RENAISSANCE OF A DERELICT INDUSTRIAL AREA IN BEIJING

POST-INDUSTRIAL AREA
IN TRANSITION

RENAISSANCE OF A DERELICT INDUSTRIAL AREA IN BEIJING

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PART 01
INTRODUCTION

1.1 Introduction of Context
1.2 Motivation
1.3 Problem Statement
1.4 Choice of Project Site
1.5 Research Questions
1.6 Methodology
1.7 Theoretical Framework
1.1 Context

European Context: De-industrialization

- Economy: shift from manufacturing to emerging new industries
- Social Issues: social exclusion, unemployment, etc
- Spatial Condition: dereliction, obsolete infrastructure, environmental deterioration

"These cities are facing a complex array of economic, social, physical, environmental and fiscal problems. Cities have to compete for investment and economic growth at the same time as dealing with the dereliction left by previous generations."

Couch, C & Fraser, C
1.1 **Context**

**Chinese Context: Rapid Industrialization & Urbanization**

Three Phases In The Strategic Planning Of Beijing Influencing Industrialization Process:
- 1949 - 1958: designated function of Beijing is defined as the production base & industrial city;
- 1980 - now: designated function of Beijing modified as the cultural and political center of China.
1.1 Context

Establishment
P. R. C. 1949

"Cultural Revolution"
1966 ~ 1976

FIRST PHASE & SECOND PHASE
POST-1949 ~ 1980
RAPID INDUSTRIALIZATION
HUGE DAMAGE TO URBAN ENVIRONMENT

"Building New Word By Destroying Old World!"

Propaganda poster of ‘Great Leap Forward’:
Proletariat is the Master of China

Propaganda poster of ‘Great Leap Forward’:
People’s Commune

Propaganda poster of ‘Cultural Revolution’:
Destroy Capitalism

"When China Went Mad"
An Extraordinary Memoir of the Cultural Revolution

"Revolution and Production — The New Era!"
What has been demolished is not only physical remains but also CULTURAL IDENTITY that cannot be repaired or reconstructed.

1.1 CONTEXT

THIRD PHASE
1980 - NOW
INDUSTRIAL DILAPIDATION
AS NEW OPPORTUNITIES FOR URBAN REGENERATION

POLITICAL & CULTURAL REFORM
Shift of Economic Base from traditional industries to emerging sectors

URBAN IMAGE CONCERN
Green & Sustainable Urbanism for City Branding & International Competence

Decline of Manufacturing
Emerging Tertiary Industries

Increasing
Environmental Concern

Combined Effect

INDUSTRIAL DERELICTION

Available Land for Redevelopment

Socio-economic Decline

Pressure From Profit-driven Development

TYPICAL DEVELOPMENT MODE IN CHINA
1.2 Motivation

Typical Development Mode:
- Profit Driven
- Land Speculation
- Aiming at fast economic returns

Steps:
1. Large-Scale Demolition
2. New Programming
3. Gentrification & Replacement
1.2 **Motivation**

**Improved Urban Image**

**Gentrification**

**Displacement in Physical Condition & Social Groups**
1.2 Motivation

- Rising land & housing price
- Physical & social segregation (urban village)
- Losing identities: “duplicate construction”
- Mono-functional: “dormitory city”
- Lack of public involvement

What about aspiration of general public?

City image improved
While the general public suffer from side effects

- Rising land & housing price
- Physical & social segregation (urban village)
- Losing identities: “duplicate construction”
- Mono-functional: “dormitory city”
- Lack of public involvement
1.3 Problem Statement

The typical development mode for redeveloping dilapidated industrial sites in urban areas is unable to the general public, neglecting the real value and cultural identity of the place.
1.4 Choice of Site

Former Capital Steel Plant:
- Largest & Oldest Steel Producer of Beijing
- Halted due to environmental concern
1.4 Choice of Site

Capital Steel Complex

1. Largest Brownfield
   - Site where complexity of issues meet
   - Loss of pillar industry

2. Beijing Context
   - Urban boom
   - Gentrification by displacement
1.5 RESEARCH QUESTIONS

MAIN RESEARCH QUESTION
What alternative strategies should be used to redevelop derelict industrial areas in Beijing with value of urban heritage (industrial heritage), balancing the emerging needs from both the city and local residents to tackle with socio-economic decline and to realize spatial and economic transition?

SUB RESEARCH QUESTIONS
1. What is the value of industrial heritage in historical and cultural aspects?
2. What are the emerging needs from the local residents when there is socio-economic decline left by industrial dereliction?
3. What are the emerging needs from the city of Beijing during the period of industrial decline?
4. What kind of transition is needed based on the existing spatial and architectural condition?

IDEAL MODEL
Former Industrial Area Integrated Into Urban District, Becoming Mixed Urban District Facilitating Needs of Public
**Government's Aim: CRD**
The expectation from the government is to transform the Capital Steel Complex into a CRD (Cultural & Recreational District), activating the urban development in the western periphery. This will also contribute to economic transition of the area, developing tourism as the new pillar industry of local economy.

