the wall 墙城

The re-discovery of ordinary public places in an alternative urban architectural model for Chinese cities - The case of Chengdu

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I would love to hear your tips, ideas or critique!
Top 50 cities 2025 | Urban economic clout moves east

World's top 50 cities, ranked by GDP

- Dropout—included in 2007 but not in 2025
- Top 50 city in both 2007 and 2025
- Newcomer—absent in 2007 but included in 2025
What if... we build the same building mass of western Europe in 20 years in China?
And 400 million farmers then moved in?
And what if they also want an Ipad?
And a new car?
How will the cities look like?
How will cities grow?
How will you move around?
Can you breathe normally?
How will your daily life be?
Would it be dense?
Chinese?
Or will everybody live in sprawled suburbs?
“we want...
Vertical Cities Asia”
156 KM²
ÀQJHUPRGHO doomsday THE WALL on every scale
the wall  theory and reflection  zoom in neighborhood
### Compound annual growth rate, 2005–25

<table>
<thead>
<tr>
<th>Category</th>
<th>2005</th>
<th>2025</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Megacities (10+)</td>
<td>32</td>
<td>120</td>
<td>6.9</td>
</tr>
<tr>
<td>Big cities (5–10)</td>
<td>84</td>
<td>104</td>
<td>1.1</td>
</tr>
<tr>
<td>Midsized cities (1.5–5)</td>
<td>161</td>
<td>233</td>
<td>3.4</td>
</tr>
<tr>
<td>Small cities (0.5–1.5)</td>
<td>150</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Big towns (&lt;0.5)</td>
<td>145</td>
<td>154</td>
<td>2.2</td>
</tr>
</tbody>
</table>

Source: McKinsey Global Institute China All City model; McKinsey Global Institute analysis
1,000,000,000
2030
1/8 of the world will live in a Chinese city
One New York every two years
context | TWO SCENARIOS

current trend “dispersed scattered growth” (mckinsey 2009)
suggested pattern “concentrated growth” (mckinsey 2009)
context | SUGGESTED GROWTH PATTERN

**ECONOMY**

- Urban population: Million people
- Urban GDP: Billion Renminbi, 2000
- Urban GDP/capita: Billion Renminbi, thousand, 2000

**RESOURCES**

- Urban energy intensity: BTU per Renminbi
- Urban GDP: Billion Renminbi, 2000
- Urban energy demand: QBTUs

**ENVIRONMENT**

- China total arable land: Million hectares
- Loss: 2005–2025, %

Generate highest per capita GDP

higher efficient use of energy, More effective control of pollution

contain loss of arable land

Source: McKinsey Global Institute China All City Model; McKinsey Global Institute analysis
Chinese cities in 2010

- Population > 5 mln
- Population > 7 mln
- Population > 10 mln

* including agglomerations Dongguang and Foshan
context | CHENGDU 2000 BC
80% of Chinese vegetation is represented

20% of all endangered flora and fauna
context | POLICY CHANGE

LET'S GO TO THE WEST

context | CHENGDU 2000
context | CHENGDU 2010
FDI ACCELERATES GROWTH

Chengdu: 5 times more than Chinese average

FDI generates far more growth than earlier forms of industrialization
Compared to WHO

X 2,5
“The haze in Chengdu is pervasive. It is said that if a dog sees the sun, he will bark at the intruder.”
Chengdu developed fast in economy, living standard, and enjoyed a good public security, however our next step should be to increase our air quality and decrease the traffic congestion.
problem | AREA NEEDED

<table>
<thead>
<tr>
<th>Year</th>
<th>Area Needed</th>
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</thead>
<tbody>
<tr>
<td>2010</td>
<td>12.2</td>
</tr>
<tr>
<td>2030</td>
<td>16.7</td>
</tr>
<tr>
<td>2050</td>
<td>20.3</td>
</tr>
</tbody>
</table>
AVERAGE SPEED city centre, Chengdu (kmph)
max potential 100,000 p/sqkm

+ 15,600,000
THE WALL | air pollution sources

source: EPA 2008

Estimated NOx concentrations*
mg per m³, 2025

- Base forecast: 2.89
- Expanded public transit, density, fleet: -40%
- Tightened emissions industry: -50%
- Target (Level III standard): 0.29

* Assuming a constant concentration factor; includes only transportation-related measures; further potential may exist in, e.g., NOx scrubbers on power plants in addition to SO2 scrubbers.

Source: Literature search; McKinsey Global Institute analysis
New transport system

New industry system

EXISTING SEPERATED SYSTEM

THE WALL - CLUSTERED SYSTEM

EXISTING SEPERATED SYSTEM

THE WALL - CLUSTERED SYSTEM

THE WALL - CLUSTERED SYSTEM

EXISTING SEPERATED SYSTEM

THE WALL - CLUSTERED SYSTEM
design | THE WALL | generic becomes specific
design | THE WALL | forest wall
design | THE WALL | step 1 SITE

5.4 km² total area

100,000 people
50% residential

(100,000 x 26.90) x 2 = 5,380,000m²
3 km²
Light rail transport
250 metres walking distance
design | THE WALL | step 3 GRID

