.

For the 2003 design competition of the Beijing CBD, OMA exhibited a radically different strategy than those proposed by the participants in the Shanghai competition about a decade earlier. Rem Koolhaas, took the opportunity and stage of the Beijing competition to propose a complete attack on the very tie between the tower as a type and the speculative market which drove it, and essentially proposed a low rise set of courtyard blocks to replace the clients expectations. This complete reversal of the common image the CBD typically exhibits is not a mere critical stance in respect to the dullness and banality the tower has grown to exhibit, but I would claim is an assured attack on the very nature of speculation which inherently drive the development of CBDs.



Yet it seems that the market in general is almost indifferent to the design propositions and critical stances this generations architects has to offer. While architects worldwide have still managed to gather a considerable amount of information and knowledge in regards to the design of office towers independently it still seem as if we have not managed to convince the market in regards to our ability and talent to group a number of independently developed project into a conscious unit - which displays itself as a grouped formation.



Figs 52. OMA - Beijing CBD proposal - 2003, 53. Beijing CBD skyline - 2012, 54. Moscow CBD - 2013

2.3. Types of markets and their spatial organization

In an attempt to extract some general roles about the very nature of the CBD – a comparative analysis of a set of global case studies is proposed here - looking for commonalities between different districts which all serve as an arena for the competition of speculative office towers. These different arenas reflect local cultures and times and naturally vary greatly in character as well as form. This thesis proposes to extract some basic common attributes between this diverse selection, in order to be able to later critic their form in an operative way and develop practical recommendation for the designers of future CBDs

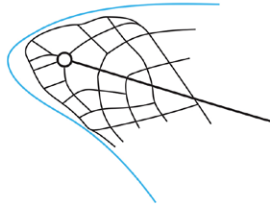
One principal similarity between these case studies addresses the relation between the very high rates of traffic and the formal resolutions it requires. This essentially means that the intensity of circulation necessitates a particular set of decisions in respect to the location of main traffic arteries, key transportation hubs, as well as a number of dimensional decisions, which later greatly affect the form of the district. I will return to this point later with a number of more concrete propositions.



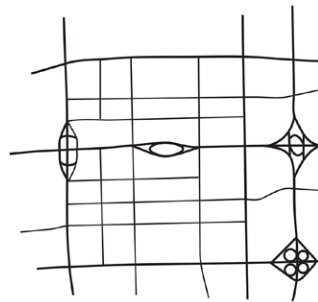
Fig 55. *Yan'an Elevated road - Shanghai, 2012*



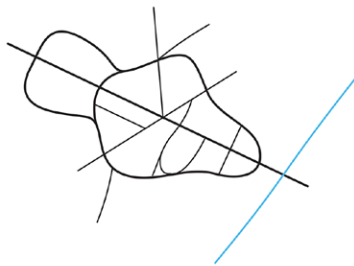
Linearly Evolved



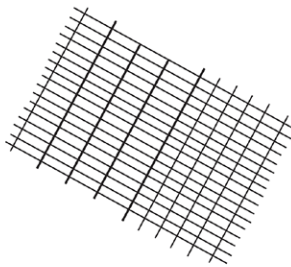
Spear Heads



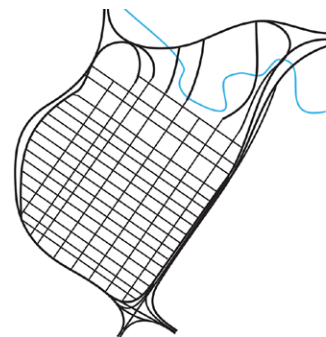
Mega Blocked



Tightly Contained

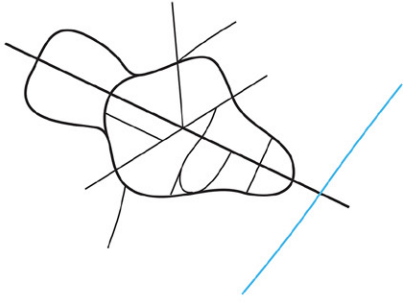


Open Fields

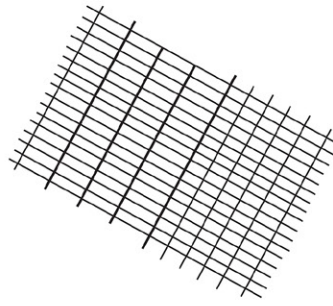


Contained Fields

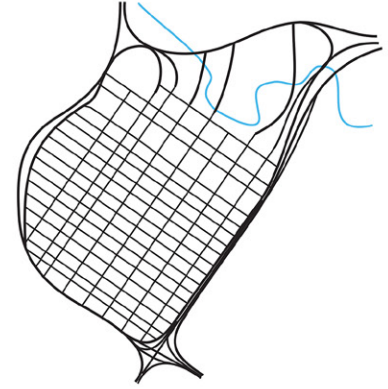




Tightly Contained



Open Fields



Contained Fields



Paris - La Defense



NY - Midtown



Houston



NY - Downtown



Chicago



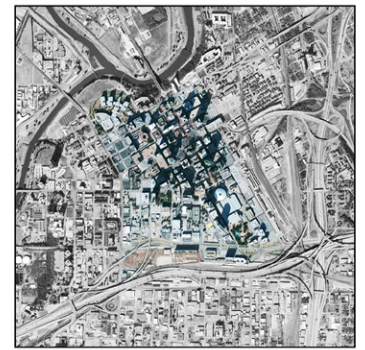
Dallas



Boston

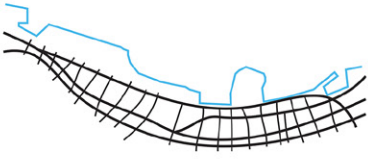


San Francisco

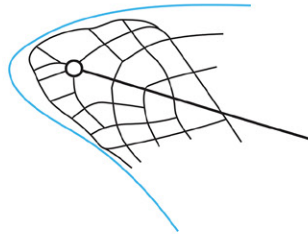


Fort Worth

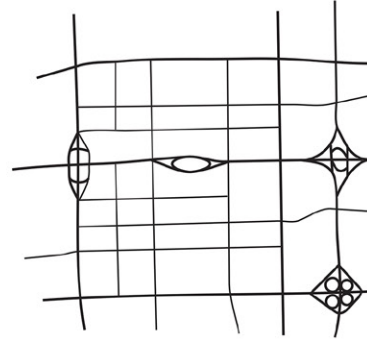
Fig 56. Comparative matrix of global CBDs - all at same scale



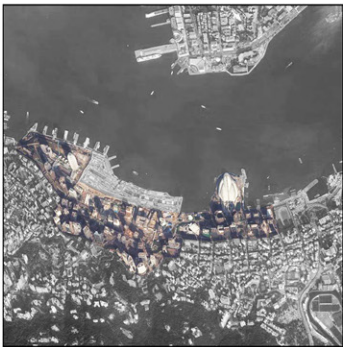
Linearly Evolved



Spear Heads



Mega Blocked



Hong Kong



Shanghai



Shenzhen



Frankfurt



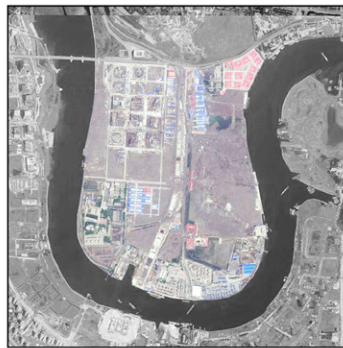
Chongqing



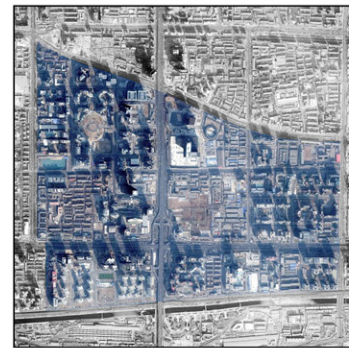
Gaungzhou



Dubai



Tianjin



Beijing

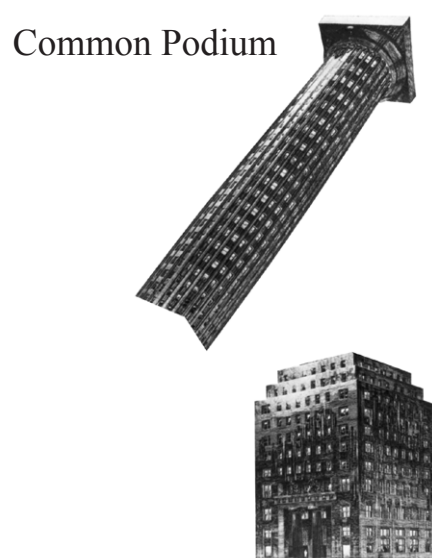
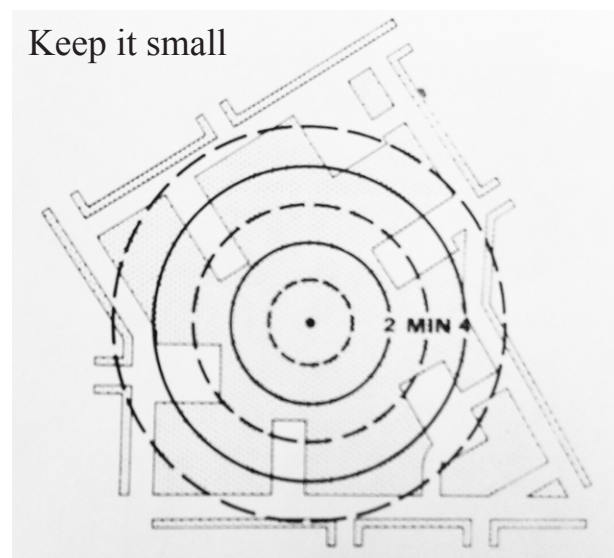
2.4. Towards a Regionally Distributed Centers model - Four critiques and propositions of the contemporary CBD

“Kill the skyscraper... The skyscraper has become less interesting in inverse proportion to its success...It has not been refined but corrupted; the promise it once held – an organization of excessive difference, and the installation of surprise as a guiding principle – has been negated by repetitive banality. The intensification of density it initially delivered has been replaced by carefully spaced isolation.” Rem Koolhaas⁵⁰

While challenging the skyscraper as a type might seem like a compelling concept, this thesis argues that not only the skyscrapers but rather the CBD as a whole lacks in relation to context – both symbolically and physically. Yet these office towers, unfortunately perhaps are still an indispensable part of the CBD as a speculators tool. Therefore In order to rethink the empty extravagance proposed by the skyscraper we must consider a revision of the CBD as a whole while keeping the operative business model intact.

This thesis argues that by looking at the CBD as a whole we could potentially discover new ways to treat issues of contrast – beyond the issue of the design of the towers as separate entities and propose four key fields of investigation in order to clarify proper positions and strategies for designers facing both existing CBDs as well as those expected to design completely new CBDs. The four key topics this thesis proposes to study are; Dimensional, Social, Symbolic and Organizational.

1. Dimensional - One of the most critical questions in regards to the



Figs 57. Victor Gruen - Diagram for Fort Worth CBD - 1956, 58. A. Loos - Chicago Tribune proposal - Broken at the base, 59. Through the looking glass, 60. Trading floor anxiety

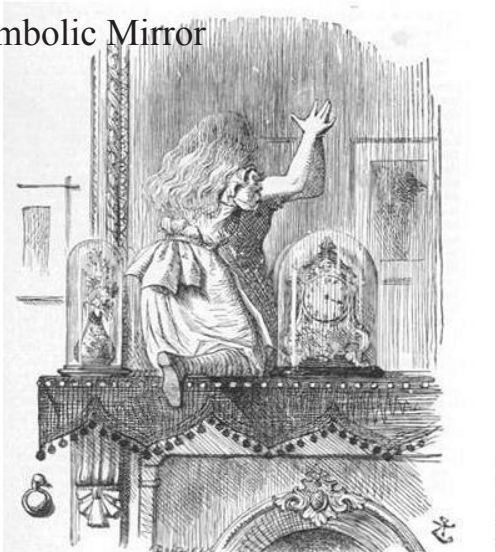
design of CBDs is that of scale. What would be the size of the new centre? Should it correspond to the scale of the residential periphery? Should it be a single optimal construction miraculously conceived, autonomous element that defies any relation to it's surrounding? What tools do we have in order to actually make an intelligent decision in regards to the question of scale?

2. Social - Defining the following question as a social one is mainly in order to eliminate any potential cynicism in regards to the nature of the very activity and program that enables our contemporary engagement with the public. Sadly perhaps for some, the shopping mall has successfully replaced the 'main street' in many ways. This in addition to the significance of digital media has as a tool for public engagement, are just part of the reasons that make the necessity for a climate-controlled public space. This is not said in order to amaze the reader of the deteriorated culture we experience today – although it might be true – but rather in order to confirm that this thesis totally accepts the important role the shopping mall has in the public's life and urges designers to enquire into possible improvements into the ways in which we use these halls of pubic activity.

3. Symbolic - the symbolic nature of the CBD and would ask who is the public such monumentality addresses? The city / the region / the world? How should we read and interpret such monuments? Is it possible to design a CBD that represents community as a relational condition rather than as an oppositional one.

4. Organizational - This final topic asks to stimulate design solutions for a development of pre-emptive strategies which address the cyclical nature CBDs exhibit, which immediately relates to common problems of growth over time.

Symbolic Mirror



Anticipate the carsh



2.4.1. Dimensional

There is an inherent relation between the size of the CBD and the possibility for assimilation into its peripheral context. This means that the larger the CBD is – the more capacity for circulation of workers and their vehicles it will require- and as a result, the more it would accumulate large infrastructural elements which would eventually either form various sort of barriers along the CBDs boundary or fragment the very center of the CBD and thus negate its context.

Keeping the overall form of the CBD within a 800m radius is highly advisable in order to promote walkable distances between different points within the center itself as well as its surrounding. Thus as a critique of scale I propose that designers of new CBDs consider to avoid scales which would not be assimilated into their contexts and therefore would eventually disengage the periphery from the center and result in a contrasted condition which could otherwise be avoided.



Fig 61. *Houston CBD*



Fig 62. Comperison of global CBD - all to same scale

2.4.2. Social

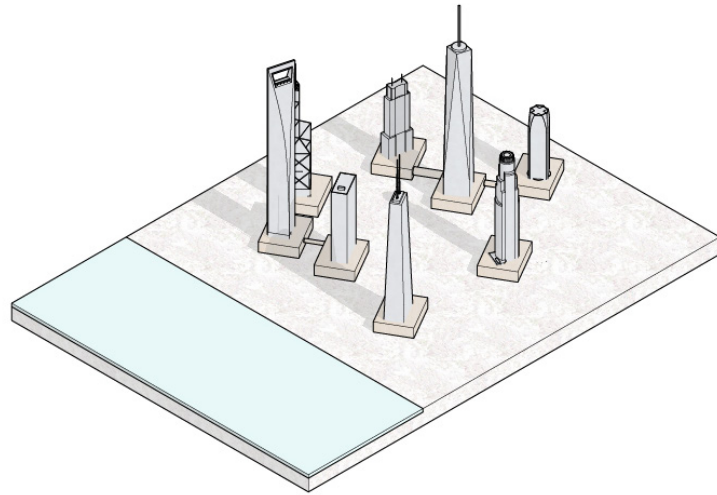
The second critique addresses the organization of podiums in the CBD as a way to allow for increased sense of engagement between the workers of the center as well as regional visitors. In that respect it seems appropriate to propose to regulate carefully the ways in which towers use their first floors and try to eliminate a very common problematic phenomena of self-sufficient towers. This problem is extremely evident in many CBDs in which the street does not provide any form of walkable space and public transportation is connected through indoor space directly to the lobby of the towers. This increased autonomy the towers exhibits could be seen as a result of the common misconception in regards to the composition of program and the automatic preference for the mixing of uses.

In the context of the CBD I would like to claim here that while mixing of uses is naturally inevitable it is still important to avoid creating fully self catered towers which would negate their very existence within a group formation. The precise composition of program between the collection of towers as a whole has to be taken upon seriously by the master planner of the CBD. The designer should try to promote as much common space as possible between the towers, and not only within the towers.

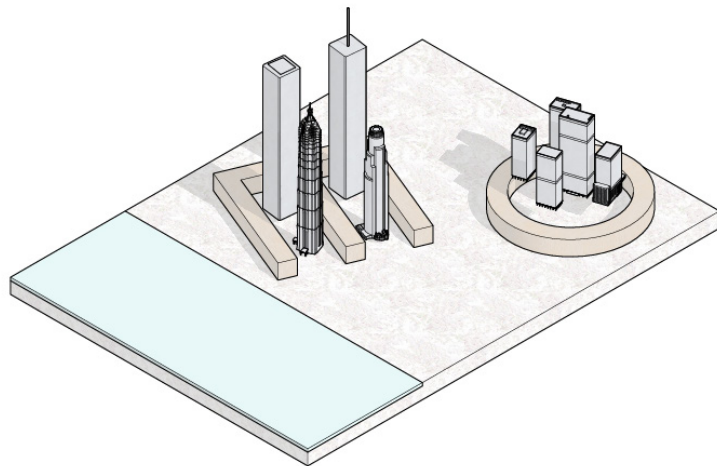


Fig 63. Shanghai CBD - waterfront Shopping mall - Jon Jerde

1. Individual



2. Harbor



3. Artificial Ground

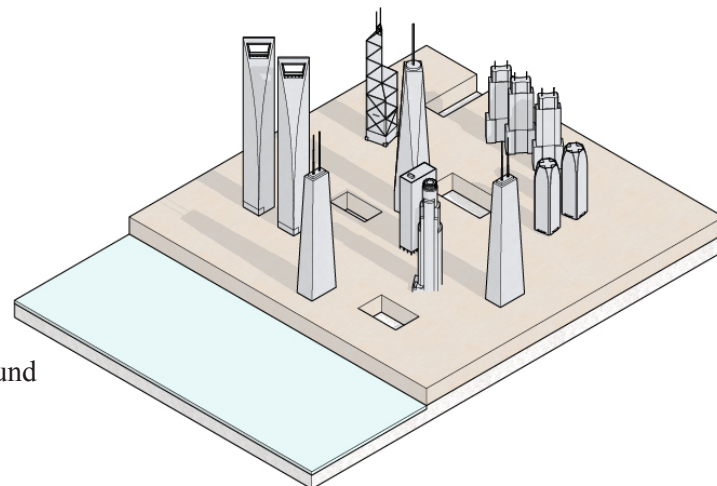


Fig 64. *Types of podium configurations in relation to tower groupings*

2.4.3. Symbolic

Staging an arena for the competition of global speculators requires signifying spatially the position of the host and its stability. This symbolic spatial operation is read transparently as an architectural element on the scale of the CBD as a whole that is necessarily NOT a part of the speculative competition. Through that the CBD's image is mirrored internally and expands its possibility to interact with the public, as a common artifact that is not purely a reflection of the power of individuals but is an asset for the public and the region in general.

