Introduction

CAMPUS FOR CITY /
CITY FOR CAMPUS

Connecting, among university campuses & between campuses and the city of Shanghai

GRADUATION LAB OF ‘URBAN REGENERATION’

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P5 PRESENTATION
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Department of Urbanism
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Motivation
Motivation
Yangpu of Shanghai

- Weak economy
- Shrinking industry
- Little commerce
- Losing jobs
- High density
- High housing prices
At the university zone in central Shanghai, four universities are located nearby each other, surrounded by old industry areas and low-quality postwar housings. There are no enough infrastructural, functional, spatial, or social connection, neither among the universities nor between the universities and the city. How to solve this problem of disconnection in this area by regenerating the inter-university public spaces and surrounding industries and housings?
Urban Regeneration + Campus-City Relationships

- Less privatization
- Less demolition
- Less removal of residents
- Create job opportunities
- Better public spaces are stimulating

- Students are a community, although unique
- Students are business opportunities
- Students are workforce
- Students are identity
- Universities are businesses
- Universities are political powers
Site

• 4 universities
• 250 ha of 7 campuses
• 61,000 students

• 400 ha neighbourhoods
• 130,000 residents

In all
• 650 ha
• 200,000 people
<table>
<thead>
<tr>
<th>Perspective</th>
<th>In General</th>
<th>In specific</th>
<th>Visions</th>
<th>Stakes</th>
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Shared Vision

• New and renovated housing will be provided to both residents and students, at reasonable prices.
• Better infrastructure will be constructed while academic facilities will be upgraded.
• Business will emerge and better daily services will be organized, in better working spaces.
• With the regeneration of the public spaces, the identity of this area as a knowledge/university community will be established to achieve better social experience.
• The connection between campuses and the city will be improved, both socially, spatially and economically.
• With the stimulation of all those above, economic and financial benefits will be gained by every stakeholder.
5 Partnerships

• City
• Universities
• Companies
• Students
• Residents
• Businesses

• Land use regulations
  Old houses
• Lands
  Old student housing
  Old faculty buildings
• Money
  Management
• Future workforce
• Old houses
• Services
  Jobs
Partnerships 1 = Renovation of Student Housing

Stakes
- City: Land use change
- University: Land
- Company: Money
- Students
- Residents

Pros
- New market housing
- New student housing
- Profits
- Better student housing
- Better connection to campus
- Better community identity
- Jobs
- Funding

Cons
- Taxes
- Better security
- Lower price/rent
• 200% better condition
• 20% houses for sale
• Financial balance
Partnerships 2 = Renovation of Resident housing

<table>
<thead>
<tr>
<th>Stakes</th>
<th>City</th>
<th>University</th>
<th>Company</th>
<th>Students</th>
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<tr>
<th>Pros</th>
<th>Renovated old housing</th>
<th>New student housing</th>
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<td>Funding</td>
<td>Profits</td>
<td>More housing choices</td>
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<td>Better social experience</td>
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</table>
• 200% better condition
• 30% houses for sale
• Another building renovated
• Another accommodation choice
• Financial balance
Partnerships 3 = Flexibility of Faculty Buildings

Stakes:
- City: Land use change
- University: Old faculties
- Company: Money
- Business: Rent
- Students: Management

Pros:
- Taxes
- Renovated old faculty
- Profits
- Lower rent
- Better social experience
- Jobs
- Funding

Cons:
- Flexibility
- Better security
• 50% for rent
• 25% for incubator
• 100% renovated
• Financial balance in 4 years
Partnerships 4 = Sharing of Facilities

Stakes

City
- Money

University
- Culture faculties

Company
- Management

Students

Residents
- Daily service

Pros

= More culture facilities + Funding + Profits + Better social experience + More culture facilities

Cons

- Maintenance

+ More daily service

- Better security

+ Better community identity
• 50% for culture
• 25% for rent
• 100% shared
• Financial balance in 6 years
Partnerships 5 = Re-Designing of Public Spaces

Stakes

- City: Money
- University: Money
- Partnership: 1~3
- Land
- Management

Pros

- More jobs
- Funding
- Profits
- More business spaces
- Better social experience
- Better connection to campus
- More taxes
- Partnership: 1~3
- More daily service
- Better community identity
- Better accessibility
- More daily service

Cons

- Better security
- Lower price/rent
Products

• Renovation
• Change of programs
Design
= System
= Structure + Elements
Main System = Partnerships

• Elements = Three design sub-systems

• Structure = Interaction among sub-systems
Products

- Lines
- Dots
- Strips
Sub-System “Streets”

Elements = 72 streets

Structure = System and typology of streets
1 2 3 4 Design

Numbers

- **Length**
- **Width**
- **Footprint**
- **Height of buildings**
- **Border**
- **Entrees**
- **Entrance ratio**
- **Traffic**
- **Facilities**
- **Plantation**
- **Programs**
- **Space syntax**

## Design

- **Length**
- **Width**
- **Footprint**
- **Height of buildings**
- **Border**
- **Entrees**
- **Entrance ratio**
- **Traffic**
- **Facilities**
- **Plantation**
- **Programs**
- **Space syntax**
Structure

- Three missing links
- Four typologies
- Each with a design
Destination

• 5 types of city destinations
• 5 types of campus destinations
• 4 groups of students
Network

- 4 networks
- 3 missing links
Missing Link 1: Open Street Market

- Road = 11
- Sidewalk = 8
- Border = Fence
- Car = 3
- Bus = 3
- Bicycle = 3
- Pedestrian = 2
- Facility = 3
- Space syntax > 35

- Wide sidewalks
- Lots of facilities
- Highly integrated
Design
Use the neighbourhood