**Unique Cultural Identity**
As the largest steel producer in Beijing with a ninety-year history, the dilapidated industrial complex itself has great value of industrial heritage, delivering unique cultural identity and great spatial potential to transform into venue for culture-related industries.

**City Continuity**
Located in the current ending of the west-east artery (Chang'an Avenue) known as the city axis of cultural & political importance, the site is expected to be developed into a new centrality, highlighting a city gateway and continuous city images along the westwards axis.

**Social Equality**
It is difficult to avoid urban revitalization becoming gentrification process which may result in social displacement. In order to realize equal access to urban benefits for the general public, the concept of ‘positive gentrification’ is introduced. The objective is to achieve social equality between migrant urbanites and local residents, covering the interests of different groups of people.

**CULTURE-LED REGENERATION**
Culture as Catalyst for Regeneration

**CREATION OF NEW CENTRALITY**
“Image that Matters!”

**POSITIVE GENTRIFICATION**
Equal Access to Urban Benefits

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**THEORETICAL FRAMEWORK**
1. Urban Regeneration / Revitalization
2. Preservation of Industrial Heritage
3. Positive Gentrification

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**CITY CONTEXT**

**ECONOMIC ANALYSIS**
**SPATIAL ANALYSIS**

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**LOCAL CONDITION**

**SOCIO-DEMOGRAPHIC ANALYSIS**

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**PROCESS PLANNING**
Rather Than Master Planning

**FLEXIBLE MIXED-USE**

**ECOLOGICAL URBANISM**

**POSITIVE GENTRIFICATION**

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**REGIONAL LANDSCAPE PARK (HERITAGE PARK)**
1. Integration into the ecological corridor (Yongding River)
2. Brownfield remediation
3. Recreational & leisure space

**BUSINESS DISTRICT**
1. Technology-based clean industries
2. Attract international and national investment
3. High-density real estate development respond to interests of developers

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**SUPER CULTURAL QUARTER**
1. Incubator for cultural & creative industries
2. Incentives for entrepreneurship
3. Social mixing & cohesion
4. Public needs: civic square, social housing, etc
1.7 THEORETICAL FRAMEWORK

**01. URBAN REGENERATION**
Culture-led regeneration
Creation of new centrality

**02. POSITIVE GENTRIFICATION**
Case study: OCT Loft Renovation, Shenzhen
Collective of strategies for positive gentrification

**03. INDUSTRIAL HERITAGE PRESERVATION**
Comparative case study:
Ruhr (Germany) v.s. 798 Art Zone (Beijing)

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**AGENTS OF EXCHANGE**
- Entrepreneurs
- Merchants / traders
- Retailers / wholesalers
- Banking

**CENTRALITY**
- Goods
- Services
- Investment
- Products
- Profit

**SOCIETY**
- Management
- Workers

**PRODUCTION**
- Industries / economy

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“Cultural is now seen as the magic substitute for all the lost factories and warehouses, as a device that will create a new urban image, making the city more attractive to mobile capital and mobile professional workers.”

- HALL, 2000

Framework of new centrality
(Made by author, source: Bonnis Barton. 2005)
1.7 THEORETICAL FRAMEWORK

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CASE: OCT Loft Renovation, Shenzhen

STRATEGIES FOR STIMULATING POSITIVE GENTRIFICATION

1. Flexibility in Program Mixing
2. Zoning Strategy
3. Long-term Process
4. Functional & Social Mix
5. Emphasis on Creating Public Space
6. Combination of Market-led & State-led Gentrification
1.7 THEORETICAL FRAMEWORK

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CASE: Comparative study

IBA EMSCHER PARK
MODEL FOR THE CITY OF FUTURE

Zollverein, Essen
1.7 THEORETICAL FRAMEWORK

01. URBAN REGENERATION
Culture-led regeneration
Creation of new centrality

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BEIJING 798 ART ZONE_“ARTISTIC REBIRTH”

- Cultural landmark in Beijing
- High profile approach: culture as the catalyst
- Aims to develop a new economy
- Globalization trend: cultural infrastructure
- Spontaneous and bottom-up development
- Initiated by artists from CAFA
- Agglomeration of creative industries & avant-garde art
- Highly commercialized
Now, 798 Art Zone has been fully gentrified.
1.7 Theoretical Framework

01. Urban Regeneration
- Culture-led regeneration
- Creation of new centrality

02. Positive Gentrification
- Case study: OCT Loft Renovation, Shenzhen
- Collective of strategies for positive gentrification

03. Industrial Heritage Preservation
- Comparative case study: Ruhr (Germany) v.s. 798 Art Zone (Beijing)

CASE: Comparative study - Different Urban Context

**Ruhr Region:** shrinking cities with declined economy
- Aim of program: improve attractiveness for mobile capitals and investments