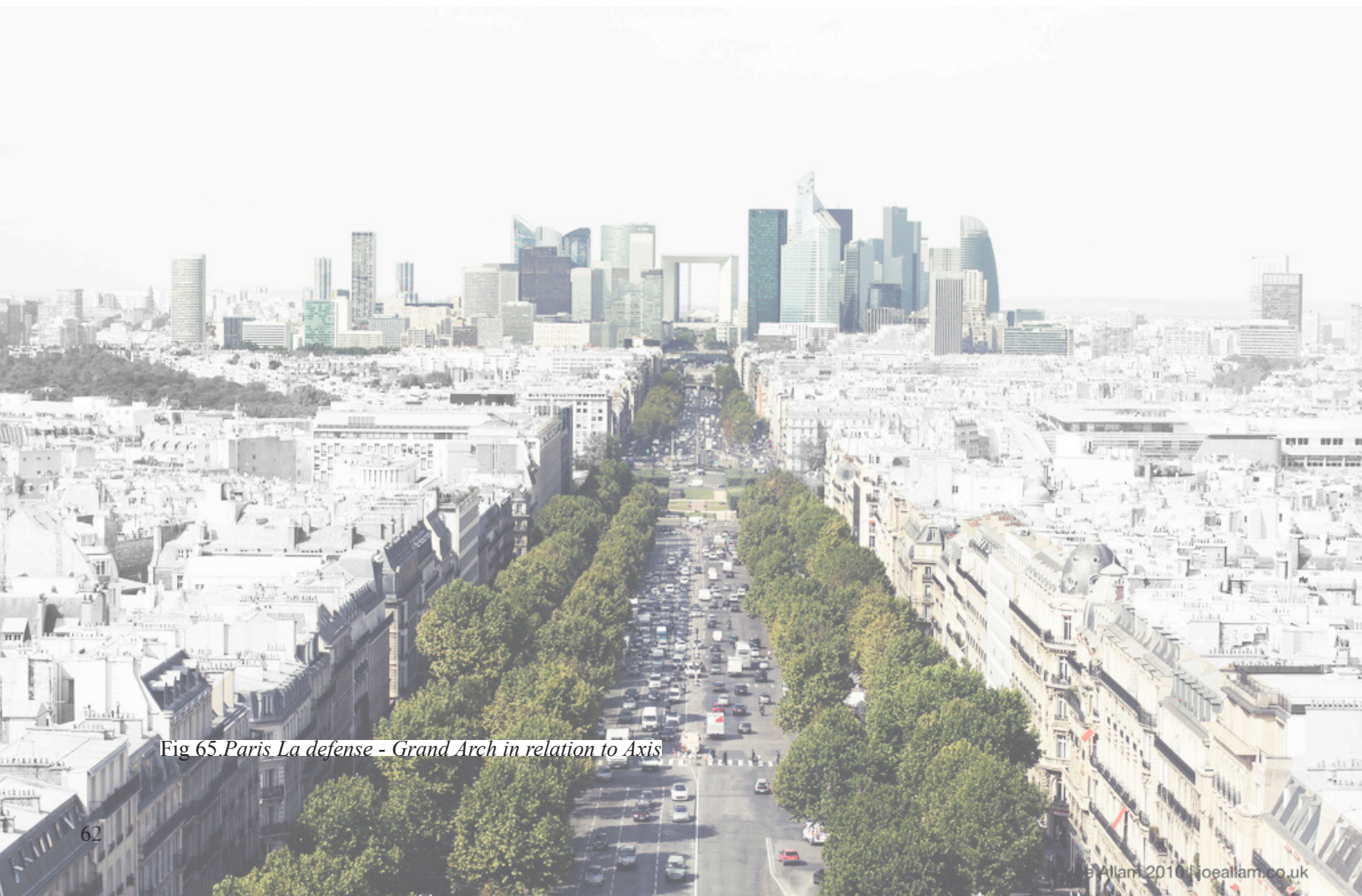


Fig 65. Paris La defense - Grand Arch in relation to Axis

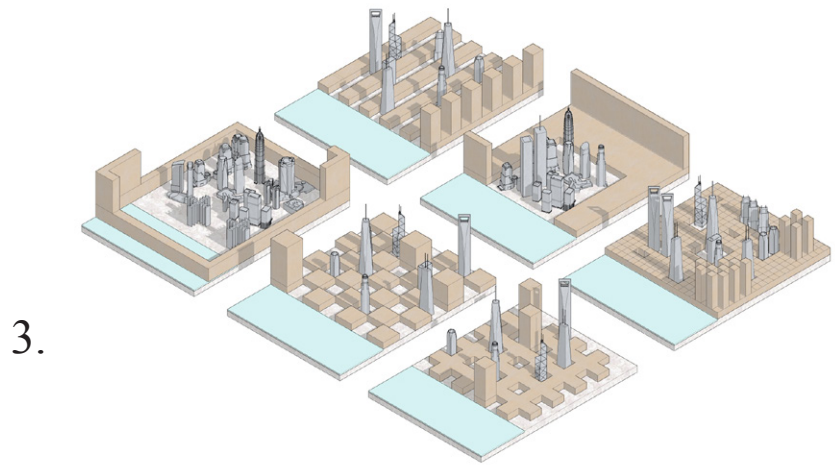
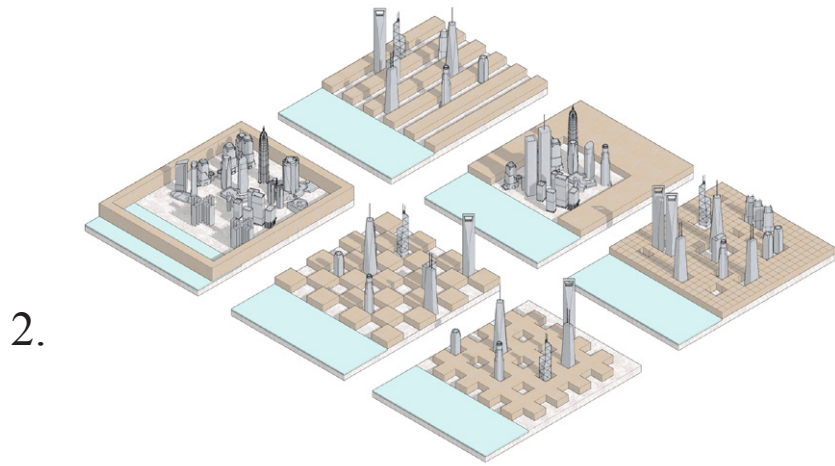
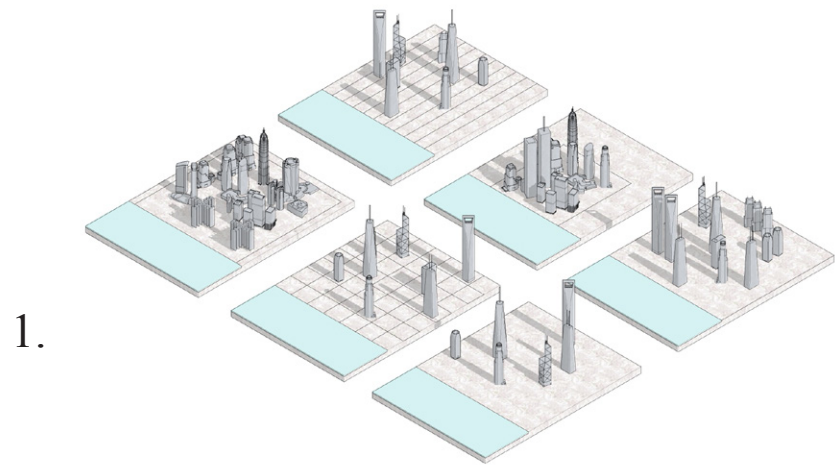


Fig 66. A three stage sequence for the establishment of order for groups of towers and vertically manifesting it

2.4.4. Organizational

the fourth and final critique and proposition address the issue of Business cycles – calling for them to be considered in advance as moments of future regional intensity which could be preemptively planned for and thus avoid common trouble of lack of adequate space for future expansion as well as infrastructural overburdening of a single node.

Fig 67. New Yoek regional centers - Downtown - 1870, Midtown - 1925 and Brooklyn downtown - 1970.

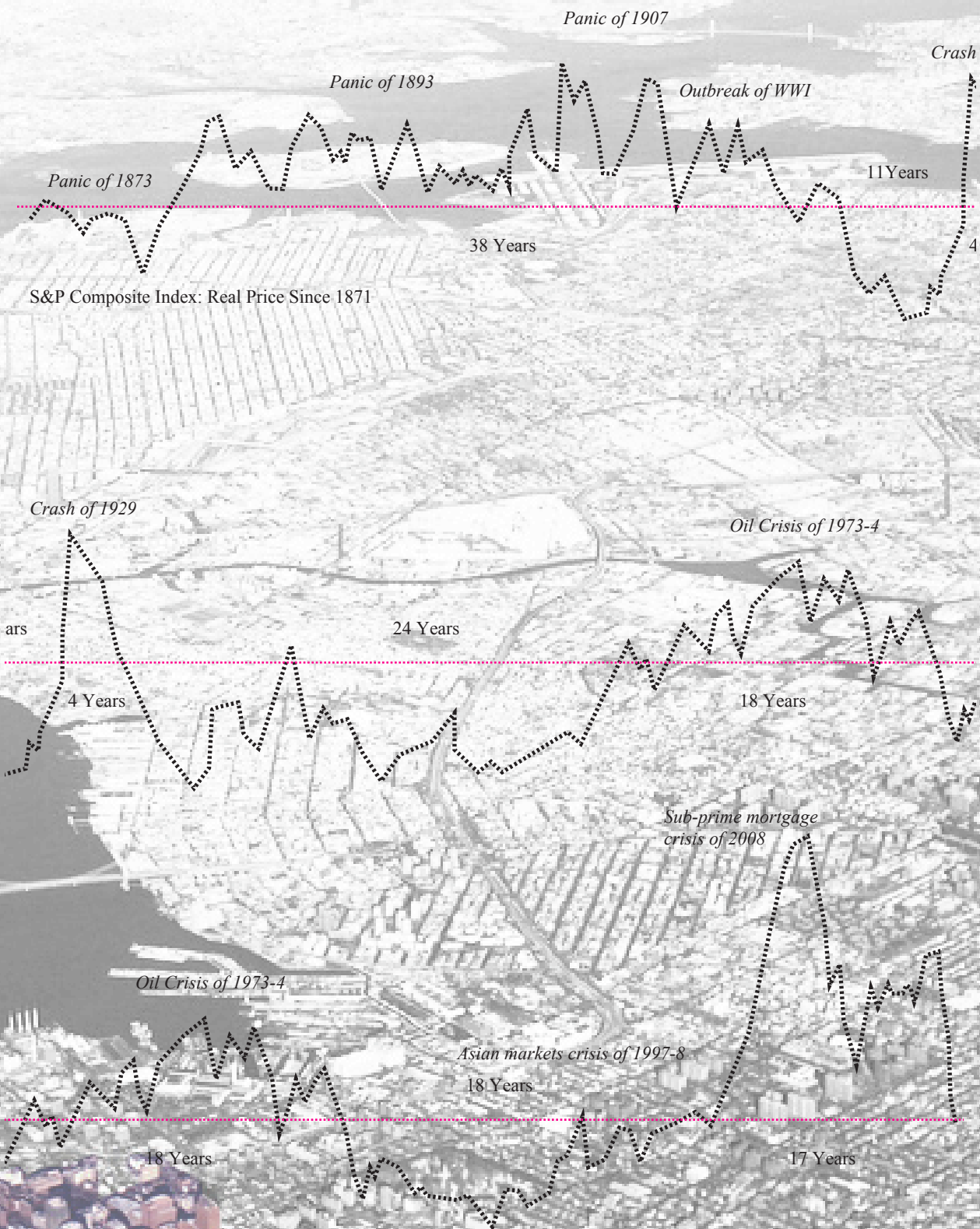
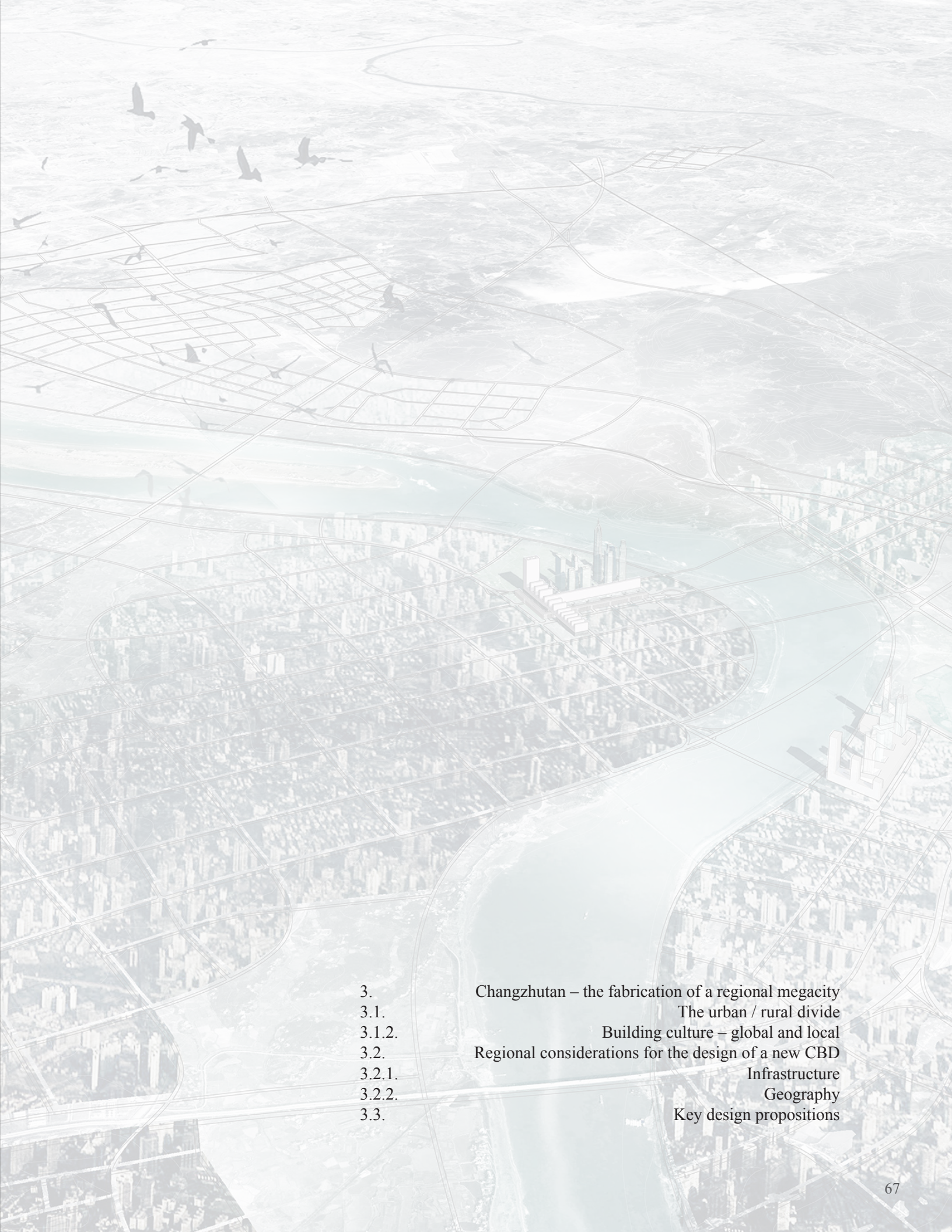


Fig 68. S&P Composite Index - Real prices since 1871

3.

Case Study – a new CBD for Changzhutan



3.	Changzhutan – the fabrication of a regional megacity
3.1.	The urban / rural divide
3.1.2.	Building culture – global and local
3.2.	Regional considerations for the design of a new CBD
3.2.1.	Infrastructure
3.2.2.	Geography
3.3.	Key design propositions

3. Changzhutan – the fabrication of a regional megacity

The story of the Chang-Zhu-Tan is a rather unique one, but not in any way extreme in respect to other regions in current day China. The plan for the unification of the three cities of Changsha, Zhuzhou and Xiangtan into a single unified urban entity, expected to inhabit about 13 million residents by 2020, comes forward in order to increase its competitiveness with other big Chinese cities – a competition for national resources and political investment. The expected increase in scale would potentially elevate the economic condition of a city and region that is generally not so well connected globally or even nationally, especially if one compares it to the coastal cities in China, which naturally had increased commercial interaction with the global economy.