- Dutch open markets
Missing Link 2: Pedestrian Shortcuts

• Road = 13
• Sidewalk = 5
• Border = Fence
• Car = 1
• Bus = 1
• Bicycle = 2
• Pedestrian = 1
• Facility = 1
• Space syntax = 33

• Wide road
• No cars
Reversed Profile + Shortcuts

• Mekelpark
Missing Link 3: Local Commerce

- Road = 11
- Sidewalk = 4
- Border = Fence
- Car = 2
- Bus = 2
- Bicycle = 2
- Pedestrian = 2
- Facility = 3
- Space syntax = 14

- Commercial street
- Local street
Expand Commerce + One Side

• Ground level spontaneous commerce
Typologies
Green

Existing green streets
• Open spaces = Yes
• Plantation = 3

New green streets
• Connecting the existing green streets
• Taking advantage of closed green areas
More Green + One side

- Most pedestrians + all bicycles on the green side
- New green on the green side
- Two type of spaces: passing and staying
- Bumps
Commerce

Existing main commercial streets
• Facility = 3
• Width of lanes < 20m

New main commercial streets
• Facility = 2
• Space syntax > 15

New sub-main commercial streets
• Facility = 2
• Space syntax < 15
Expand into neighbourhoods

• Connecting two lines by squares/gardens
Expand along neighbourhoods

- Expand a little into the neighbourhood
- At preferably locations
- By squares/gardens
Neighbourhood

Neighbourhood streets
• Program = residence
• Width of lanes < 20m

For intervention
• Border = Wall/Fence
• Entrance ratio < 1.6
• Facility < 3
• Space syntax < 20
Take out the Walls

• Bumps instead of walls
• Buffers
Border

Campus-City borders
- Program = education + residence

For intervention
- Width of lanes < 20m
- Border = Wall/Fence
- Space syntax > 15
Campus Routes

- Take out the wall
- Connections
Materialization

- Normal

- Old

- Red
Qualities

- More connected
- Better pedestrian experience
- Better commercial atmosphere
- More connected and accessible green
- Expanding public spaces into campuses
Sub-System “Neighbourhoods”

Elements = 27 neighbourhoods

Structure = Situation of the neighbourhoods
### Numbers

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Solution

Increasing density, while
- Fitting with existing sunshine laws
- Re-designing existing open spaces

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<th>1970s</th>
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<tr>
<td><strong>Ideology</strong></td>
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<td>Equalitarianism</td>
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<td><strong>Housing habits</strong></td>
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<td>South preferred</td>
<td>No local jobs</td>
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<td>Sunshine Laws</td>
<td>Few facilities</td>
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<td><strong>Economy</strong></td>
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<td>Planned economy</td>
<td>High density</td>
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<td><strong>Demographics</strong></td>
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<td>Large population</td>
<td>Poor mainenance</td>
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<tr>
<td>Urbanization</td>
<td>High price</td>
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</tbody>
</table>

Interventions
- Better publics spaces
- Campus programs
- More facilities
- Higher density
- More profit
- Lower price
Elements

- 6m * 6m blocks places between buildings
- One/two storeys
- 3m buffer zones on each side
- 3m one way lane on one side
Fitting with existing sunshine laws:
1 hour continuous sunshine on the shortest day (Winter Solstice)
New intervention may not worsen the situation

- One storey block fits at all locations
- Two storey block fits at certain locations
Re-designing existing open spaces:
Re-defining open spaces with different grouping typologies

- One block garden
- Two block garden
- One block garden with division
- Linear passage
- Continuous space
Structure

- How many
- Where
- What
How many

• 4 new blocks for every long building
• 2 new blocks for every dot building

For the example

148 new blocks
Putting only 25%

Increasing when
• FAI is below average
• Urban pattern is homogenise
• Entrance ratio is above average
• Facility is below average
Where

Blocks would be located closer to
• Borders with more entrances
• Borders with more traffic
• Borders with less facilities
• More homogenise locations
• Open spaces
• Streets with interventions
What

Public programs (culture, service, commerce, education)
• Less car traffic
• More pedestrian
• Border with more plantation
• Border with more facilities

Private programs (housing, offices, student housing)
• The opposite
Example
Products
Sub-System “Student Housing”

Elements = 18 student housing locations

Structure = Urban pattern + public spaces
Numbers

• Area
• FSI
• Urban pattern
• Height of buildings
• Border
• Entrance ratio
• Traffic
• Facilities
• Plantation
• Distances to destinations
• Program
Solution

Using student housing locations as main densification areas, while

• Providing better living conditions for students
• Creating new households
• Maintaining open spaces
• Matching campus/city patterns
Elements

Providing better living conditions for students

- 20m * 9m living unit for 3 dorms/households
- All south
- All independent bathroom
Structure

Maintaining open spaces

• New building surrounding open spaces
• Facing southeast/southwest
Products

Densification locations

- FSI < 1.4
- Old student housing
  >50%
- Near other neighbourhoods
Old Plan

• Boring morphology
• Open spaces around buildings
• Car oriented
• Separated green
New Plan

- Interesting but fitting morphology
- Buildings around open spaces
- Take out roads
- Pedestrian roads
- Connected green
Final Products
Evauation

“Streets”
Works for:
Pedestrians/street users.
Students/teachers.
Residents.

Profit to:
Business owners.
Property owners.
City authorities.

Paid by:
City authorities.
University authorities.
Property owners.

“Neighbourhoods”
Works for:
Residents.
University authorities.
Students.

Profit to:
Residents.
City authorities.
Developers.

Paid by:
Residents.
University authorities.
Developers.

“Student Housing”
Works for:
Students.
Teachers
University authorities.
Residents.

Profit to:
University authorities.
Developers.
City authorities.

Paid by:
Developers.
University authorities.
Thanks Guys!