SHANGHAI 2009:
Urban Design for Shanghai’s New Downtown and Waterfront in Pudong

College of Architecture
International Urban Design Studio
Shanghai
Lord Richard Rogers
Dominique Perrault
Toyo Ito
Massimilian Fuksas

Pudong: Lujiazui Masterplan
Lujiazui vs Manhattan
LUJIAZUI: Location
Lujiazui: Points of Interest
5 Concepts for Approaching the Lujiazui Problem

1. Lujiazui: Downtown as a Real Estate Game
2. Lujiazui: Downtown as a Park
3. Lujiazui: Downtown as a Mirror
4. Lujiazui: Downtown as a Pattern of Movement
5. Lujiazui: Downtown as a Playground
Lu jiazui: Downtown as a Real Estate Game

OBJECTIVES:
1) Maximize public infrastructure investment
2) Maximize private development potential

GOALS:
1) Primary: Derive maximum economic profit from the land
2) Secondary: Establish a more dense and vibrant urbanism
Existing Lujiazui build out
Existing Block / Building Coverage

The current Avg. Block \ Building coverage is **25.87%**
Existing FAR

The current Avg. FAR is **2.25**.

Both extremely low figures for such an important and high land value area.
How does Lujiazui compare to Financial Centers around the globe?
|---------|--------|--------------------|-------------|--------------|-----------------|-----------------|---------------|----------|--------------|-----------|

Key:
- 10,000
- 1 m sq m
- 1 FAR
- $10 USD psf/yr
- 10,000 SQ M
1.0 to 1.5 Million Square Feet
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- 10,000 = Employment Pop.
- 10,000 m² = Office Sq. Ft.
- 1 m² = Residential Pop.
- 10 USD = Class A Rent
- $10,000 = Average Block Size
How do we address the problems?
Three Strategies:

1. Reduce road widths to create developable territory
2. Develop air rights over public right-of-ways
3. Develop buildings wherever territory is available
Strategy 1: Reduce road width to create developable territory

Existing block → Reduced Width → Extra building area

Existing blocks = 298 acres

We get extra 32 acres of available territory

Planned blocks = 330 acres
Strategy 1: Reduce road width to create developable territory
Strategy 2: Develop air rights over public right-of-way
Strategy 3: Develop buildings wherever territory is available

Conservative Potential Developable Areas: 115,400 sq. meters
Strategy 3: Develop buildings wherever territory is available

Moderate Potential Developable Areas: 234,674 sq. meters
Strategy 3: Develop buildings wherever territory is available

Maximum Potential Developable Area:
414,460 sq. meters
Strategies for the Available Territory in Lujiazui

Strategy 1: Reduced road width to get more lands

- Existing block
- Reduced Width
- Extra building area

We get extra 12.7 ha

Existing blocks = 120.75 ha
Planed blocks = 134.45 ha

Strategy 2: Build buildings across road to get more space

- Buildings along the road
- Add buildings across the road

Buildings across road to get extra areas

Existing width = 50M
Reduced width = 30M

Maximum Potential Developable Area: 414,460 sq. meters
Result:

Existing buildings

Existing building occupancy areas = 250,302 sq. meters

Added buildings

Added building occupancy areas = 107,357 sq. meters

All buildings

Total building occupancy areas = 447,650 sq. meters
Lujiazui Planning Proposal

Increased density through more full land coverage.
Masterplan Application

FAR=6

FAR=10

FAR=15

Height=12.8m Floor=4

Height=22.4m Floor=7

Height=64m Floor=20

Height=25.6m Floor=8

Height=128m Floor=40

Height=192m Floor=60
Century Avenue as a Case Study
Century Avenue Case Study

Existing

Proposed
Thin Building Typologies
One Hancock Square - Philadelphia

- Architect: Erdy McHenry Architecture
- Adaptive reuse of a brewery
- Length: 107 m; Depth: 10 m
- 104 units, 6 floors
- Skip-stop-elevator arrangement
- Double-loaded corridor
Silodam - Amsterdam

- Architect: MVRDV
- Redevelopment of harbor
- Length: 130 m; Depth: 20 m
- 157 units, 10 floors
- Multiple unit configuration, flexible
- Alternating double-loaded corridor
- Public/private: Terraces, rooftop
Simmons Hall – MIT Cambridge

- Architect: Steven Holl Architects
- Length: 116 m; Depth: 16 m
- 350 beds (dormitory), 10 floors
- 5 large openings, outdoor activity terraces, dining hall, auditorium
Montevideo - Rotterdam