Yet the nature of inland China is changing fast in its search for increased global connectivity through media, industry and finance. The central role CZT is expected to play is heavily based on its strategic location along the path of the nationally principal infrastructural corridor connecting the Pearl River Delta at the south all the way to Beijing at the north. This strategic location has another valuable aspect in respect to the logistics cooperation between the Pearl River Delta at

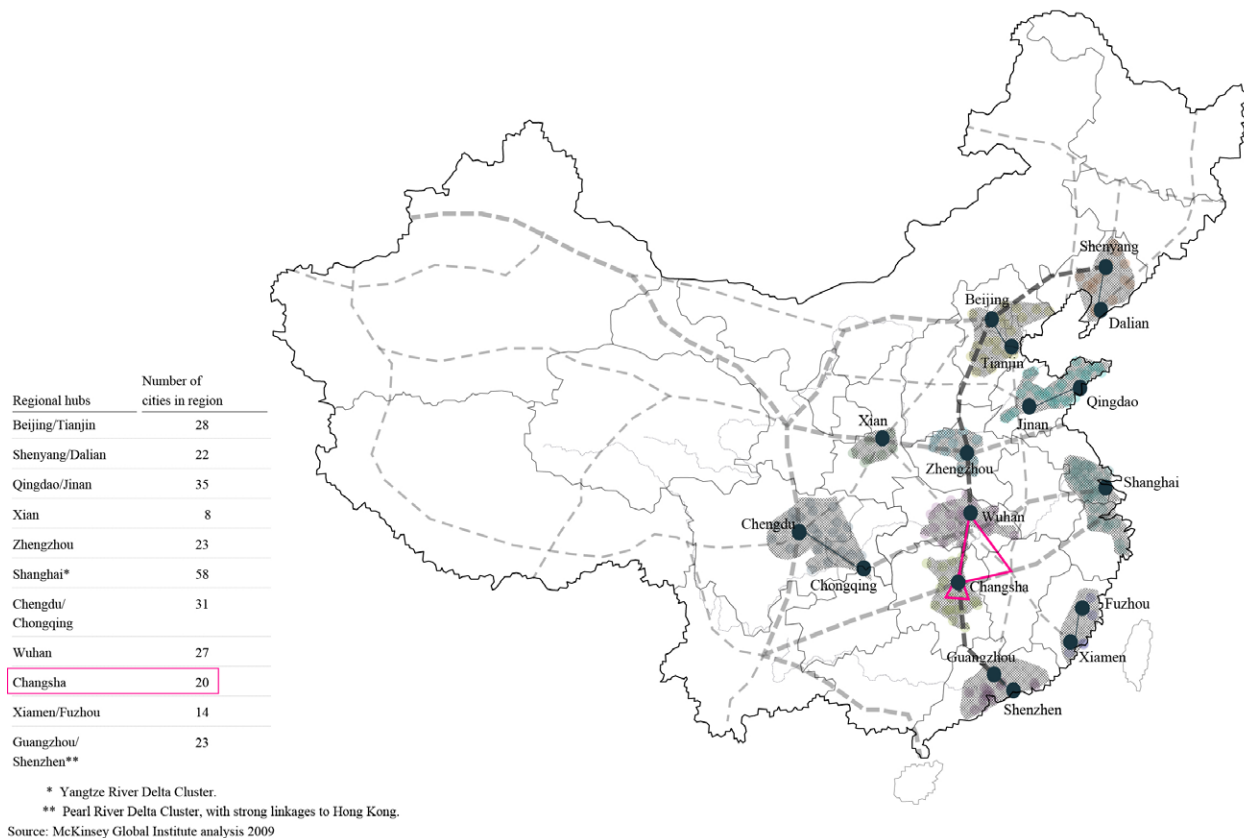


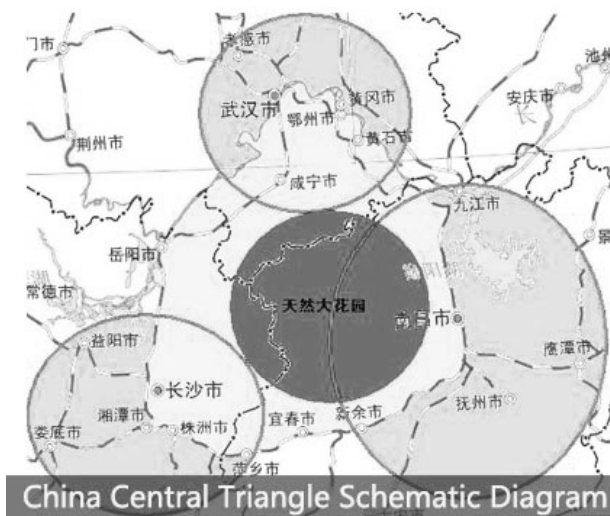
Fig 69. Chinese regional urbanized areas - Hubs and spokes

the South and the Yangze River Delta at the East. This marks CZT at the intersection of two national scale corridors for material exchange and the subsequent political and commercial activity.

While CZT is strategically located on the most expanded scale of the nation as a whole, there is another inter-regional scale which is going through a process of further centralization as well. This project is currently titled the ‘Central China triangle’ and is essentially intended to formalize the economical and infrastructural cooperation between CZT, Wuhan at the North East and Nanchang at the East. This newly devised triangle will form a stronghold for the economy of inland China and be used as another tool for the management of the local economics and environment by the hands of the Chinese party.

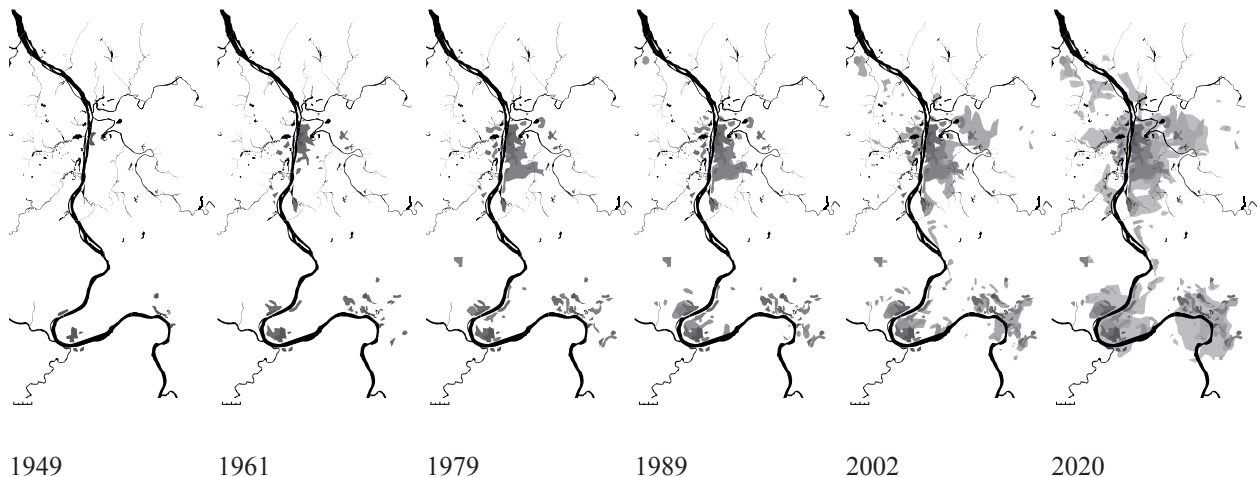
Naturally all of these national scale plans can not be detached from the reality experienced at the local regional scale. The anticipated political support and future key role the region is expected to play in the booming future China is expected to experience in general, leads to extensive speculation from all over, in respect to the final formation the region will adapt to which will in turn influence many stakeholders. At present, there are a number of large-scale CBD projects in progress throughout the region, operating a local competitive race for the CBD that will eventually establish itself as a dominant and attractive location to attract national and global developers to speculate over the future value of office space in the region. Currently, it seems that the winner to be titled the best connected and most attractive CBD for the region is the Meixi lake project – develop by Gale International and designed by KPF. This development is a full scale CBD project expected to hold about 6.5 million sqm total, which are about a million sqm more than the well known Lujizui CBD in Shanghai.

In parallel to the intense competition which will determine the new



Figs 70. China Central Triangle - CZT, Wuhan and Nanchang, 71. Central Triangle - Political triangulation

regional centres location and benefactors, there is an equally intense yet much more local competition for the complete urbanization of land between the three cities. This type of anticipated urbanization should not be seen as a by-product of economic growth but rather as an active and conscious project pursued by the local government to attract foreign and domestic capital, to eventually strengthen the region's competitiveness and enhance the political and financial gains of individuals as well as the region as a whole. This type of local scale urbanization is generally characterized by large scale housing developments, as well as industrial zones for the organization of the future job market of the region. Therefore, the entire regional condition of CZT should be currently seen in its extremely temporary and delicate state, with numerous actors, both local and global operating as quick as they manage for the rapid division of land, resources and capital.



Figs 72. Meixi Lake CBD - Artistic render, 73. KPF directors presenting the Meixi lake project to the Chinese media, 74. Changsha, Xiangtan and Zhuzhou - urban growth pattern along the river - from 1949 and to 2020

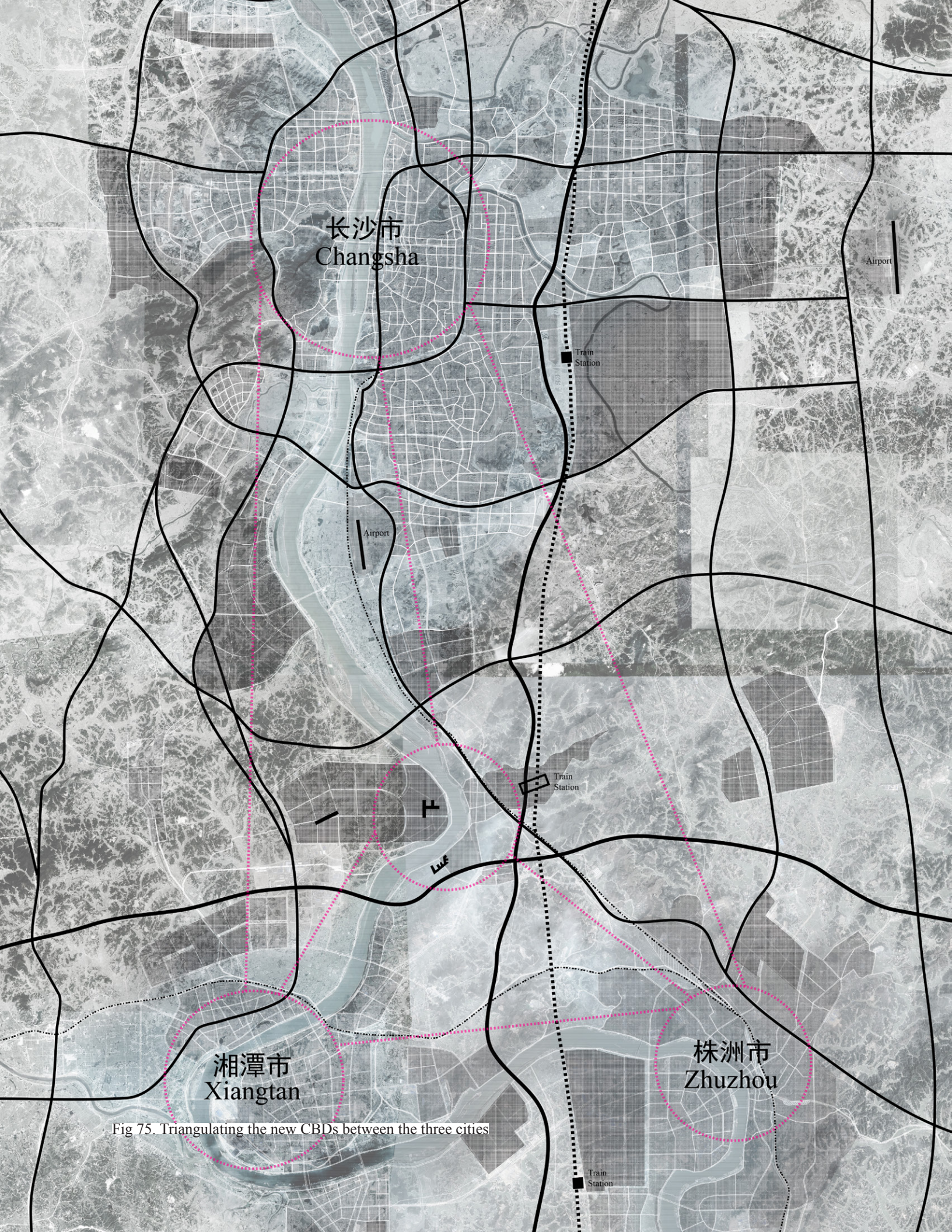


Fig 75. Triangulating the new CBDs between the three cities

3.1. The urban / rural divide

The rapid urbanization the CZT region is currently experiencing is not at all unique and might even be termed typical in respect to many other regions in current day China. The vast open land which has served its citizens up until very recently as a source for their welfare through its agricultural production process is rapidly transforming into fields of repetitive applications of predetermined architectural types, which are nothing but fast translations of economic and planning formulas to a landscape that has the ability to absorb any blow at any scale.

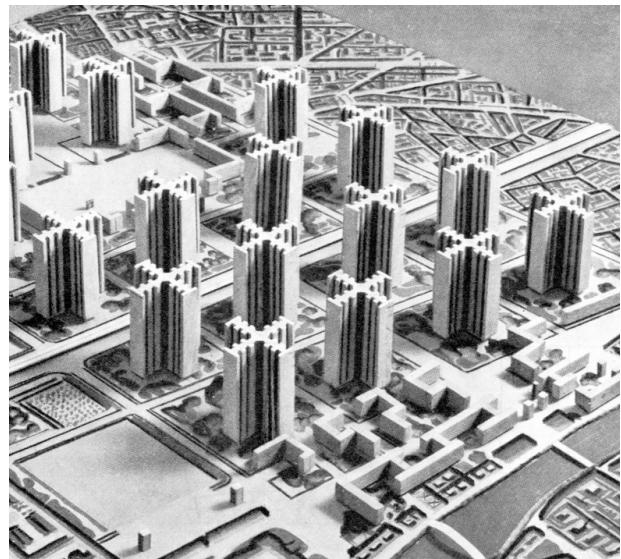
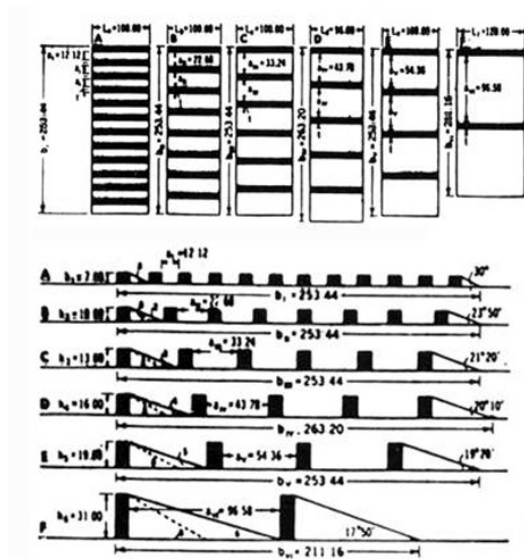


Figs 76 - 83. *Site photos*



3.1.1. Building culture – global and local

A common misconception among architects and planners, is to blame Le Corbusier for his ruthless imagination of the endless field of towers in the park as implemented in his Ville Radieuse, and to suggest that his scheme was eventually adapted and abstracted into what we see today in China in particular and in many other parts of the world. At least in the Chinese context I would like to argue that it is not the ‘tower in the park’ which was lost in translation but rather Walter Gropius’s scheme for daylight conservation in a parallel slab block configuration that was radically adopted to the Chinese context through radical formalization in regulation as well as cultural context. The dominant customer’s appreciation for the Southern facade as well as the supporting national planning regulation are the foundations for this extremely repetitive and unsophisticated fabrics we are currently witnessing in China.



Figs 84. *W. Gropius - diagram presented in CIAM 1930*, 85. *Le Corbusier - plan Voisin - 1925*, 86 - 87. *Typical residential projects in current day CZT regional city*

3.2. Regional considerations for the design of a new CBD

In order to appropriately locate the network of new centers into its regional context, the thesis uses 2 sets of data to later superimpose and extract a number of accurate point which would best serve the CBDs.

The first set of data is Infrastructural – attempting to find a set of points which are best connected to available means of transportation; Airports, Interstate highways and rail lines are all tied together into intermodal transportation hubs which serve the new development as a whole as well as the new proposed centers. These are fundamental in order to later propose a more localized network of metro lines and roads for the use of the general public.

The second set of data is Geographic – considering the region’s topography and water distribution behavior in order to preemptively address potential problems of drainage and water management. Moreover, the lands capacity to hold high-rise structures is necessary to study in advance and thus potentially save great expenses. Lastly the topographic condition is considered as an artistic canvas for the precise composition of man made monumental artifacts vs. the vast field of nature and projected urbanization.

These sets of geographical and infrastructural consideration combine together to form a network of 4 CBDs, each representing an expected business cycle for the future participation of the region in the global and national economy.