**Urban Boom in Beijing:** urban expansion with diverse economy
- Aim of program: development of cultural and creative industries
PART 02_ SITE ANALYSIS

2.1 Site Location
2.2 Value of Site
2.3 Strategic Role in the City
2.4 Government’s Plan
2.1 Site Location

- Western city periphery of Beijing
- Border of urban area
- Potential to be city gateway from west
- Between 5th & 6th Ring Road
- End of Chang’an Avenue (city axis)
- Next to Yongding River (ecological corridor)
2.1 SITE LOCATION

SIZE: 8.55 km²
CONDITION: derelict industrial land
EXISTING CONSTRUCTION AREA: 9,020,000 m²

COMPARISON AREA
AMSTERDAM CENTER = SITE = 8 KM²
2.2 **VALUE OF SITE**

```
2: 1928
3: 1939
4: 1st furnace production
5: 1st coke oven
6: 2nd coke oven
7: site plan rolling steel factory in 1969
8: 1970
9: 2008
```

**INTANGIBLE VALUE**

- Historical Importance
- Cultural Identity
- Former Community
- Memory of Working-class

"I have been working in Shougang for more than 40 years, with 2000 pictures published to record its glorious history. But now it has been retired just like those former workers."

1st Photographer of Shougang

BUREAUCRATS & MERCHANTS

JAPANESE INVADERS

NATIONALIST PARTY (KMT)

STATE-OWNED

REPUBLICAN PERIOD - PRESIDENTIALISM 1912~1937

WORLD WAR II 1941~1945

CIVIL WAR 1946~1949

PEOPLE'S REPUBLIC OF CHINA - SOCIALISM

NOW
2.2 **VALUE OF SITE**

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**TANGIBLE VALUE**

- Monumental Buildings
- Reusable Potential
- Unique Spatial Identity

Buildings with industrial identity

1. No.3 Steel-making
2. No.3 Steelbar-making
3. Mechanical Workshop
4. Scrap Metal Workshop
5. Coal Bunker
6. Gas Tanks
7. Waterhouse & Chimney
8. No.4 Blast Furnace
9. Cooling Towers

Buildings with reusable value
2.3 Strategic Role in City

DISTRIBUTION OF CENTRALITIES:
- Unbalanced distribution
- Potential to stimulate the west

INFRASTRUCTURE NETWORK:
- West ending of the metro line
- Potential to be the transfer point
- No passenger terminal

ECOLOGICAL SYSTEM:
- Ecological corridor as catalyst
- In-between two green belts

THE REHABILITATION OF THE SITE WILL BE STRATEGIC FOR THE DEVELOPMENT OF WESTERN BEIJING. HOWEVER, ...
2.3 Government’s Plan

**Problems:**
- Only keep three blast furnaces
- Demolish large amount reusable buildings
- No phasing plan
- Profit-driven real-estate development
- Ignore real needs emerging from the city
- Fails to respond to the socio-economic decline

**Government’s Aim:** CRD - Cultural & Recreational District

Transition from manufacturing-based towards service-based economy.
PART 03_ URGENT NEEDS

3.1 City Perspective
3.2 Local Perspective
3.3 “Image That Matters”
3.1 CITY PERSPECTIVE

Increasing **Urban Pressure** in Inner City resulted in the need for development of **City Periphery**.
3.1 CITY PERSPECTIVE

City Has Been Keeping **Sprawling**
But City Structure Is **Mono-Centric**, Calling For **Balanced Resource Distribution**.

Source: Wenjie Wu, “Determinant Of Residential Location Choice In A Traditional Housing Market”
3.1 City Perspective

One of three largest business agglomerations in China, but **lowest office vacancy ratio**, calling for more office spaces.

**China's Overall Office Net Absorption, 2012**

**China's Overall Office Stock & Vacancy Ratio, 2012**

(Source: DTZ Research)
3.1 City Perspective

Increasingly Enlarged Population, Especially Migrants Population, But Crazily Rising Housing Price, Calling For Affordable Housing Programs.

Permanent Residents Population
Living in the capital with a Hukou

Migrants Population
Who have been living in the city for more than half a year

2010
2006
2000
1996
1990
1986
1980

Need Affordable Housing !!!

INCREASING HOUSING PRICE
3.2 Local Perspective

Loss of Former Pillar Industry, Resulted in Socio-economic Decline, Calling For New Economies & Job Generator.

NEED NEW ECONOMIES & INDUSTRIES !!!