- Architect: Mecanoo
- Redevelopment of harbor
- Length: 100 m; Depth: 35 m
- 129 units, 43 floors; offices
- Multiple unit configuration
- Retail, health and fitness center, swimming pool
Sky House - New York

- Architect: FXFOWLE
- Height: 180 m; Depth: 15 m
- Slenderness ratio: 1:13; 1:17
- 158 units, 55 floors
- Multiple unit configuration
- Single-loaded corridor
Highcliff - Hong Kong

- Architect: DNL Architects & Engineers
- Height: 252 m; Depth: 20 m
- Slenderness ratio: 1:20
- 144 units, 72 floors
- 2 units per floor
- Single-loaded corridor

36th–56th Floor
Utilizing the data from our typologies and using only the area available over Century Avenue

- Close to **2,500 RESIDENTIAL UNITS** may be added
- Current average residential value in Shanghai = **22,000 RMB PER SM**
- Avg. = **100 SQ.M per unit (1,000 sq.ft.)**
- 22,000 rmb x 100 sq.m. x 2,500 units = **5.5 Billion RMB**

Or **$785,714,285 USD**
Century Avenue Case Study

View of Century Avenue from Park
OBSERVATIONS | Barriers

PUDONG

EndlessCity | EcoCity
OBSERVATIONS | Active Greenspace

HEPING PARK

HEPING PARK

PUDONG
OBSERVATIONS | Park Diversity

PUXI

HEPING

PUDONG
OBSERVATIONS | Path

PUXI SUZHOU PUDONG

EndlessCity | EcoCity | Design | Analysis | Concept | Observations | Introduction
OBSERVATIONS | Garden

PUXI SUZHOU PUDONG
CONCEPT | Growth

Urban Growth

Projected Growth Patterns

Unregulated

Regulated
CONCEPT | Eco Area Ratio

EAR implementation will cause a reversal of current growth trends.

The EAR is divided into 3 components: Natural, Social, and Tech. Integration of these components will promote sustainability throughout Lujiazui.

EndlessCity | EcoCity
ANALYSIS | Existing Conditions
ANALYSIS | Case Studies

NYC | Highline

Seoul | Cheonggyecheon River Restoration

Brooklyn, NJ | Fresh Kills

Endlesscity | EcoCity
1 | Establish green spine along Century Avenue to act as a catalyst for EcoCity Growth

2 | Eco-Core spreads throughout the site penetrating into the street network

3 | Re-establish natural ecosystem of the river front and connect to region

4 | Blocks and Buildings will be transformed to meet eco-zoning regulations established by the EAR
DESIGN | Eco-Core
DESIGN | Eco-Core

[Image of a conceptual design sketch for an eco-friendly core in a city setting.]
DESIGN | Eco-Core
DESIGN | Waterfront
DESIGN | Vision
DESIGN | Vision

Introduction | Observations | Concept | Analysis | Design

Endless City | EcoCity
DESIGN | Vision
MIRRORS

CONCEPTUALIZING REFLECTION AND CONNECTION AS A BASIS FOR URBAN DESIGN

CONNECTICONTALE
INTERSECTION CONDITIONS

LUJIAZUI

BUND
FACADE CONDITIONS

BUND

LUJIAZUI
PEDESTRIAN CONDITIONS

N. BUND  BUND  LUJIAZUI
SKYLINE CONDITIONS

The image shows a panoramic view of a cityscape with a river in the foreground and a dense skyline in the background. The sky is partly cloudy, and the river appears calm. The buildings vary in height and architectural style, indicating a modern urban environment. The view from the top image looks towards the city, while the bottom image provides a closer view of the riverfront, possibly a promenade or a scenic spot for visitors.
SKYLINE CONDITIONS
IMAGE OF OLD SHANGHAI
PUBLIC SPACE

public space

old person enjoys the sunshine

children chase each other

reading

communication
SEMI PUBLIC SPACE

semi-public space

old person enjoys the sunshine

children chase each other  reading  entertainment
STREET SPACE

street of small scale

all kinds of shops beside the street

small scale

diverse life on the street
CELEBRATION SPACE

Yu Garden
Chenghuang Temple

豫园花会

城隍庙会

城隍庙会
LIQUID REFLECTIONS

- Using water to create visually enhanced scenes.
- Haungpu River reflections
- Water features both horizontal and vertical used to reflect images.
- Water as a means of reflecting the past, and current importance of waterways...

Reflected architectural features

Reflected moments in time

Reflected landscapes
DISTORTED REFLECTIONS

- Using glass and other materials to create a distorted view of physical reality.
- Create dynamic changing environments with reflective material.
- Distorting views by superimposing reflection of physical elements that do not exist, or that would not normally occur.