Fig 88. High speed rail crossing through the site - 2012

3.2.1. Infrastructure

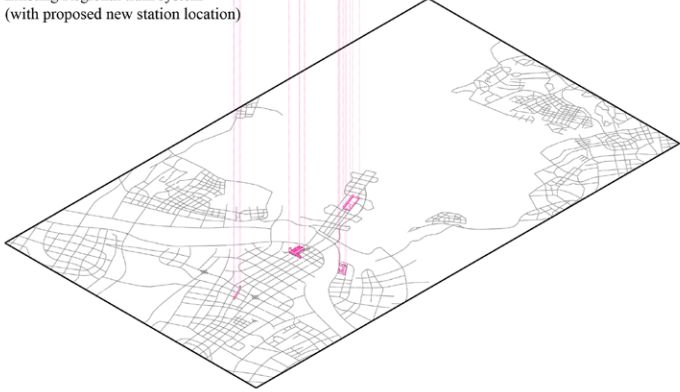
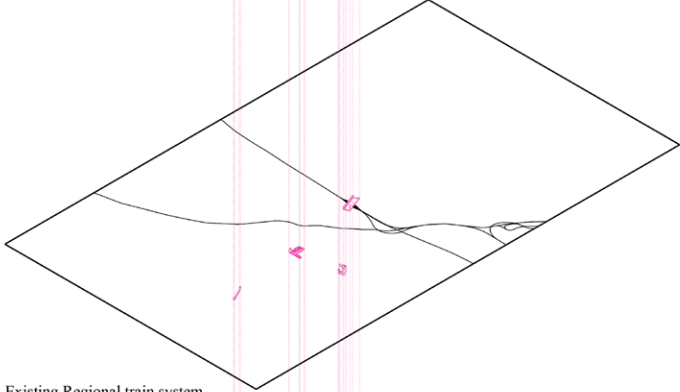
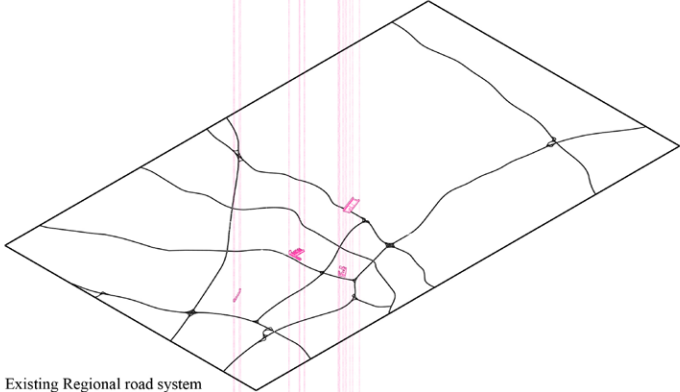
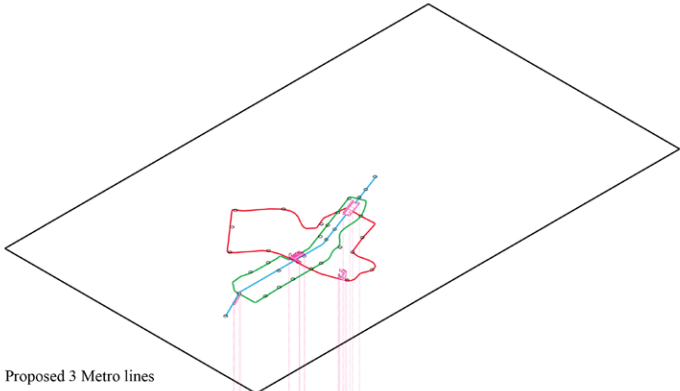


Fig 89. Infrastructural data set

3.2.2. Geography

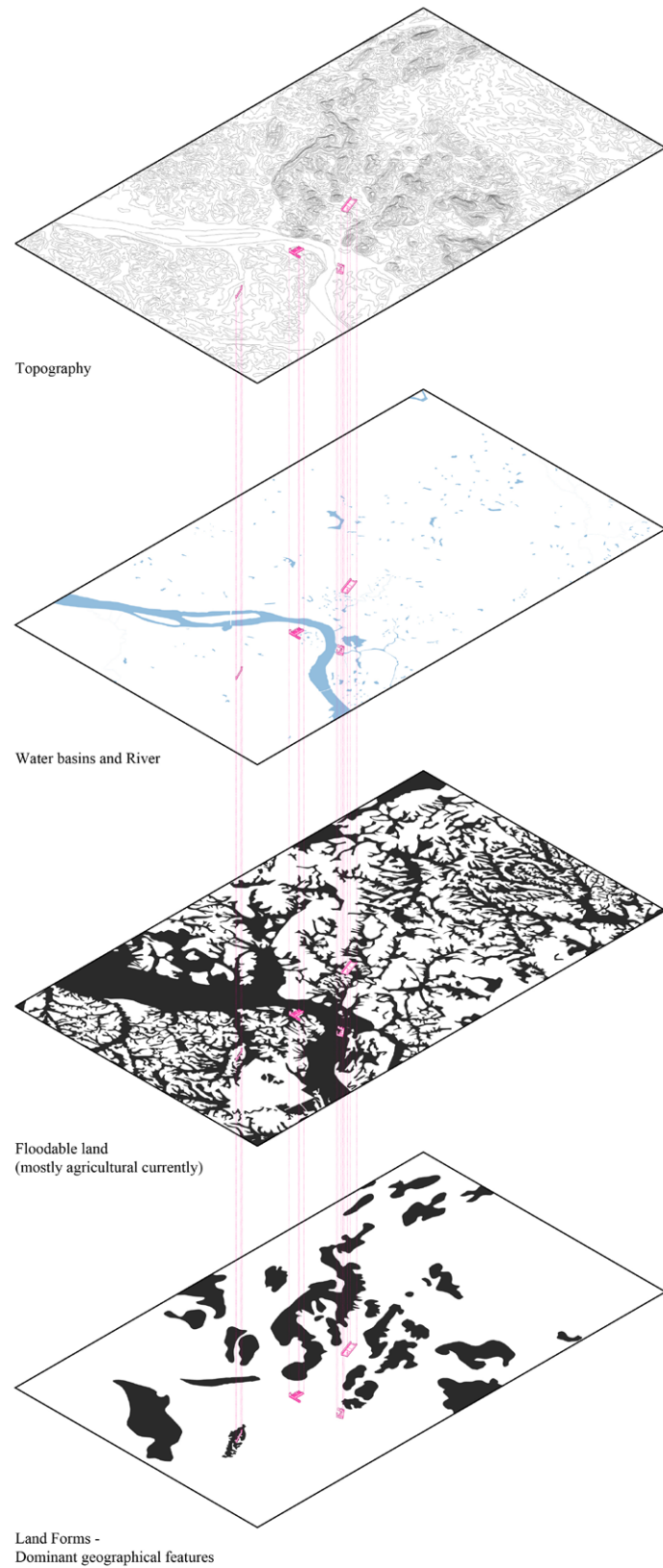
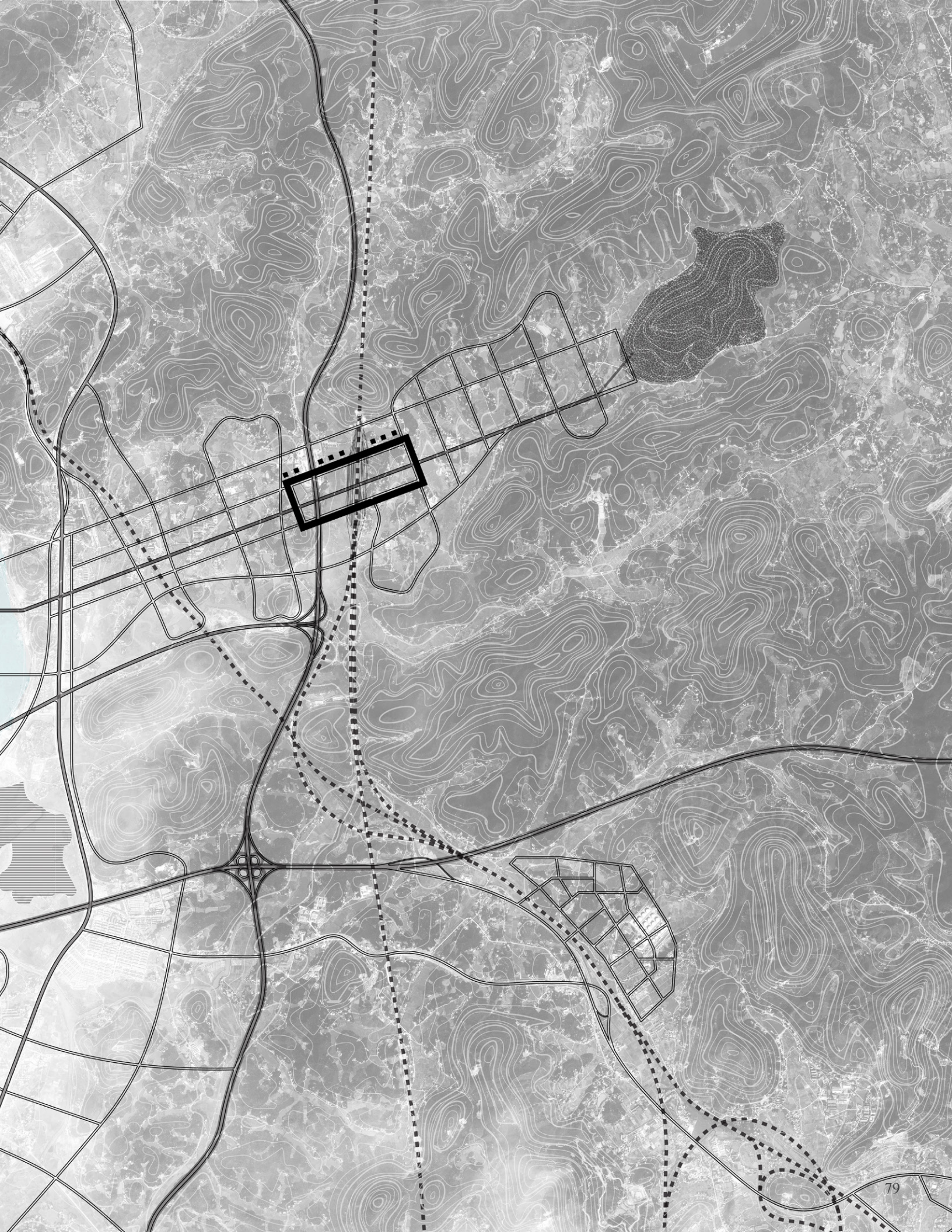


Fig 90. *Geographical data set*

The first two centers would be built at the same time (the middle and the western one), as a first phase, in order to avoid possible over burdening of one center and the subsequent collapse of the possibility for a distributed system of centers. Each center in this system is proposed to hold similar characteristics in respect to the 4 critiques proposed earlier on.



Fig 91. The proposed distributed network of CBDs for CZT



3.3. Key design propositions

The CBD is composed out of 4 distinct element, each operating on the scale of the CBD as a whole as well as maintaining a certain sense of autonomy and formal clarity; The Office Towers, The Continuous Monumental Office Building, The Podium and The Colonnade. The combination of the four elements comes in order to control the capacity and general dimension of the CBD as a tight unit, while preventing it from unwanted growth into a condition which will eventually become problematic to its context. The individual towers which typically dominate the CBD in a controlled manner, is balanced by a set of large scale elements which help form the CBD into a consciously public asset.