2008 Steel Production as the local pillar industry

2010 Capital Steel started reducing steel production

2011 Capital Steel completely halted

WE NEED NEW JOBS!
20,000 unemployed
3.2 **LOCAL PERSPECTIVE**

**SURROUNDINGS**
- Mono-functionality (dormitory city)
- Low-quality living environment
- Pressure from profit-driven real estate development trend

**NEED DIVERSE FUNCTIONALITIES !!!**
3.2 **Local Perspective**

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**Current Road Connection**
- Close to city rings
- Only 2 entrances
- Enclosed & bounded condition
- Isolated from neighboring urban fabrics

**Railway & Subway System**
- Metro line reaches the east
- National railway as a barrier blocking access to river

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**Legend**
- City Rings
- Main road
- Secondary road
- Entrance
- National Railway
- Subway
- Industrial Rail
- Train Stop
- Metro Station
3.3 Image That Matters

Reducing traffic flow but a visual extension of city axis

What is the current condition along the westwards city axis?
3.3 IMAGE THAT MATTERS

Cultural Centrality
Mega Landmark Buildings

Political Centrality
Spacious Void & Symmetry

Dormitory City
Profit-driven Development

Skyscraper Forest
Business Centrality

Commercial Centrality
Hustle & Bustle Urban Life

CHANG’AN AVENUE

4th Ring
3th Ring
2th Ring
5th Ring
3.3 IMAGE THAT MATTERS

WHAT KIND OF CITY IMAGE SHOULD BE CREATED

1. CORRESPONDING TO THE URBAN CONTINUITY ALONG CHANG’AN BY CREATING A NEW CENTRALITY IN WEST PERIPHERY,

2. BEING A PROPER ENDPOINT OF CITY AXIS, A CITY GATEWAY FROM THE WEST.

“Cities are no longer just built, they are imaged.”
- Lawrence J. Vale & Jr., Sam Bass Warner. 2001
PART 04__DESIGN VISION
From **BOUNDED GROWTH** towards **OPEN NETWORK**
- Integration with neighboring areas
- Social cohesion
- Connectivity & accessibility

From **URBAN BORDER** towards **ICONIC GATEWAY**
- City axis extension westwards
- “Image that matters!”

From **ECONOMIC INANITION** towards **JOB GENERATOR**
- Training institutions
- New types of employment

From **DERELICTION** towards **IDENTITY**
- Heritage preservation
- Adaptive re-use
- New centrality in the west

From **CITY POLLUTER** towards **GREEN LUNG**
- Ecological renewal
- Creation of
PART 05_
FROM “L” TO “S”

5.1 Scale L _ City Strategies
5.2 Scale M _ Site Planning
5.3 Scale S _ Elaborate Design
PLANNING & DESIGN FROM SCALE “L” TO “S”

Scale L
City Strategies
To Orient The Planning

Scale M
Site Planning
To Plan Development Sequence

Scale S
Elaborate Design
To Materialize the Design
5.1 **SCALE L: CITY STRATEGIES** Objectives

**A NEW CENTRALITY IN CITY LEVEL**

**Ecological Renewal**
- Riverfront redevelopment
- Green project to re-image the post-industrial area
- Green connection on axis

**Cultural Identity**
- Long history
- Part of cultural identity
- Tangible & intangible heritage

**Vibrant Economy**
- From contaminated industry towards clean industries
- CRD (the Capital Recreational District)
- Connection to Zhongguancun

**Spatial Transition**
- Re-integrated into city
- Functional re-adaptation
- Flexible re-use
5.1 SCALE L: CITY STRATEGIES_ Overlapping Layers

NEW CENTRALITY

LAYER I
Cultural & Creative Industry

LAYER II
Mixed Business District

LAYER III
Heritage Recreational Park

FUNCTIONALITY OF CENTRALITY_ DYNAMICALLY BALANCED
5.1 SCALE L: CITY STRATEGIES _ Overlapping Layers

**Layer I**
- Cultural & Creative Industry

**Layer II**
- Mixed Business District

**Layer III**
- Heritage Recreational Park

**Issues**
- Industrial Heritage Preservation
- Adaptive Reuse of Industrial Buildings
- Lack of Housing
- Poor Quality of Public Space
- New Economy
- Land Remediation
- Public Facilities & Services
- Social Sustainability
- Connectivity & Accessibility
- Identity & City Image
5.1 SCALE L: CITY STRATEGIES_ Overlapping Layers

LAYER I
SUPER CULTURAL QUARTER
RESPOND TO EXPECTATION FROM GOVERNMENT
CRD AT THE ENDING OF CITY AXIS

- Culture-led regeneration
- New agglomeration of culture-related industries
- Urban events
- Smart city strategy: Dutch Design Week, Eindhoven
5.1 SCALE L: CITY STRATEGIES_ Overlapping Layers

- Technology-based industries as driving force
- Capital Steel Headquarter
- Connection to Zhongguancun (Chinese Silicon Valley)
- Vicinity to educational cluster (universities)

**LAYER II**
MIXED BUSINESS DISTRICT
VICINITY TO CHINESE SILICON VALLEY
AS POTENTIAL FOR DEVELOPING CLEAN INDUSTRIES
5.1 **SCALE L: CITY STRATEGIES**  Overlapping Layers