Created reflections giving alternative sense of reality

Distorted large scale views of moving and immovable objects

Small scale distortion that could happen in many places
OPPOSITE REFLECTIONS

Implied mass and void created by placing them apart from each other in opposite physical forms.

- Using void and mass to create an opposite reflection
- Waterfront features could alternate and jut in and out across the Huangpu.
- Views can be created making a sense of mass and void

Physical elements fitting together
POSITIVE & NEGATIVE SPACE

- Utilizing positive and negative space to create alternating reflection of mass and void.
- Relationships both vertical and horizontal
- Simulating positive and negative space created by mirroring the Shuzou Creek.
PAST PRESENT & FUTURE

- Reflecting the past with historic forms and implied historic forms both landscape and architectural
- Reflect the present with literal mirrors and reflective surfaces
- Imply the future with distorted views.

Historic Preservation, restoration and impression

Framing examples of the present both literally and figuratively

Project to the future
TWIN REFLECTIONS

Literal reflection of building elements, framing views or signifying important places.
Reflection of personal style, district wide personas, or area wide ideals

Architectural representation of individual reflections.
WATER FRONT DISTRICTS

NORTH BUND

BUND

CBD
THE PUBLIC DOMAIN & THE CITY OF MOVEMENT
PROBLEM STATEMENT

In form and in practice, Lujiazui exists precariously as a city without urbanism; a modern district that has done away with the situational rhythm of the urban and the everyday. It is a collection of monuments purposed for international finance and preoccupied with individual identity.
GEOGRAPHY TRANSFORMATION
Morphing of space and time
PEDESTRIAN UNDERGROUND
- PROPOSED
MOVEMENT SYSTEMS OVERLAY
MOVEMENT SYSTEM
INTENSITY ZONES
In response to the overwhelming strategy of Lujiazui, we propose a new system of spatial tactics designed to manifest the latent urban potential of Lujiazui. This manifestation will be based on a thick layering of networks that ground the effects of scaled movement and connective infrastructure. This overlay of webs will allow a co-present sociality and place effects to emerge.
NEW PUBLIC/CIVIC INFRASTRUCTURE

Lujiazui lacks a recognizable public domain and a 24-hour vigor that is appropriate for a 21st century city. Current planning methodology results in a functional system based solely on finance and efficiency. We want to retain the existing efficiencies of movement while simultaneously strengthening its urbaniy. This means providing the infrastructure necessary for a public domain to emerge within the existing system.
**PATH**
Connects established destinations; spatializes and defines the public space between destinations; horizontal in nature (linear); serves as a boundary condition that defines a public realm.

**NODE**
Intentionally placed at points of high transit concentrations or points of confluence; connect different modes of transit, sectional in nature (vertical).

**FINGER**
Performance-based ecological extensions that give life to residual space. These can take the form of forests or farms and serve to remediate environmental degradation.
PROPOSED CONNECTIONS
PROPOSED FINGERS
PROPOSED SYSTEM

NODES

FINGERS

CONNECTIONS

PROPOSED SYSTEM

N O D E S

C O N N E C T I O N S

F I N G E R S

C A N A L
residual space
illustrative site plan
GROUND FLOOR

1ST FLOOR UNDERGROUND (FOR PEDESTRIANS AND PROVIDE FUNCTIONS SUCH AS RETAILING, RECREATION, CULTURE, ETC.)

2ND FLOOR UNDERGROUND (FOR CARE)

3RD FLOOR UNDERGROUND (METRO LINE SPACE)
The Walt Disney Co has received Beijing’s nod to build a theme park in Shanghai, in a major advance for the media and entertainment company in the tough China market ahead of President Obama’s first China visit.

**WORLD DISNEY THEME PARKS**

- Tokyo Disneyland, Japan (1983)
- Disneyland Paris, France (1992)
- Disneyland, Hong Kong (2005)
- Disneyland, Florida (1955)
- Disney World, Florida (1971)

**Proposed theme parks and resort**

- Pudong

Cost: $3.6 billion
ORIENTAL PEARL TOWER AS DISNEY RIDE

"SPACESHIP EARTH" - EPCOT
PLAYFUL CITY
PLAYFUL LIFE
Howard Wang  Stuart Dryden  Zhang Minqing  Chao Yun  An Yue
TONGJI UNIVERSITY CAUP SHANGHAI

This project attempts to juxtapose the serious with the playful while retaining the efficiency and integrity of the business district. Urban design should not attempt to control the user but rather provide opportunities where multiple, unpredictable uses can occur. This "playground" will provide an environment where the user can experience unique memories specific to a unique time and place.