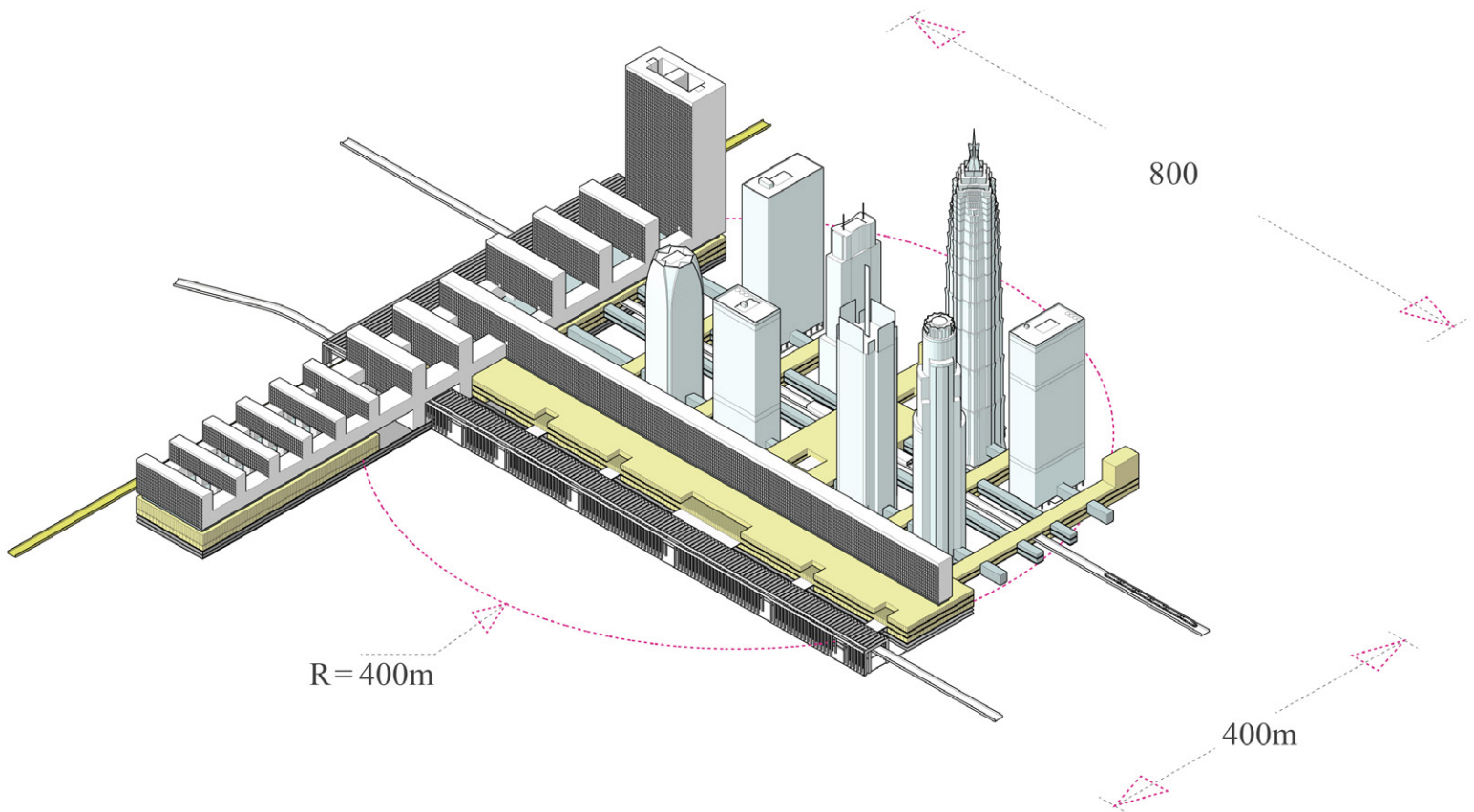


Fig 92. A composite axonometric of the CBD with dimensions

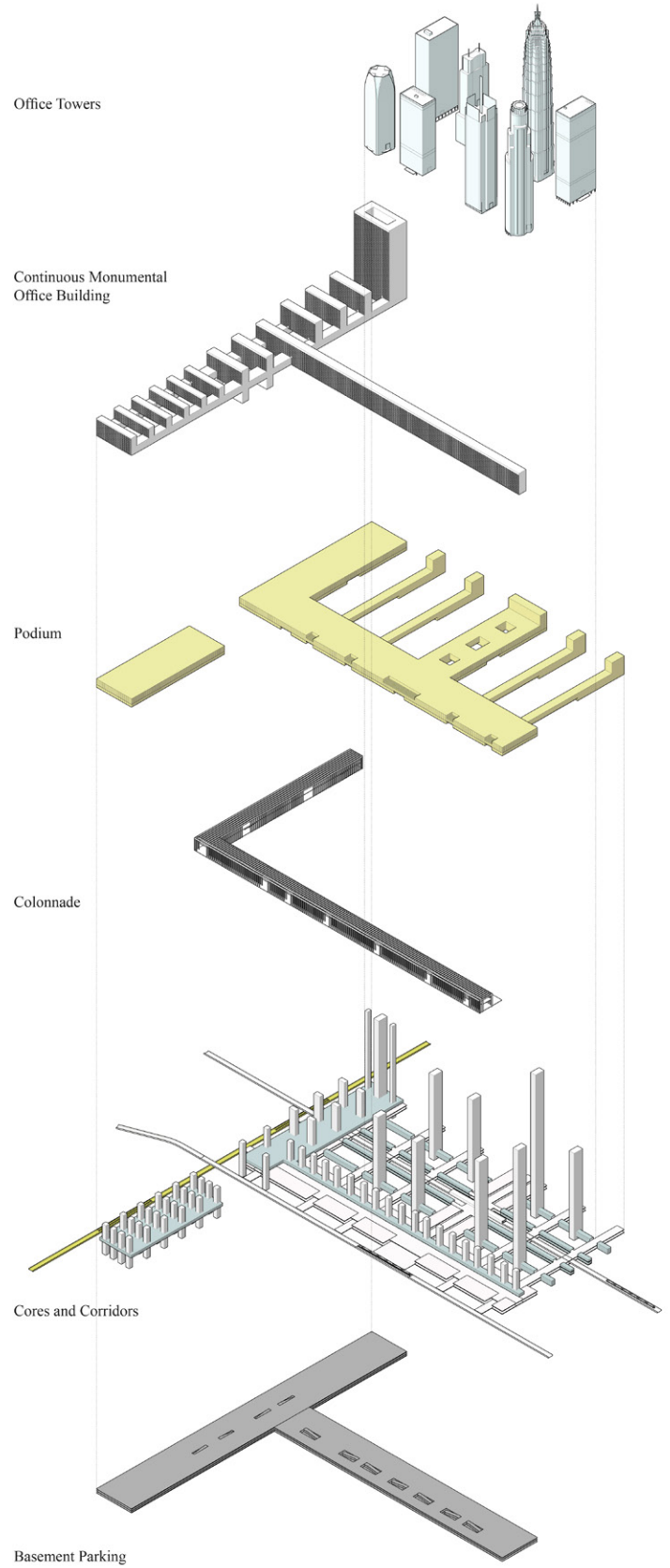
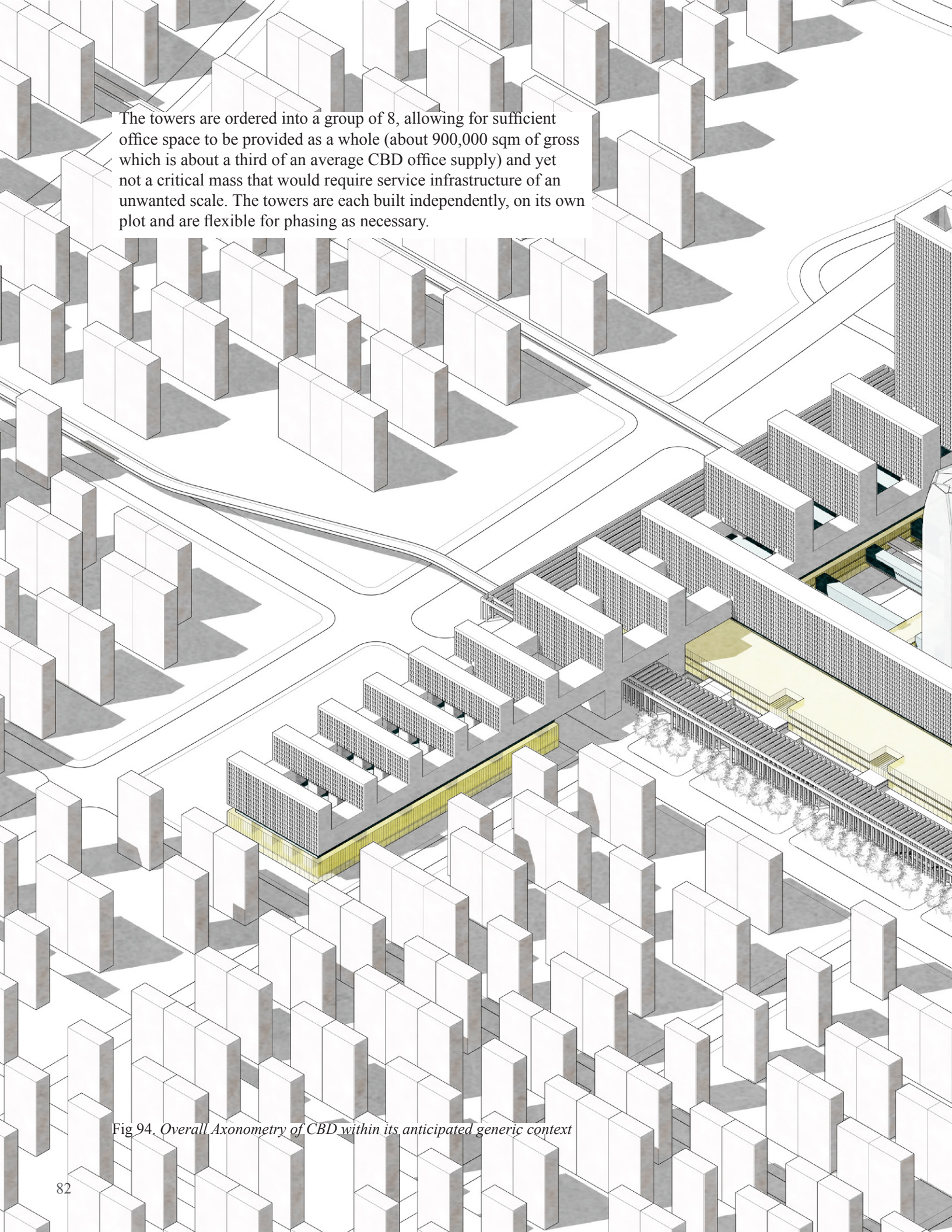
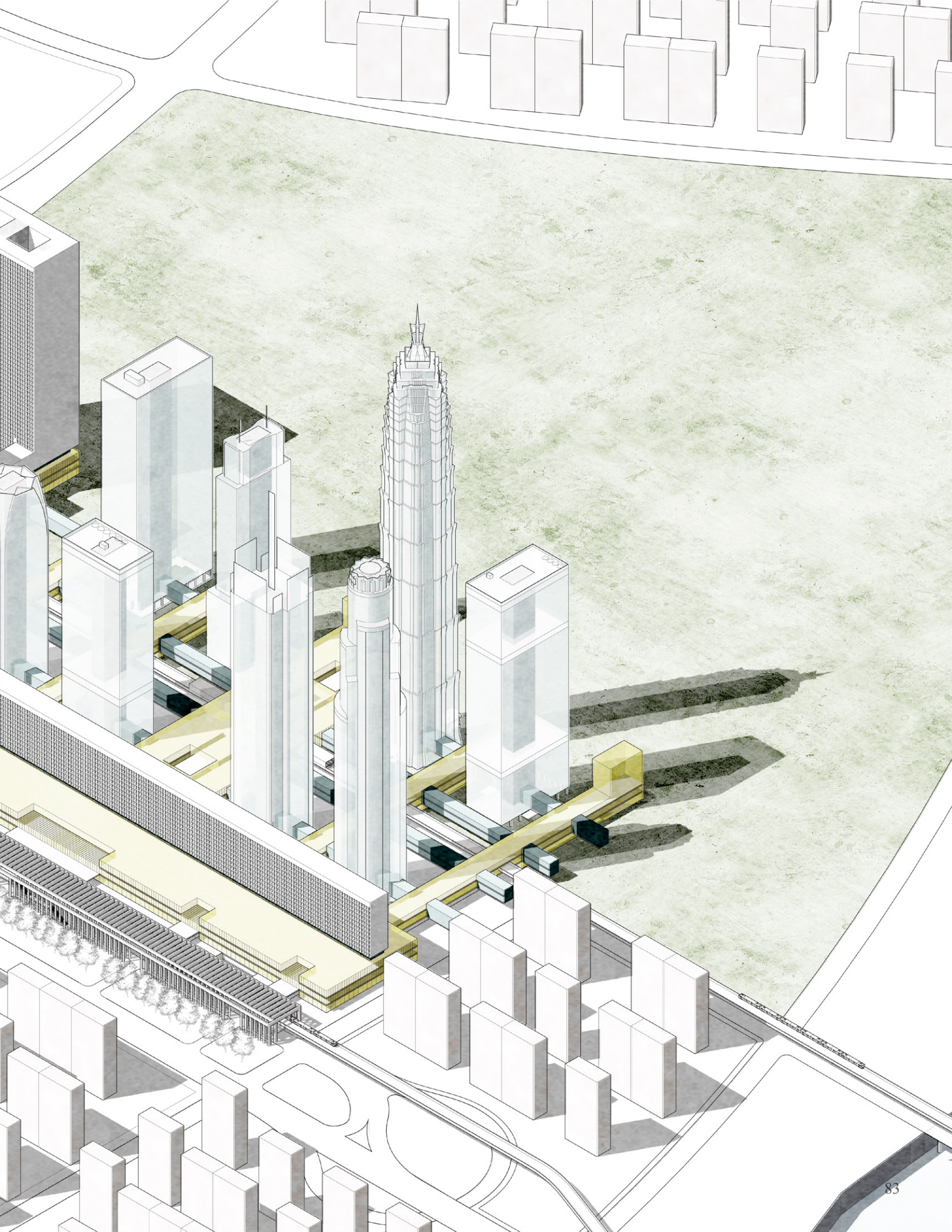


Fig 93. Exploded Axonometric exhibiting the CBD's components

An axonometric architectural rendering of a city block. The scene is filled with numerous white, rectangular building blocks of varying heights and widths, arranged in a grid-like pattern. In the lower right quadrant, a specific cluster of buildings is highlighted with a yellow base and detailed with grey grid patterns on their facades. This cluster consists of several interconnected volumes, including a prominent taller tower. The surrounding area is filled with simpler, white rectangular blocks, representing a generic urban context. The perspective is from an elevated angle, looking down and across the city block.

The towers are ordered into a group of 8, allowing for sufficient office space to be provided as a whole (about 900,000 sqm of gross which is about a third of an average CBD office supply) and yet not a critical mass that would require service infrastructure of an unwanted scale. The towers are each built independently, on its own plot and are flexible for phasing as necessary.

Fig 94. Overall Axonometry of CBD within its anticipated generic context



The Podium is proposed to provide sufficient common space for shopping, recreation and the transportation needs for the workers in the 8 office towers (estimated to be about 50,000 workers). This podium is intended to replace the necessity of the towers to accommodate for shopping internally and thus provide a more common public space between the towers and moderate their possible urge for self-sufficiency.

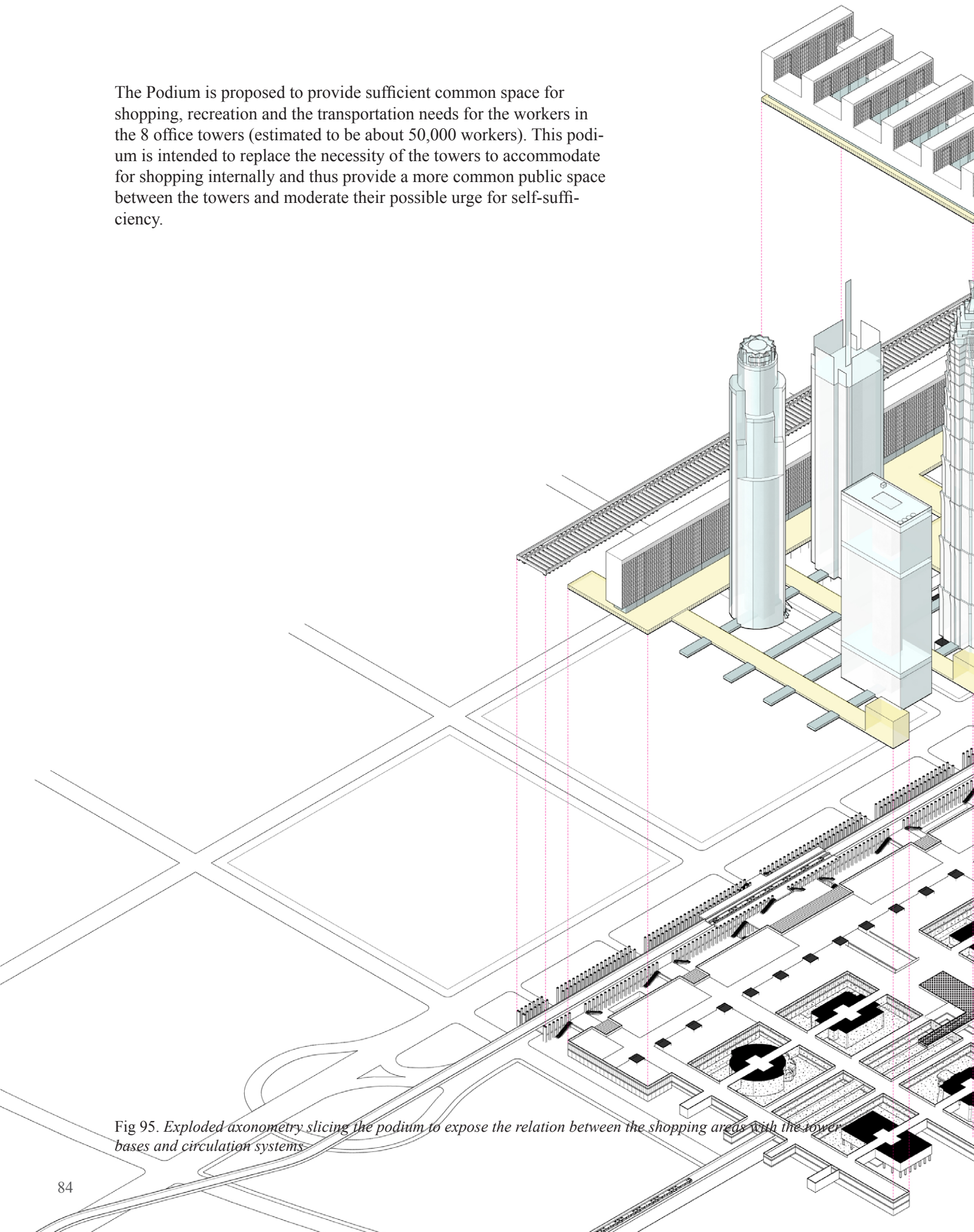
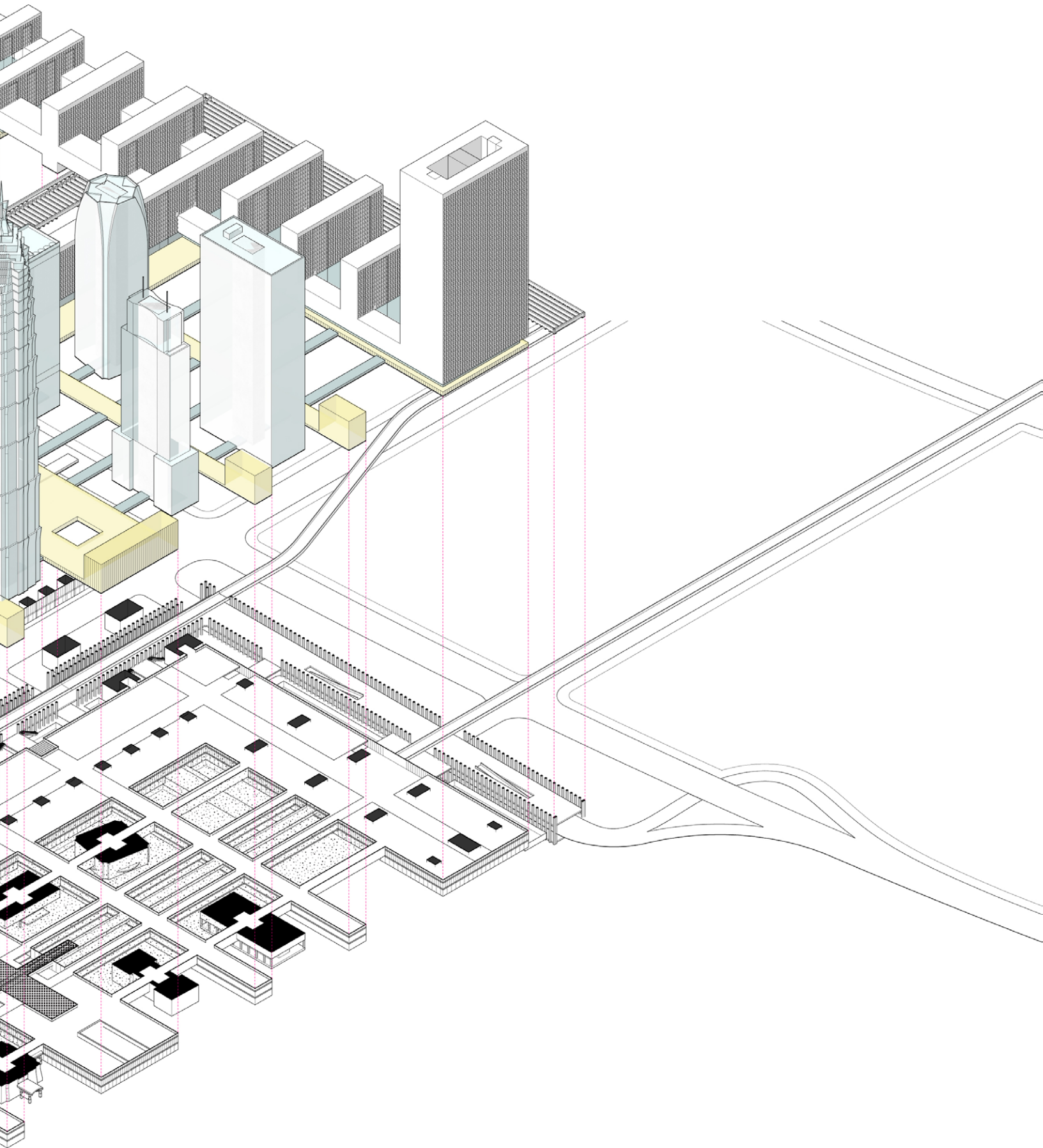


Fig 95. Exploded axonometry slicing the podium to expose the relation between the shopping areas with the tower bases and circulation systems



The colonnade is an infrastructural gateway to the CBD, hosting the elevated Metro and Taxi stations as well as the entrances and exits to the service and parking space under the podium. This elongated front porch acts as the CBD's façade to the region while providing generous pedestrian space which is all free and open to the public to potentially welcome informal retail which would typically not be allowed inside the podium.