**LAYER III**
**REGIONAL LANDSCAPE PARK WITH INDUSTRIAL HERITAGE**

INTEGRATE INTO THE ECOLOGICAL SYSTEM OF THE WHOLE CITY AS PART OF THE ECOLOGICAL CORRIDOR

- Regional landscape park (industrial heritage park)
- Duisburg-Nord Landscape Park as precedent
- Entertainment-led regeneration
- Emphasis on heritage buildings
- From polluter to a green lung
5.1 Scale L: City Strategies_ Improved Public Transport System

A New Centrality Calls for Better Connectivity

**Short-Term**

New Metro Connections
- To scenic parks in the northwest
- To Zhongguancun
- To inner city area
- To west station

Multi-Modal Hub
- Metro lines
- Bus Rapid Transport (BRT)
- Suburban light railway
- City buses

**Long-Term**

Metro Ring
- To main residential clusters in the north
- To creative cluster in the northeast
- Parallel to Line 1 (passenger volume diversion)
PLANNING & DESIGN FROM SCALE “L” TO “S”

Scale L
City Strategies
To Orient The Planning

Scale M
Site Planning
To Plan Development Sequence

Scale S
Elaborate Design
To Materialize the Design
5.2 SCALE M: SITE PLANNING_ Objectives

**CULTURAL**
- Creation of museums;
- Theme park;
- Historical markers.

**RECREATIONAL**
- Bicycle paths;
- Walking trails;
- Theaters & cinemas;
- Recreational spaces;

**SOCIAL**
- Mixed urban area;
- Green living principles;
- Public transport hub

**ECONOMIC**
- Headquarters
- R&D
- Training institutions

**ECOLOGICAL**
- Land remediation
- Riverfront naturalization
5.2 **SCALE M: SITE PLANNING** Three Cores

**THREE CORES**

**SUB-CENTRALITIES**

**STRATEGIES FOR THE SITE DEVELOPMENT**

- 3 cores: first areas to undergo transformation as catalyst
- 3 corresponding strategies cover the 3 layers of city vision
- Based on current potential of each core

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**HERITAGE LAYER**
- Start from heritage buildings
- Assimilation with neighboring areas
- Connection between village & landscape
- Creation of public spaces

**BUSINESS LAYER**
- Ending of axis: city image
- Program bar as indicator for degree of mixture
- High density
- Organization of traffic flows

**CULTURAL LAYER**
- Adaptive re-use of industrial buildings
- Incentives for creative group & entrepreneurs
- Cultural & creative industry cluster / park
- Introverted structure
- High quality of pedestrian environment
5.2 Scale M: Site Planning Development Sequence

- Extension of Chang’an Avenue
- Preservation of villages
- Three strategic locations as catalyst & testing beds
- Land remediation
- Improved environmental quality

Formulation of Three Sub-Centralities

Phase I
2013–2016

0 500 1000 m
5.2 SCALE M: SITE PLANNING  Development Sequence

CENTRALITY EFFECTS & CONNECTIVITY
- Centrality effects
- Mixed-use urban areas
- Resilience & flexibility
- Structured public space
- Connectivity
- Accessibility of the river

PHASE II
2016~2020

0 500 1000 m
5.2 SCALE M: SITE PLANNING Development Sequence

PHASE III
2020~2030

SOCIAL INTEGRATION
- Emerging demands from migrants
- Civic centers as media
- Equal access to urban benefit
- Social cohesion & equality
- Revitalization of the whole area
- Spatial & social integration
5.2 SCALE M: SITE PLANNING_ Improved Connectivity

INTEGRATION OF ROAD NETWORK
- Follow the logic of existing urban fabrics
- Assimilate into adjacent network
- Open network breaking former boundaries
5.2 SCALE M: SITE PLANNING _ Improved Connectivity

ACCESSIBILITY BY PUBLIC TRANSPORT

- New metro connections
- A public transport hub
- Mono-rail for tourism purpose
5.2 Scale M: Site Planning _ Mixed Programs

Comparative Study _ Proportion of Mixing Programs

La Défense, Paris
- 4,230,000 m² Floor Space
- 14% Housing, 600,000m²
- 6% Retail & Facilities, 220,000m²
- 80% Office Space, 3,400,000m²
- 300 ha Surface Area
- 170,000 Jobs
- 450,000 Users of the Transport Hub
- 20,000 Inhabitants
- 30,000 Parking Lots

Zuidas, Amsterdam
- 4,200,000 m² Floor Space (vision 2030)
- 29% Housing, 1,210,000m²
- 33% Retail & Facilities, 1,386,000m²
- 38% Office Space, 1,596,000m²
- 270 ha Surface Area
- 73,000 Jobs
- 25,000 Inhabitants
- 30,000 Parking Lots