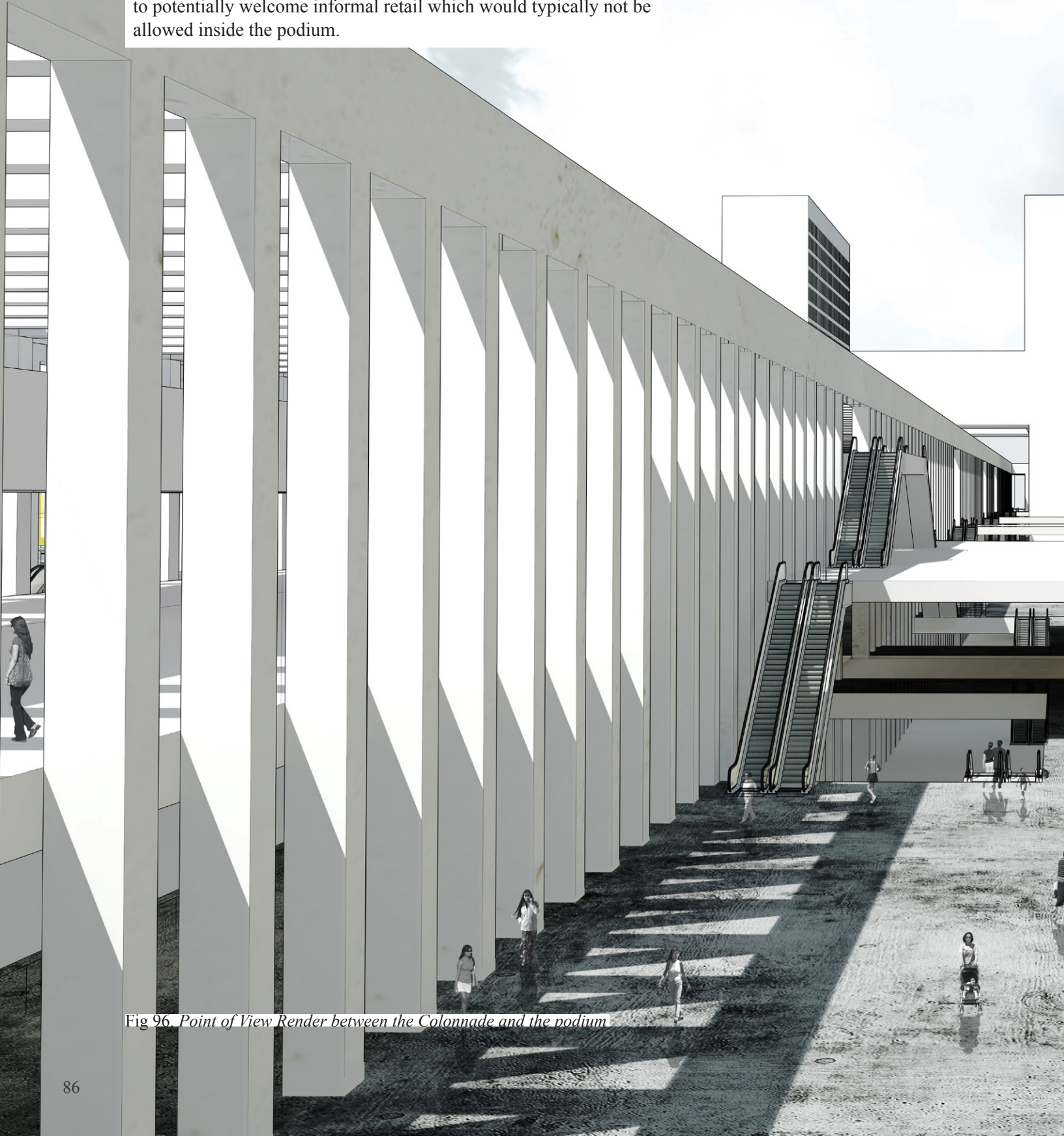
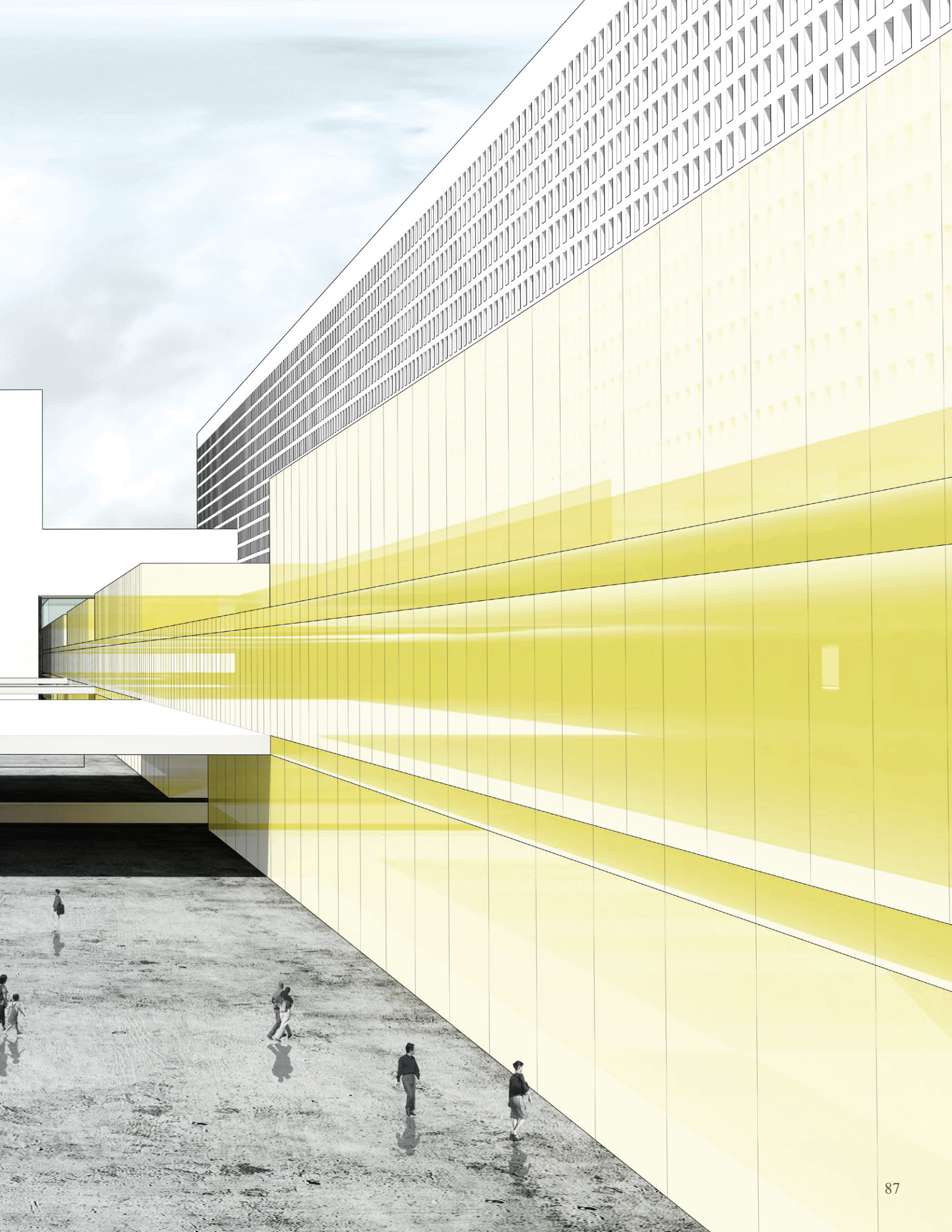


Fig 96. Point of View Render between the Colonnade and the podium



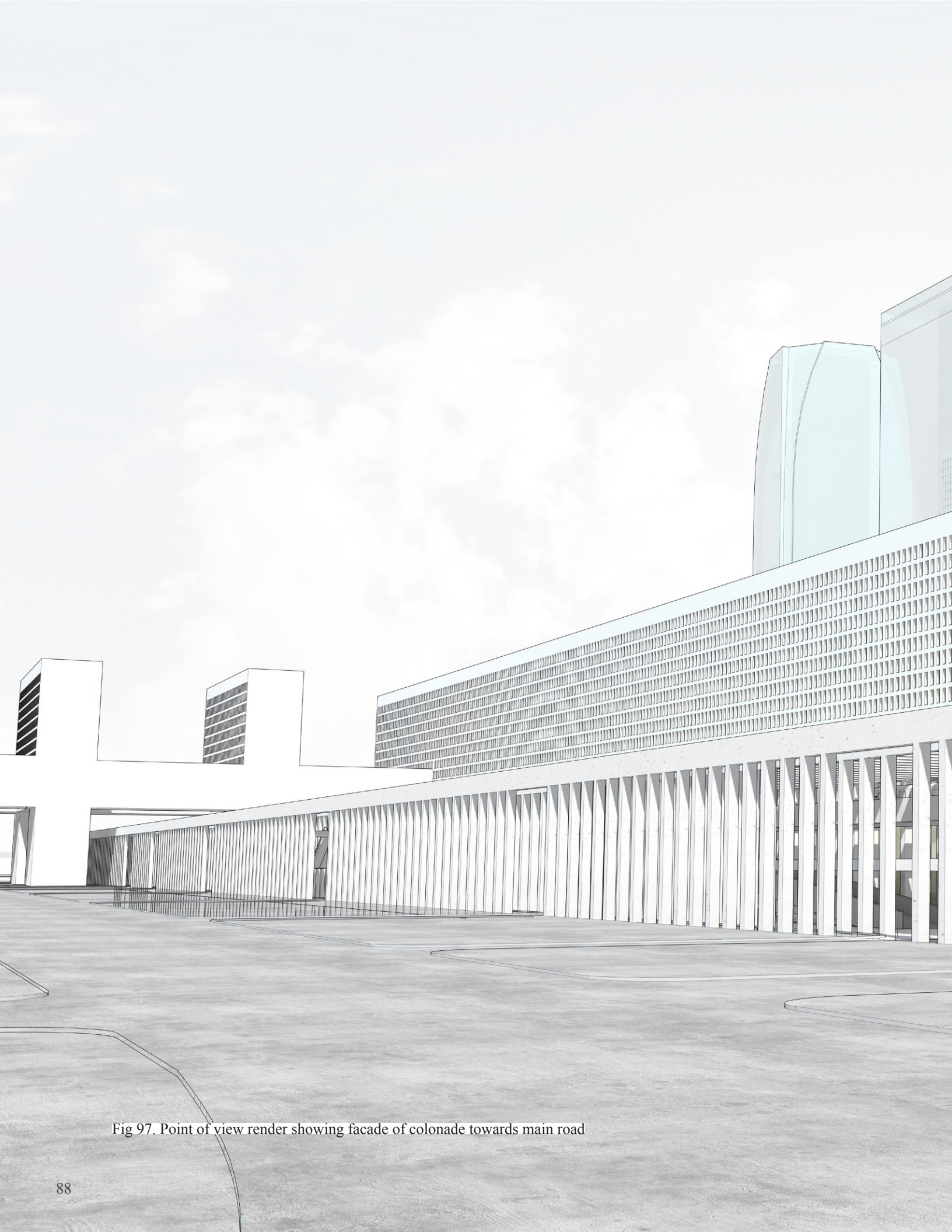
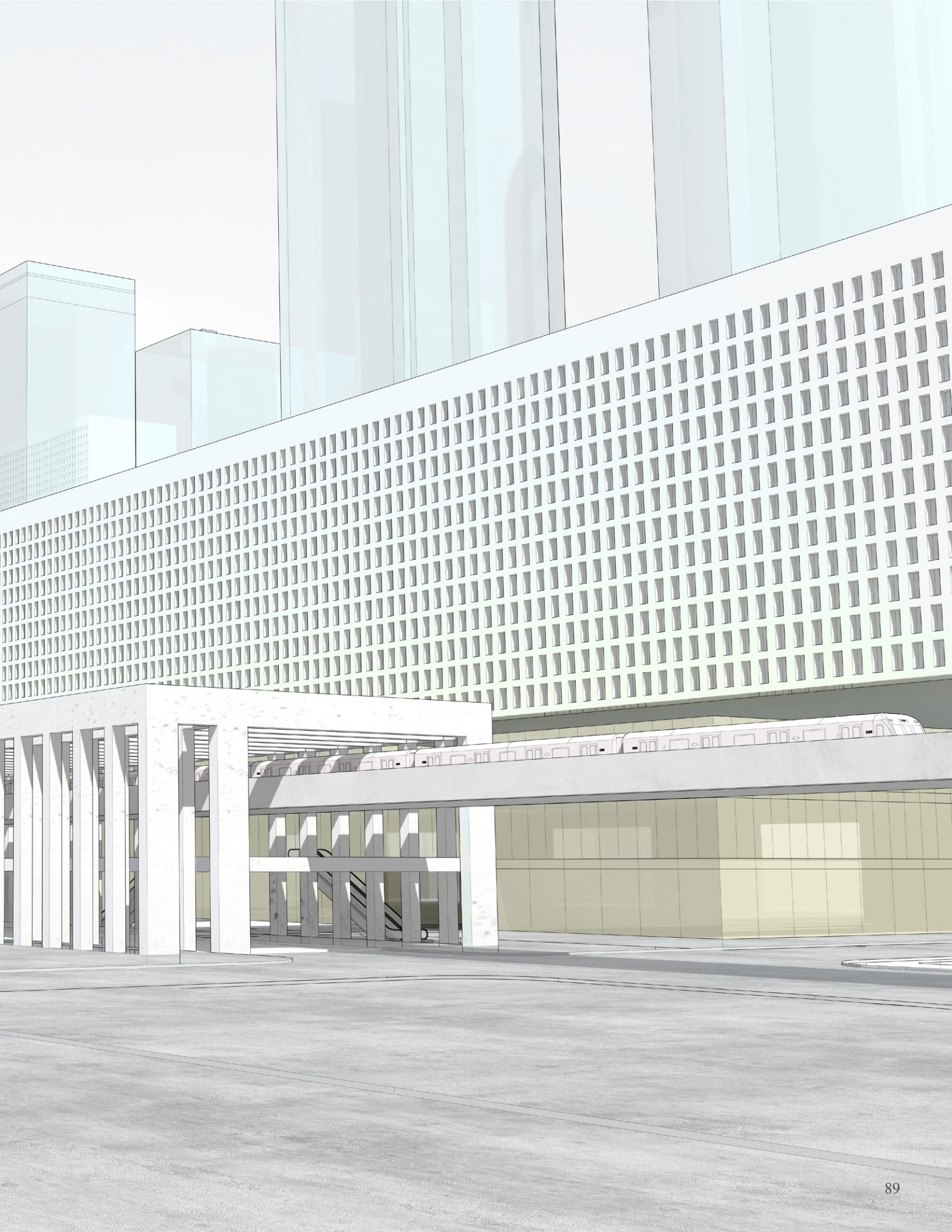


Fig 97. Point of view render showing facade of colonnade towards main road



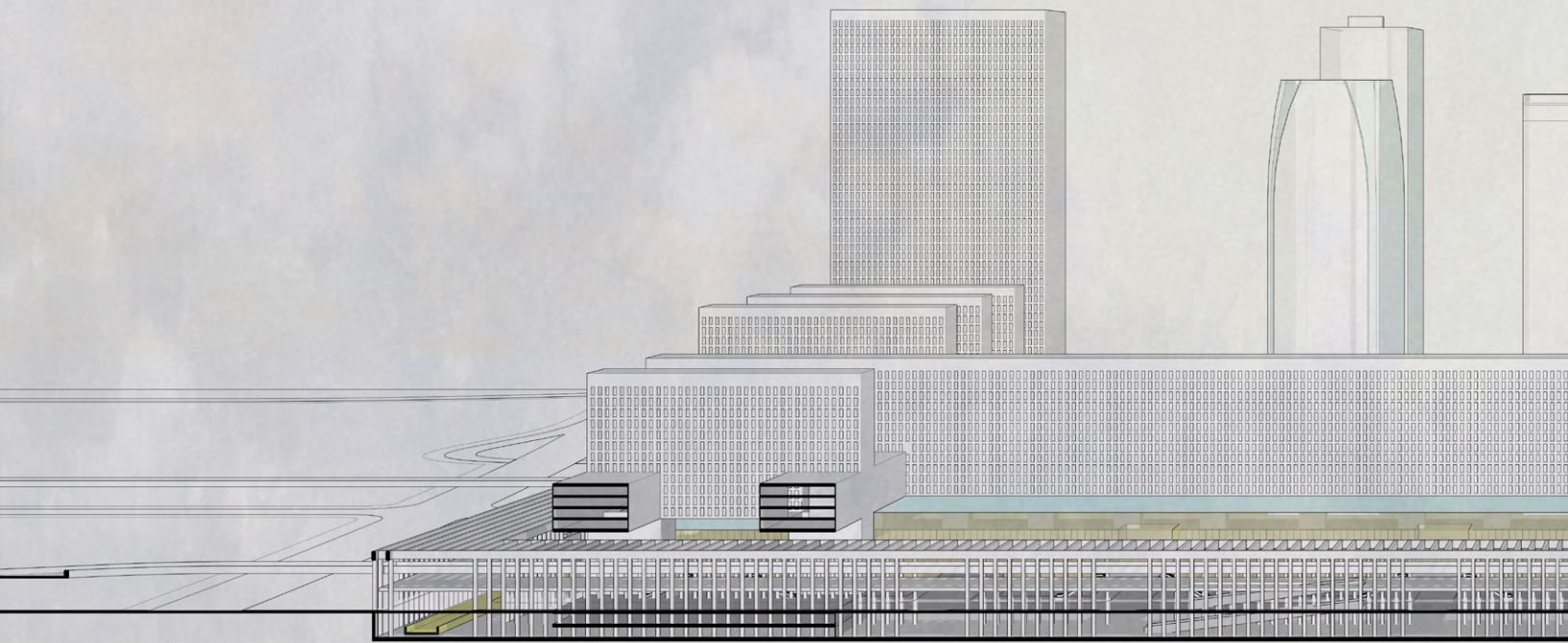
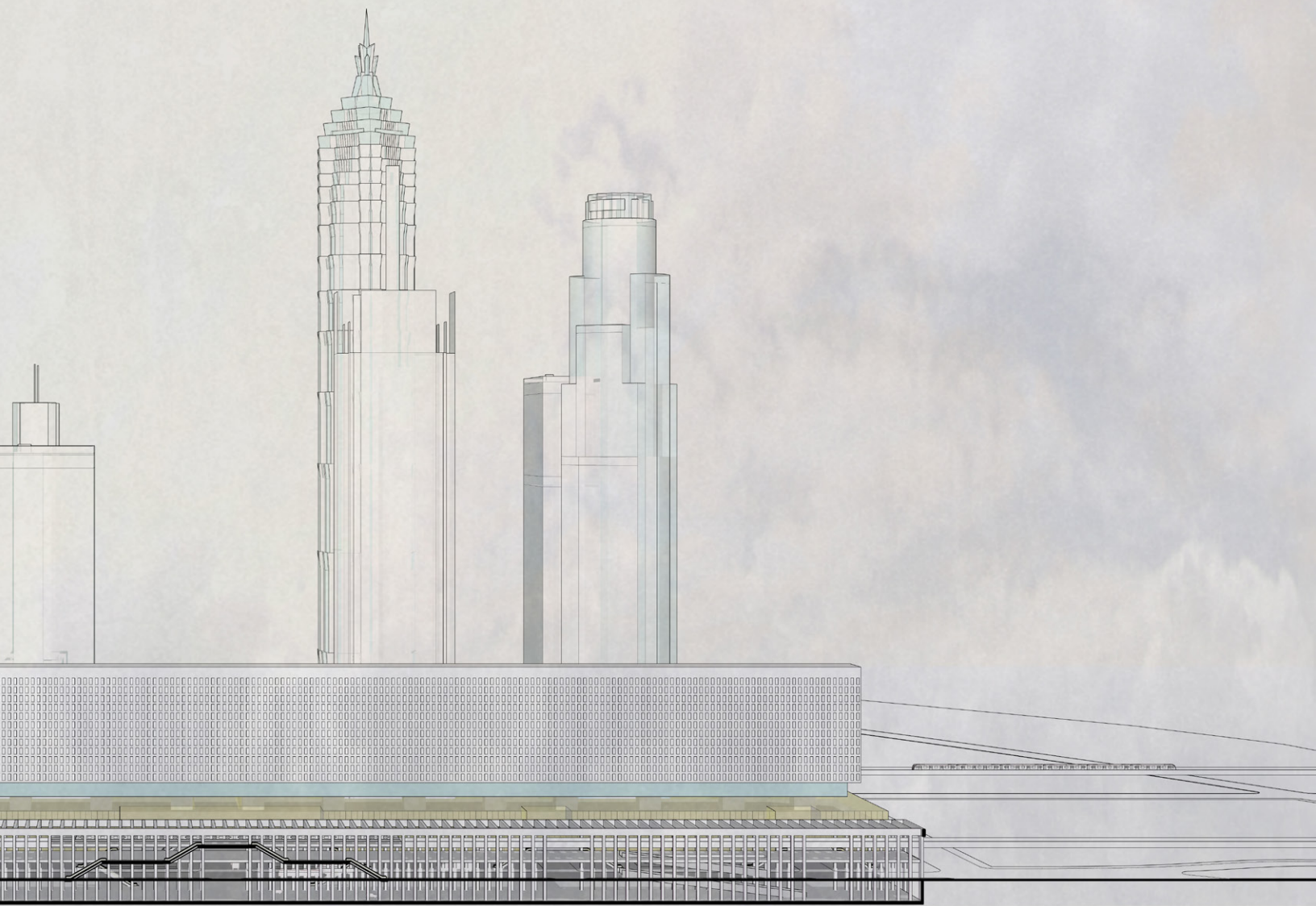