European Quarter, Brussels
- 880,000 m² Floor Space
- 12% Housing, 110,000m²
- 7% Retail & Facilities, 60,000m²
- 81% Office Space, 700,000m²
- 328 ha Surface Area (European District)
- 85,000 Jobs
- 35,000 Inhabitants
- 30,000 Parking Lots

Canary Wharf, London
- 1,500,000 m² Floor Space
- 35% Housing, 525,000m²
- 3% Retail & Facilities, 47,000m²
- 62% Office Space, 930,000m²
- 389 ha Surface Area
- 100,000 Jobs
- ? Inhabitants
- ? Parking Lots
5.2 SCALE M: SITE PLANNING- MIXED PROGRAMS

DEGREE OF MIX INDICATES DIFFERENT URBAN IMAGES

PROGRAM BAR AS CONTROLLING TOOL

Residential Usage: Between 25% and 50%

Flexibility: allowing alternative uses in the future

Vital Plinth: Houses various public functions, providing a clear visual and perceptual relationship with the neighboring areas.

Complementariness in relation to the inner city of Beijing.

Search for the right mix: includes social diversity, mix of functions, type of jobs, etc.
The proposed degree of program mix varies in different locations, which can indicate the effects of strategies that is implemented in each area according to the planning from the site scale.
5.2 SCALE M: SITE PLANNING_ MIXED PROGRAMS

HERITAGE PARK

BUSINESS DISTRICT

CULTURAL QUARTER

Also indicate completely different urban images.
PLANNING & DESIGN FROM SCALE “L” TO “S”

SCALE L
CITY STRATEGIES
To Orient The Planning

SCALE M
SITE PLANNING
To Plan Development Sequence

SCALE S
ELABORATE DESIGN
To Materialize the Design
5.3 SCALE S: ELABORATE DESIGN

WHY DO I CHOOSE THIS AREA FOR DETAIL DESIGN?

- Concentration of mega buildings
- Value of adaptive re-use
- Close to Chang’an Avenue
- Close to ecological corridor

AREA: 150 Ha
CONDITION: Huge Industrial Buildings
5.3 Scale M: Site Planning

- Ecological Corridor (Wetland)
- National Railway
- Chang'an Avenue Extension
5.3 **SCALE S: ELABORATE DESIGN** _Challenges & Potentials_

**CHALLENGES**
- Poor connectivity
- Pollution by steel & cement production
- Railway as a barrier
- Conversion of industrial buildings
- Large & enclosed facades
- Relocating village residents
- Development along extended Chang’an Avenue

**POTENTIALS**
- Next to Chang’an Avenue
- Vicinity of “Ecological Corridor”
- Flexible interior transformation
- Former industrial rail tracks as identity
- Existing greenery
- Close to the monumental ending point of Chang’an axis
Main Objective: Create a SUB-CENTRALITY with CULTURAL IDENTITY, realizing everyone’s EQUAL ACCESS to urban benefit brought by the POSITIVE GENTRIFICATION approach.

**PRINCIPLES:**
1. Emphasize Land Remediation
2. Mixed Programs
3. Introduce New Industries
4. Highlight Adaptive Reuse
5. Building Height Control
6. Maximize Public Space
7. Focus on Public Needs
8. Consider Phasing
9. Incorporate Interests Of Stakeholders

**OBJECTIVES:**
1. Creation of A Sub-centrality
2. Positive Gentrification
3. Social Equality
4. Preservation of Industrial Identity
5. Carrying Ecological Intentions
6. Lively Urban District
7. Integration into the City Network
8. High-Quality Public Spaces
9. Stimulation for Entrepreneurship
10. Flexibility During Development Process
5.3 SCALE S: ELABORATE DESIGN: Collective of Strategies

- SPATIAL STRATEGIES
- PROGRAMMATIC STRATEGIES
- ECOLOGICAL STRATEGIES
- SOCIAL STRATEGIES
- CULTURAL STRATEGIES
- LOCAL STRATEGIES
- MASTER PLAN
5.3 SCALE S: ELABORATE DESIGN_ Spatial Strategies

LAND PARCELLATION_ TOWARDS AN OPEN NETWORK
- Follow the logic of existing fabrics
- Integrated and an open network
5.3 SCALE S: ELABORATE DESIGN  

Spatial Strategies

- Public space as a network
- Combined with green connections
- Pedestrian priority
5.3 **SCALE S: ELABORATE DESIGN**_ Spatial Strategies

- Noise from the artery & railway
- Alignment buildings with continuous base
- Vegetation
- Partly covered railway
- Create introverted spatial atmosphere

**ACOUSTIC BARRIER**

**INTROVERTED SPATIAL ATMOSPHERE**

**TRAFFIC NOISE**

**TRAIN NOISE**

**PARK**

**Railway Tunnel**
5.3 **SCALE S: ELABORATE DESIGN** _Spatial Strategies_

"PARK + WALK" SYSTEM
PEDESTRIAN PRIORITY

- Collective parking along the main roads
- Reduce automobiles
- Covered by 500m radius as walking friendly distance
- Parking charge incentives
5.3 **SCALE S: ELABORATE DESIGN** _Spatial Strategies_

**PUBLIC TRANSPORT HUB**

- Combined with “P + W”
- Hub in the central Plaza
- Connectivity and accessibility by public transport
- Transfer between metro system and tourism monorail
5.3 **SCALE S: ELABORATE DESIGN** Programmatic Strategies

**CLUSTERED DEVELOPMENT:** AIR FOR ENTREPRENEURSHIP & CULTURAL INDUSTRIES
- Complementary & interweaving clusters
- Respond to culture-led regeneration approach
- Cultural & creative industries
- Job creation around innovation & service sectors
5.3 SCALE S: ELABORATE DESIGN_ Ecological Strategies

INTEGRATION INTO ECOLOGICAL ZONE

- Land remediation
- Green and blue infrastructure as a system
- Incorporate with ecological zone
5.3 SCALE S: ELABORATE DESIGN_ Ecological Strategies

ECOLOGICAL APPROACH

ACCESSIBILITY
Pedestrian connections (grounded & elevated corridors) between public space and greenery, improving accessibility of the ecological zone

URBAN FARMING
Encourage involvement of unemployed and incorporate with urban ecology, turning urban waste (greywater & organic wastes) into productive resource

INfiltration
Vegetation & semi-paved surface reduce stormwater run-off, creating porous urban environment

WATER SAVING
Low flow fixtures and rainwater capture system reducing potable water use, positive for micro-climate (temperature, humidity)

GREY WATER RECYCLING
Reduce potable water use by separating grey water for flushing & irrigation use (combined with urban farming or green roof)

LAND REMEDIATION
Land remediation by removing contaminants and natural recovery, prepare land for new programs, while encouraging temporary use and informal activities

ACCESSIBILITY
Pedestrian connections (grounded & elevated corridors) between public space and greenery, improving accessibility of the ecological zone

URBAN FARMING
Encourage involvement of unemployed and incorporate with urban ecology, turning urban waste (greywater & organic wastes) into productive resource

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LAND REMEDIATION
Land remediation by removing contaminants and natural recovery, prepare land for new programs, while encouraging temporary use and informal activities
5.3 SCALE S: ELABORATE DESIGN_ Ecological Strategies

LOOP OF ECOLOGICAL SYSTEM

WATER SYSTEM

PHOTOSYNTHESIS
RUN-OFF
irrigate
water features
sustain
eco-urbansim

LAND REMEDIATION
urban benefit

GREENERY / REMEDIATION

GREY WATER RECYCLE

BUILT ENVIRONMENT

SUSTAIN
IRRIGATE
LAKE

URBAN FARMING

NEW BUILDING
EXISTING BUILDING ADAPTIVE RE-USE
STREET
PEDESTRIAN BRIDGE
COURTYARD
RIVER
PARK
RAILWAY TUNNEL
RAIN WATER
GREY WATER
RAIN WATER
SEMI-PAVED
LIVE WORK WORK WORK WORK
5.3 SCALE S: ELABORATE DESIGN_ Social Strategies

**MIXED PROGRAMS**

“EVERYTHING TO EVERYONE”

- Social diversity
- Emphasize on the creation of public space
  Including parks and public facilities
5.3 **SCALE S: ELABORATE DESIGN** Social Strategies

**FOCUSED GROUPS**
- Local residents
- Migrants
- Young Entrepreneurs
- Unemployed former steel workers
- Equal access to urban benefit
5.3 **SCALE S: ELABORATE DESIGN** Location of Key Interventions

- **01.** MUSEUM QUARTER Cultural Center
- **02.** CENTRAL PLAZA Civic Square & Urban Carnival
- **03.** CREATIVE CITY Incubator for Creative Industry
- **04.** MARKET HALL Commercial Center
- **05.** GASOMETER COMMUNITY Affordable Housing & Social Diversity
5.3 SCALE S: ELABORATE DESIGN_ Intervention 01

01. MUSEUM QUARTER_ ENCLOSED PUBLIC SPACE

- Old factory buildings with added new elements
- Connected complex
- Three enclosed courtyards
5.3 **SCALE S: ELABORATE DESIGN** _Intervention 01_

**01. MUSEUM QUARTER_**
**COLLECTIVE OF EXHIBITION SPACE**

- Targeting on different groups of people
- Main attractor & core
- Culture-led regeneration

Reference: Museumsquartier, Vienna
5.3 SCALE S: ELABORATE DESIGN_ Intervention 02

02. CENTRAL PLAZA_ URBAN “CARNIVAL”
- Spacious Civic square
- Meeting place for the public
- Urban events
- Art installation & mega sculptures
5.3 SCALE S: ELABORATE DESIGN Intervention 02