Fig 98. Section through the Clonnade - from East to west - showing the tower facades at the back



The continuous monumental building serves the CBD as a symbolic mirror, which refuses to participate in the speculative market. It is intentionally and visibly un-phaseable and inflexible. It is proposed that this building would be financed and built by the CBDs local management, and will serve them as a way to mediate and control rent prices and the fluctuating supply of offices according to the market's need.

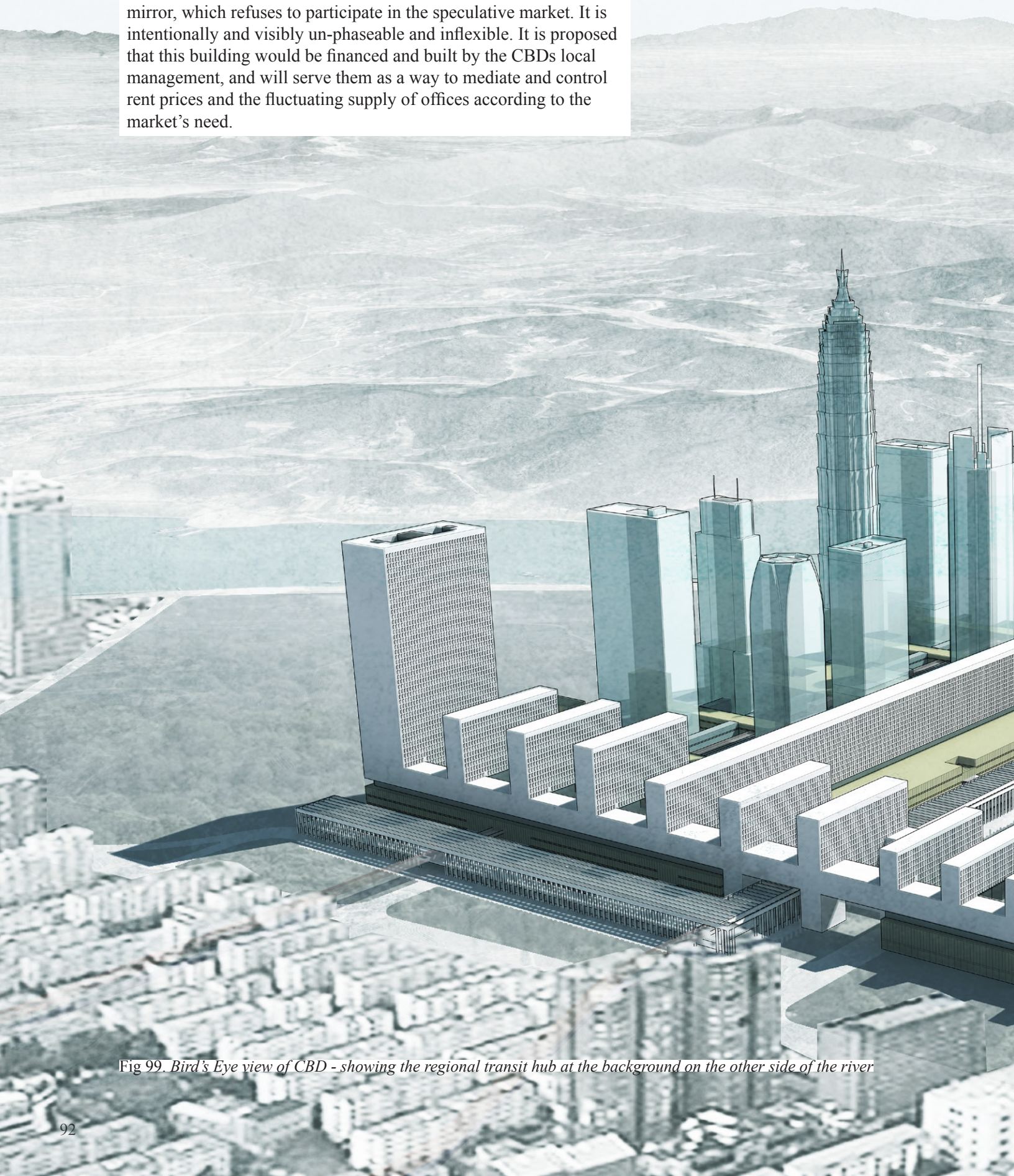
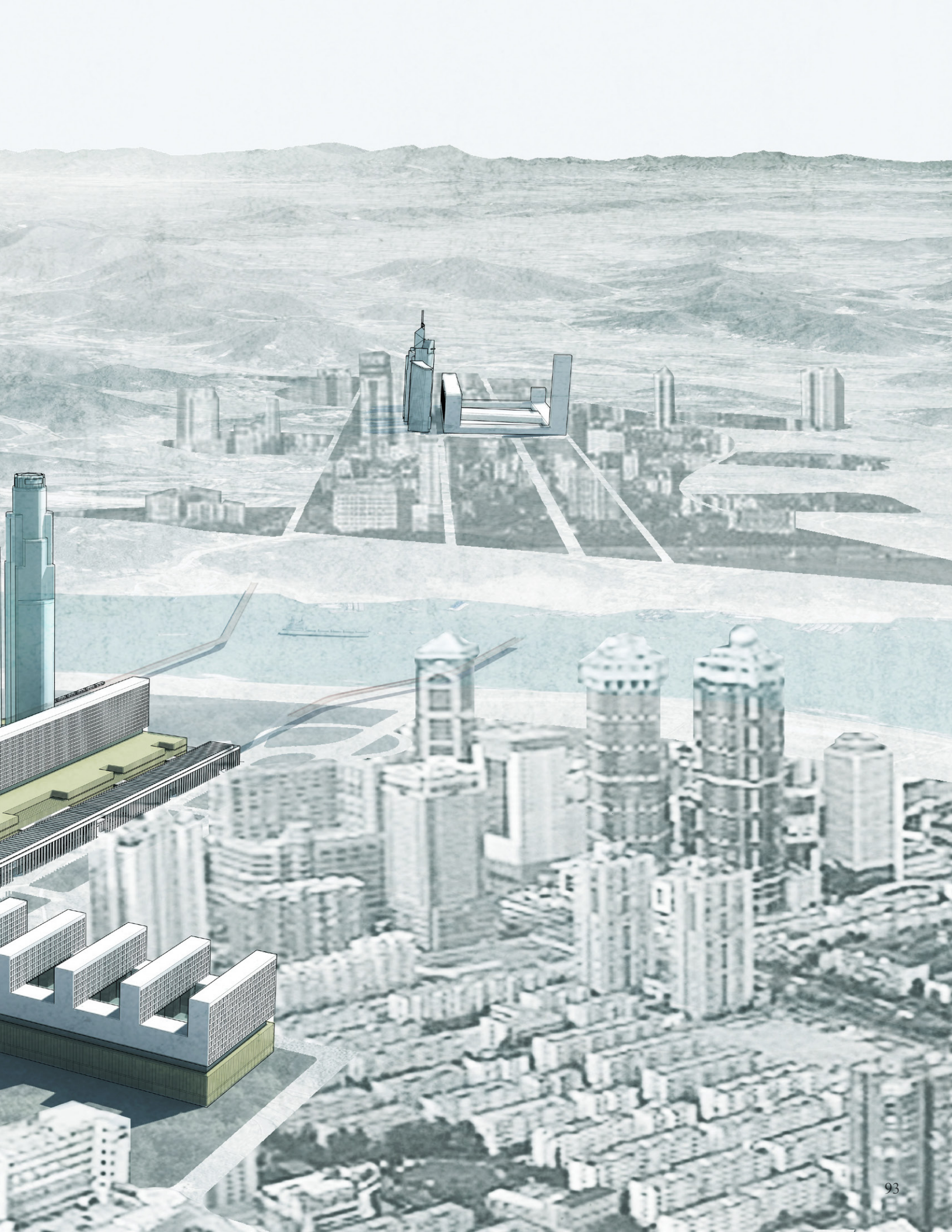


Fig 99. Bird's Eye view of CBD - showing the regional transit hub at the background on the other side of the river



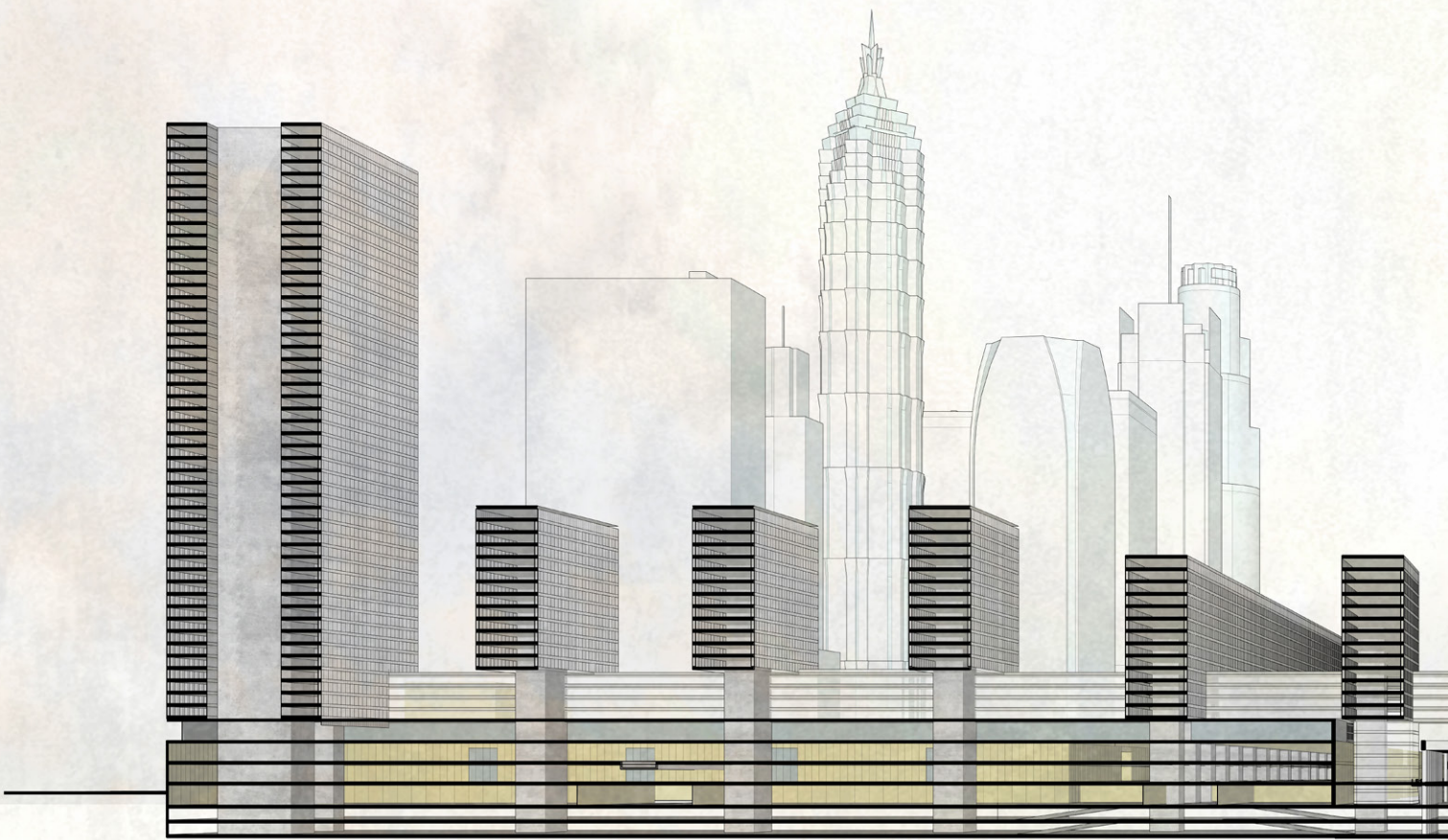
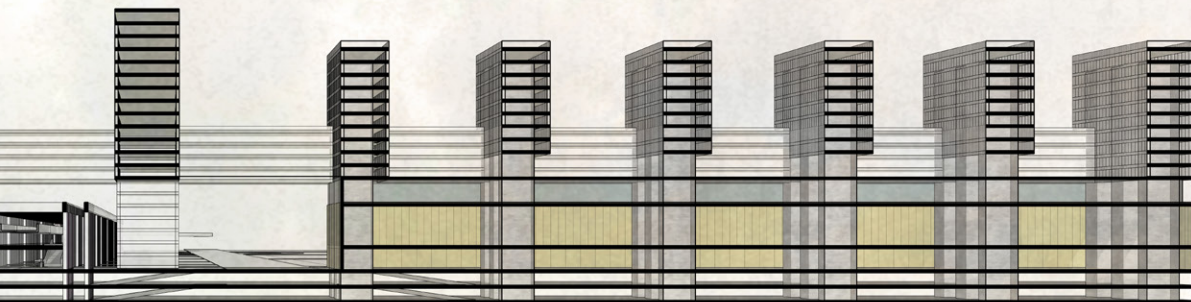



Fig 100. Section through the Continous Monumental Building - from North to South - showing the tower facades at the back





Finally, this CBD is proposed to be part of a distributed network of regional centers which would enable to restrain the size and capacity of each CBD, as well as to preemptively plan for future economic cycles.

Fig 101. Bird's Eye view of four proposed CBDs - showing the regional distributed network in context - with projected urban condition



Afterword

To conclude - Centralization of power in a global economy expresses itself through the construction of CBDs worldwide. Manifested as clusters of towers, these urban and architectural projects have seemingly detached from both context and content and appears to be increasingly self-sufficient. Therefore, this thesis proposes to read the CBD as the contemporary regional monument and studies the fundamental mechanism, which activates the CBD as a tool for the city's participation in the global economy.

This thesis originates in an attempt to read the morphological formation of our vast urbanized regions in a comprehensive yet abstract way. Looking for a narrative reasoning for the urban evidence revealed so beautifully in any possible mode documentation. Exploring aerial views and maps in a constant attempt to extract a 'supra-logic' that will replace any need to be verbal or explicit about this phenomena. Always under the assumption that our human activities, which are inevitably embedded within these complex formal structures, will be revealed if we would know where to look, and how to look. No need to talk about ourselves – just observe.