CENTRAL PLAZA
BUSTLING URBAN LIFE

DELFT
New Church Plaza

AMSTERDAM
Dam Square

BARCELONA
Plaza Sants

MONTAGE
SCALE COMPARISON
5.3 **SCALE S: ELABORATE DESIGN**  
**Intervention 03**

**03. CREATIVE CITY**  
**INCUBATOR FOR CREATIVITY & ART**

- Converted from the largest factory building
- Open network inside
- Passages as public space
- Individual studios with flexible use
- Incentives for entrepreneurs & creative class
5.3 Scale S: Elaborate Design_ Intervention 03

Creative City
Air for Creative Cluster & Entrepreneurship

Current Interior
5.3 SCALE S: ELABORATE DESIGN_ Intervention 04

04. MARKET HALL_ EXCHANGE OF CREATIVITY

- Affordable fairs
- Exchange of creative handiworks

CLOSED FACADES  PRESERVED TRUSS  NEW PUBLIC SPACE

Reference_ Lafayette Collage Arts Plaza
Reference_ Tangshan Museum Park
Reference_ Harold Park Tramshed
5.3 **SCALE S: ELABORATE DESIGN** Intervention 04

**MARKET HALL**
PEDESTRIAN CONVERTED FROM SEMI-PAVED INDUSTRIAL RAILWAY
5.3 SCALE S: ELABORATE DESIGN_ Intervention 05

05. GASOMETER COMMUNITY_ NEW HOUSING TYPOLOGY

- Affordable housing
- Relocating urban villages
- Walled community
- Large building base with retailing
5.3 **SCALE S: ELABORATE DESIGN_ Flexibility**

**MINIMUM & MAXIMUM OF PROGRAM PROPORTION**

- **OFFICE SPACE**: 20% ~ 45%
- **HOUSING**: 25% ~ 45%
- **COMMERCIAL / RETAILING**: 15% ~ 20%
- **CULTURAL FACILITIES**: 10% ~ 15%
- **PARK / OPEN SPACE**: 10% ~ 15%

- Flexibility in program mixing & spatial form
- Minimum proportion for public amenities
- Maximum proportion for profit-driven developments
- Contribute to positive gentrification

*Figure 8.45: Flexible areas in master plan (made by author)*
5.3 SCALE S: ELABORATE DESIGN_ Phase 1

PHASE 1
(2013 ~ 2018)

- Development along the extended Chang’an Avenue
- Museum Quarter & Central Plaza
- New metro connection
- Development of Gasometer Community
- Relocating residents of urban villages
- Land Remediation & possible contemporary use
5.3 SCALE S: ELABORATE DESIGN_ Phase 2

PHASE 2 (2018 ~ 2020)

- Development along railway
- Creative City
- Market Hall
- More housing programs
- Parks developed from the re-mediated land & current greenery
- Monorail for tourism & Public transport hub
5.3 **SCALE S: ELABORATE DESIGN** Phase 3

**PHASE 3**
(2020 ~ 2025)

- New urban programs in part of green areas
  (since too many green space is not necessary and cost a lot to maintain)
- Add flexibility to the development in the future
PART 06_
CONCLUSION

6.1 Evaluation
6.2 Reflection
6.1 EVALUATION

RESULTS
FORMULATION OF NEW CENTRALITY
THREE INNER RELATED SUB-CENTRALITIES
SUPPORTING THE NEW CENTRALITY
IN LARGER CONTEXT
6.1 Evaluation

Results Impact on City Structure

1. Activate the Urban Development in West Periphery
6.1 Evaluation

Results impact on city structure

1. Activate the urban development in west periphery

2. Integrate west ecological belt into the whole urban network
### 6.1 Evaluation

#### Objective Review

| Culture-Led Regeneration | Preservation of Cultural Identity  
|                         | Respond to the Cultural Importance of Chang’an Avenue  
|                         | New Economy around Creativity & Culture  

| Creation of New Centrality | Economic Transition  
|                          | Urban Continuity along Chang’an Avenue (City Axis)  
|                          | Balanced Development in west periphery  

| Positive Gentrification | Social Equality  
|                         | Social Capacity & Cohesion  
|                         | High-quality Public Space  

#### Strategies

1. Sub-centralities  
2. Program Mixing  
3. Flexibility  
4. Entrepreneurship  
5. Adaptive Reuse  
6. Ecological Urbanism  
7. Cultural Industries  
8. Pedestrian Priority  
9. Zoning  
10. Affordable Programs  
11. Public Space Network  
12. Social Integration
6.2 REFLECTION

RECOMMENDATIONS

FURTHER RESEARCH IS NEEDED:

**PROCESS**
- Detailed regulations & rules
- Stakeholder analysis
- Financial feasibility

**URBAN DESIGN**
- Interventions on traffic system
- Validate proposed principles

**MANAGEMENT**
- Method of incentives from government
- Mechanism for heritage preservation
THANK YOU!