The centerpiece of the regional city attracts the eye immediately and begs to be disclosed for its impeccable dominance over an endless field of human settlement. It is unmistakably bold and fresh and seems to corroborate our knowledge about the importance of work in our lives. Where we work is what we celebrate. Where we work is explicitly dominant. Where we work is never private. Even though it is extremely private. It seems at first like a contradictory idea – a private enterprise made so dominant and exposed to the eyes of the public. The speculative boldness of the skyscraper seems to contrast in an outrageous way the normative repetition of housing laid just next to it. Yet this innocent shock could not be maintained for long. These radical expressions of human capability reveal their public role, once read as a group. The group of towers, uncover a possibility of making this a public endeavor and thus representational not only of its own brevity but of its homogenous surroundings as well.

Notes

1. Lynch, *The Image of the City*. p.112-115
2. Rossi, *The Architecture of the City*. p.126-131
3. Aureli, "City as Political Form."p.32
4. Giedion, *Architecture and the Phenomena of Transition*. p.3
5. *Ibid.* p.7
6. Aureli, "City as Political Form."p.35
7. Giedion, "The Need for a New Monumentality" [1944]
8. Giedion, *Architecture and the Phenomena of Transition*. p.267
9. *Ibid.* p.269
10. Maki, "Investigations in Collective Form". [1964]
11. Giedion, *Architecture and the Phenomena of Transition*. p.274
12. *Ibid.* p.271-273
13. Maki, "Investigations in Collective Form." [1964]
14. Rudofsky, *Architecture Without Architects*. [1964]
15. Mumford, *The City in History*. p.65
16. Vattimo, "Postmodernity and New Monumentality." [1995]
17. Mumford L., *The city in history*, p.535.
18. Abalos I. and Herreros J., *Tower and Office*, p.177
19. *Ibid.* p.183
20. *Ibid.* p.10
21. Geography, "World Development Report 2009." p.
22. *Ibid.* p.
23. Li, *The Rise of China and the Demise of the Capitalist World-economy*. [2008]
24. Olds, *Globalization and Urban Change*. p.163
25. *Ibid.* p.168
26. Willis, *Form Follows Finance*. p.145
27. *Ibid.* p.153
28. Koolhaas, *Content*. p.509
29. Rowe, *Chicago Frame*. p.106
30. Abalos I. and Herreros J., *Tower and Office*, p.190-211
31. Willis, *Form Follows Finance*. p.49-50
32. *Ibid.* p.53
33. *Ibid.* p.45-47
34. Koolhaas, *Delirious New York*. p.107
35. Willis, *Form Follows Finance*. p.90
36. *Ibid.* p.121-124
37. Corbusier, *The City of To-morrow and Its Planning*. p.94
38. Passanti, "The Skyscrapers of the Ville Contemporaine." p.54
39. *Ibid.* p.56
40. Abalos I. and Herreros J., *Tower and Office*, p.11
41. Corbusier, *The City of To-morrow and Its Planning*. p.96
42. Abalos I. and Herreros J., *Tower and Office*, p.12
43. Willis, *Form Follows Finance*. p.9
44. Tafuri, "The Disenchanted Mountain." p.497-503
45. Willis, *Form Follows Finance*. p.9
46. Wall and Gruen, *From Urban Shop to New City*. p.129
47. Aureli, "The Difficult Whole." p.52-54

48. Zaera-Polo, "High-rise Phylum." p.15
49. Koolhaas, Delirious New York. p.296
50. Koolhaas, Content. p.473

Bibliography

- Abalos, Iñaki, Juan Herreros, and Joan Ockman. *Tower and Office: From Modernist Theory to Contemporary Practice*. MIT Press Cambridge, Mass, 2003.
- Arrighi, Giovanni. *The Long Twentieth Century: Money, Power and the Origins of Our Times*. Verso, 2010.
- Aureli, Pier Vittorio. "City as Political Form: Four Archetypes of Urban Transformation." *Architectural Design* 81, no. 1 (2011): 32–37.
- ———. *Project of Autonomy: Politics and Architecture Within and Against Capitalism*. Reprint. Princeton Architectural Press, 2012.
- ———. "The Difficult Whole." *IN LOG* 9 (2007): 39–61.
- ———. *The Possibility of an Absolute Architecture*. The MIT Press, 2011.
- Banham, Reyner. "Megastructures." *Urban Future of a Recent Past*. Icon Harpe (1976).
- Basar, Shumon. *Cities from Zero*. Architectural Association, 2007.
- CIAM 8: 8th International Congress for Modern Architecture. *The Core*. Hoddesdon, England, 1951.
- Corbusier, Le. *The City of To-morrow and Its Planning*. Dover Publications, 1987.
- Croisé, Espace. *Euralille: The Making of a New City: Koolhaas, Nouvel, Portzamparc, Vasconti, Duthilleul: Architects*. Birkhauser, 1996.
- D'Hooghe, Alexander. *The Liberal Monument: Urban Design and the Late Modern Project*. Princeton Architectural Press, 2010.
- Fogelson, Robert M. *Downtown: Its Rise and Fall, 1880-1950*. Yale University Press, 2003.
- Gabriel, Satyananda J. *Chinese Capitalism and the Modernist Vision*. Vol. 61. Psychology Press, 2006.
- Giedion, Sigfried. *Architecture and the Phenomena of Transition: The Three Space Conceptions in Architecture*. Harvard University Press, 1971.
- Grant, Richard, and Jan Nijman. "Globalization and the Corporate Geography of Cities in the Less-developed World." *Annals of the Association of American Geographers* 92, no. 2 (2002): 320–340.
- Gruen, Victor. *Centers for the Urban Environment: Survival of the Cities*. Van Nostrand Reinhold Company New York, 1973.
- Hall, Peter. *The Polycentric Metropolis: Learning from Mega-City Regions in Europe*. Routledge, 2009.
- Hardt, Michael, and Antonio Negri. *Empire*. Harvard University Press, 2009.
- *Harvard Architecture Review: Monumentality and the City* : Spring 1984. Mit Pr, 1984.
- Harvey, David. *A Brief History of Neoliberalism*. Oxford University Pres, 2007.
- ———. "The Art of Rent: Globalisation, Monopoly and the Commodification of Culture." *Socialist Register* 38, no. 38 (2009).
- Hilberseimer, Ludwig. *Metropolisarchitecture and Selected Essays (Gsapp Sourcebooks)*. Edited by Richard Anderson. Tra. GSAPP Books, 2013.
- Ito, Toyo. *Toyo Ito*. Academy Editions Ltd, 1995.
- Jencks, Charles, Charles Jencks, and Charles Jencks. *Skyscrapers—skyprickers—skycities*. Academy Editions, 1980.

- Kohn, A. Eugene, and Paul Katz. *Building Type Basics for Office Buildings*. Wiley, 2002.
- Koolhaas, Rem. *Delirious New York: A Retroactive Manifesto for Manhattan*. The Monacelli Press, 1997.
- ———. *El Croquis 131/32: Rem Koolhaas-OMA I*. El Croquis, 2006.
- Koolhaas, Rem, Bruce Mau. *S M L XL*. 2nd ed. Monacelli Press, 1997.
- Koolhaas, Rem, and Hans Ulrich Obrist. *Project Japan: Metabolism Talks*. First Edition. Taschen, 2011.
- Koolhaas, Rem, and A. M. O. Rotterdam. *Content*. Taschen Cologne, 2004.
- Lee, Christopher, and Sam Jacoby. “Typological Urbanism and the Idea of the City.” *Architectural Design* 81, no. 1 (2011): 14–23.
- Li, Minqi. *The Rise of China and the Demise of the Capitalist World-economy*. Pluto, 2008.
- Lynch, Kevin. *The Image of the City*. Vol. 1. MIT press, 1960.
- Maki, Fumihiko. *Investigations in Collective Form*. 2. School of Architecture, Washington University, 1964.
- Mitchell, William J. “Do We Still Need Skyscrapers?” *Scientific American* 277, no. 6 (1997): 112–113.
- Mumford, Lewis. *The City in History: Its Origins, Its Transformations, and Its Prospects*. Vol. 67. Mariner Books, 1961.
- Nijman, Jan. “Introduction—Comparative Urbanism.” *Urban Geography* 28, no. 1 (February 1, 2007): 1–6.
- Olds, Kris. “Globalization and Urban Change: Capital, Culture, and Pacific Rim Mega-projects.” *OUP Catalogue* (2011).
- “Preparing for China’s Urban Billion | McKinsey & Company.” Accessed May 20, 2013.
- Passanti, Francesco. “The Skyscrapers of the Ville Contemporaine.” *Assemblage* no. 4 (1987): 53–65.
- Provoost, Michelle. *New Towns For The 21st Century: The Planned Versus the Unplanned City*. Sun, 2010.
- ———. *Rising In The East*. Sun, 2011.
- “Reshaping economic geography.” [The International Bank for Reconstruction and Development, The World Bank]., 2009, World Bank, Washington, D.C.
- Rossi, Aldo. *The Architecture of the City*. The MIT Press, 1984.
- Rowe, Colin. *Chicago Frame: Chicago’s Place in the Modern Movement*, 1956.
- Rudofsky, Bernard. *Architecture Without Architects: a Short Introduction to Non-pedigreed Architecture*. UNM Press, 1964.
- Sert, José Luis, Fernand Léger, and Sigfried Giedion. “Nine Points on Monumentality.” *Architecture Culture* 1968 (1943): 29–30.
- Sert, Jose Ì Luis. *Can Our Cities Survive?: An ABC of Urban Problems, Their Analysis, Their Solutions; Based on the Proposals Formulated by the C.I.A.M., International ... Internationaux D’architecture Moderne*. Oxford University Press, 1944.
- Shou-hong, X. I. E. “NING Yue-min (1. Department of Resources Environment and Tourism Management, Hengyang Normal University, Hengyang 421008, Hunan, China; 2. Institute of Urban and Regional Development Research, East China Normal University, Shanghai 200062, China); Metropolitan Area: The Only Way Of

- Integration For Chang-Zhu-Tan Area [J].” *Economic Geography* 6 (2005).
- Tafuri, Manfredo. *Architecture and Utopia: Design and Capitalist Development*. The MIT Press, 1979.
 - ———. “The Disenchanted Mountain: The Skyscraper and the City.” *The American City: From the Civil War to the New Deal* (1980): 389–503.
 - Tattara, Martino, Gabriele Mastigli, and Pier Vittorio Aureli. *Rome the Centre(s) Elsewhere: Pier Vittorio Aureli*. Skira, 2010.
 - Taylor, Jennifer, and James Conner. *The Architecture of Fumihiko Maki: Space, City, Order and Making*. Birkhäuser, 2003.
 - Thornton, Mark. “Skyscrapers and Business Cycles.” *Quarterly Journal of Austrian Economics* 8, no. 1 (2005): 51–74.
 - Vattimo, Gianni. “Postmodernity and New Monumentality.” *RES: Anthropology and Aesthetics* no. 28 (1995): 39–46.
 - Wall, Alex, and Victor Gruen. *From Urban Shop to New City*. Barcelona, 2005.
 - Wallerstein, Immanuel. *The Capitalist World-economy*. Vol. 2. Cambridge University Press, 1979.
 - ———. “The Rise and Future Demise of the World Capitalist System: Concepts for Comparative Analysis.” *Comparative Studies in Society and History* 16, no. 4 (1974): 387–415.
 - Willis, Carol. *Form Follows Finance*. Princeton Architectural Pr, 1995.
 - XU, Lian-fang, and Yong TAN. “Study On The Land Carrying Capacity Of Resource-Saving And Environment-Friendly Development Experimental Area In Changzhutan Megalopolis [J].” *Economic Geography* 1 (2009): 018.
 - Yang, Hong, Qiu-jun Luo, and Wei Li. “A Study on the Tourism Integration in Chang-Zhu-Tan Area.” *Tropical Geography* 23, no. 4 (2003): 384–387.
 - Yang-le, CHEN. “Accelerating Agro-Urbanization: The Only Way Of Economic Integration For Chang Zhu Tan [J].” *Human Geography* 6 (2001): 002.
 - Zaera-Polo, A. “High-rise Phylum 2007.” *Harvard Design Magazine* 26 (2007): 15–29.
 - ZHU, You-zhi, Zhong-xian TONG, and Hai-yan ZHOU. “The Rise of Central Region of China and the Position of ChangZhuTan Metropolitan Regions Development [J].” *Journal of Zhengzhou Institute of Aeronautical Industry Management* 6 (2007): 002.

Image Credits

1. http://commons.wikimedia.org/wiki/File:Acropolis_Athens_Greece.jpg
2. <http://travelplaces24x7.com/central-park-new-york/>
3. <http://blogs.law.harvard.edu/doc/2011/04/13/overlooking-chicago/>
4. <http://mikailov.com/page/2>
5. <http://newcomicreviews.com/unsorted/4/LG-shanghai.jpg>
6. <http://www.skyscrapercity.com/showthread.php?p=103146343>
7. <http://www.bing.com/maps/>
8. <http://www.flickr.com/photos/akalhan/2541668168/sizes/l/>
9. Koolhaas, Rem, and Hans Ulrich Obrist. *Project Japan: Metabolism Talks*. Taschen, 2011. p.304
10. <http://en.wikipedia.org/wiki/File:Giza-pyramids.JPG>
11. Aureli, Pier Vittorio, "The Difficult Whole." IN LOG 9 (2007), p.46
12. <http://www.wallsforpc.com/wallpaper/world-trade-centernew-yorkusa/>
13. Giedion, Sigfried. *Architecture and the Phenomena of Transition*, 1971. p. 273
14. <http://www.oma.nl/>
15. <http://imgur.com/9Toxz>
16. Giedion, Sigfried. *Architecture and the Phenomena of Transition*, 1971. p. 272
17. <http://connectingsthlm.files.wordpress.com/2010/12/6-superstudio.jpg>
18. http://kevinhaah.blogspot.com/2012/03/vision-to-plant-church-in-every_01.html
19. Image by author
20. Image by author
21. Image by author
22. <http://www.gaouloumi.com/viewthread.php?tid=180049>
23. Image by author
24. <http://www.portmanusa.com/home.php>
25. <http://www.portmanusa.com/home.php>
26. <http://ivansergejev.wordpress.com/2011/10/27/disaster-management/>
27. <http://archi.ru/russia/6524/blagoustroiteli-zasedanie-obschestvennogo-soveta-20-iyunya-2008-g>
28. Image by author
29. <http://www.shmoop.com/catcher-in-the-rye/photo-nyc-skyline.html>
30. <http://www.kanyetothe.com/forum/index.php?topic=358716.0>
31. <http://www.arch2o.com/shanghai-tower-marshall-strabala/>
32. <http://www.flickr.com/photos/36844288@N00/4323563252/>
33. <http://www.skyscrapercity.com/showthread.php?t=273147&page=21>
34. <http://archimodels.info/image/30300066483>
35. <http://arkjared.tumblr.com/image/27197742350>
36. <http://www.skyscrapercity.com/showthread.php?t=1438350&page=3>
37. <http://www.skyscrapercity.com/showthread.php?t=1157079&page=44>
38. <http://www.accbud.ua/architecture/tekstura/moll-i-gorod--khroniki-poedinka-titanov--chast-2>
39. Giedion, Sigfried. *Architecture and the Phenomena of Transition*, 1971. p. 272
40. Aureli, Pier Vittorio, "The Difficult Whole." IN LOG 9 (2007), p.53
41. <http://barbaric-interior.tumblr.com/image/34183148290>
42. <http://www.otsbuscharter.com/bus-charters/cities/transportation-services-houston-tx.html>
43. <http://www.archsource.info/projects/2575>
44. http://www.perraultarchitecture.com/en/projects/2472-lu_jia_zui_business_centre.html
45. <http://www.richardrogers.co.uk/render.aspx?siteID=1&navIDs=1,4,25,609&showImages=detail&imageID=961&showParent=true>

46. <http://oma.eu/projects/2003/beijing-central-business-district->
47. <http://www.skyscrapercity.com/showthread.php?t=614103&page=49>
48. <http://www.skyscrapercity.com/showthread.php?t=1178533&page=7>
49. Image by author
50. Image by author
51. Gruen, Victor. Centers for the Urban Environment, 1973. p.193
52. Image by author
53. <http://jinavie.tumblr.com/post/42210918094/mirror#.UZ6xwGdF36M>
54. <http://ericrossacademic.wordpress.com/2013/02/12/presenting-the-skyscraper-index-of-stock-market-crashes/>
55. <http://www.flickr.com/photos/perspectivephotography/3509307448/>
56. Image by author
57. <http://thechinatourism.com/2011/12/29/lujiazui-cbd-area/>Image by author
58. Image by author
59. <http://www.cyprus-forum.com/cyprus31495-80.html>
60. Image by author
61. <http://mikailov.com/page/2>
62. Image by author
63. <http://www.rikes.gov.cn/templates/English/jdzsj.html>
64. <http://english.rikes.gov.cn/4/174/2115.html>
65. <http://www.skyscrapercity.com/showthread.php?t=889350>
66. <http://www.skyscrapercity.com/showthread.php?t=889350>
67. Image by author
68. Image by author
69. Image by author
70. Image by author
71. Image by author
72. Image by author
73. Image by author
74. Image by author
75. Image by author
76. Image by author
77. Image by author
78. Image by author
79. Image by author
80. Image by author
81. Image by author
82. Image by author
83. Image by author
84. <http://www.ruralise.co.uk/contemporary-farmsteads-3/>
85. <http://archimodels.info/post/30300066483/c-le-corbusier-plan-voisin-paris-france>
86. Google earth
87. <http://cs.focus.cn/msgview/180507/190660136.html>
88. Image by author
89. Image by author
90. Image by author
91. Image by author
92. Image by author
93. Image by author

94. Image by author
95. Image by author
96. Image by author
97. Image by author
98. Image by author
99. Image by author
100. Image by author
101. Image by author