Paris
FAR 3.5
design | THE WALL | step 3 GRID
design | THE WALL | step 3 GRID

New York
FAR 8
design | THE WALL | step 3 GRID COLLECTIVE

Collective grid
FAR 5.3
design | THE WALL | step 3 COLLECTIVE VERTICALLY
Mixing of functions
Living at the edges
Offices and communal near metro station
design | THE WALL | step 5 DENSITY

Combination
+ Clusters near metro
+ Neighbourhoods
design | THE WALL | step 8 CONNECTING SPINE
design | THE WALL | step 9 REACT ON LANDSCAPE AND CITY
design | THE WALL
The Wall | different densities

TOTAL SITE:
FAR 5.3 | 330,000 PEOPLE
Reflection | critique linear city

Soria y Mata, Linear City, 1882
Reflection | critique linear city

Malcolmson, Metro-linear project, 1957

Miljutin, Tractorstoi, 1930
Reflection | critique linear city

Le Corbusier, The Industrial Linear City 1932
Reflection | critique linear city

Argumentation:

- Limited extension of the city;
- Efficiency in building;
- A fordist mass production.
- Best of both worlds (city and landscape);
- Orientation on transport.
Reflection  critique linear city

- Remains a scheme
- Ignores existing context
- Repetition and ratio
- Birds eye perspective
- Ignores everyday live
Reflection | superimposing le corbusier

ordinary public space under pressure
Reflection | superimposing le corbusier
‘the capitalized modernization of China leads to a decline of ordinary public places, and to a feeling that cities are becoming ‘placeless’
Reflection | placelessness
Reflection | placelessness
'The new city, is based on a ‘disappearance of stable relations with a physical and cultural geography of a place’
“I argue that human beings originate in an alienated condition, and define themselves, through their social spatial environment. Therefore meaningful places are crucial for everyday life!”

Heidegger
“Placelessness is the inevitable destiny of the urban condition. These generic cities are located in Asia.”
how to design places meaningful for everyday life in a radically transforming, and generalizing Chinese city?
“The world is what we perceive. The way people use and value places is highly influenced by their perception of space.”

Merleau-Ponty
Therefore the perceptual experience of space is crucial in the success of any urban design.
Perception of space | linearity

China

Small scattered places and streets

West

Central and static nodes
Perception of space | hierarchy

hierarchical system
similarity in volumes

non-orthogonal system
individual volumes
Perception of space | unity

**China**
- Collective inward focus on family

**West**
- Public outward focus on individual
Perception of space | human scale

China

small scattered private spaces
horizontal city

West

large pieces in the centre of blocks
vertical city
Perception of space | enclosure

space is perceived as a series of walled enclosures

presenting space little by little

form meaningful places by enclosing spaces

local context determines outcome
Perception of space | enclosure
Perception of space | enclosure
Zoom in | scheme low rise neighborhood
Zoom in neighborhood | parameters
Zoom in neighborhood | valley

taking existing as a basis to develop
Zoom in neighborhood | valley
taking existing as a basis to develop
Zoom in neighborhood | bamboo hills and ponds

taking existing as a basis to develop
Zoom in neighborhood | natural ventilator

taking existing as a basis to develop
Zoom in neighborhood | main arteries
taking existing as a basis to develop
Zoom in neighborhood | main arteries
taking existing as a basis to develop

- symmetrical profile
- continuity facade
- no setback
- transparency 1st floor
- max 5 stories
- land use mix
- max 12 m between each entrance
- max 25% open space on plot
Zoom in neighborhood | secondary arteries
taking existing as a basis to develop
Zoom in neighborhood | secondary arteries

taking existing as a basis to develop

- transition zone 5 m (porches, veranda's, frontyard
- 3-4 stories
- asymmetrical profile
- height differences
- max 7 m. between each entrance
- sitting elements
- land use mix
- vendors and street stalls
- planting as spacemakers
Zoom in neighborhood | building plots
Zoom in neighborhood | zoning
Zoom in neighborhood | plot development
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Zoom in neighborhood | plot development

- 1st floor min. 4 m.
- Max. height 18.00
- At least one side accessible to public
- One side at least a Wall
- Max. 80% build
- On 50% max. 23 m.
- At least 5 m. distance
- Max. 6 m. setback from street.
- Min. 7.5 m. court
- Max. 5 plots per developer
- On 50% max. 23 m.
Zoom in neighborhood | plot development
Zoom in neighborhood | plot development
Zoom in neighborhood | plot development
Zoom in neighborhood | plot development
Zoom in neighborhood | framework
Zoom in neighborhood | density

1.7 fsi
60,000 people on 1 km²
Zoom in neighborhood | series of enclosed worlds
Zoom in neighborhood | series of enclosed worlds
Zoom in neighborhood | series of enclosed worlds
Zoom in neighborhood | series of enclosed worlds
series of enclosed worlds | water
series of enclosed worlds | water

Prefab concrete with constructed gutter

Water
Gravelbed

CRUCIAL DETAIL
Prefab concrete
Coated steel gutter

Concrete
Gravel
Helophytes
series of enclosed worlds | water

- toned down materials
- stones baked by local soil
- only plantation, water and concrete elements stand out
- gravel in water cascade to increase sound
series of enclosed worlds | water cleaning

Clarity plant
Water tank
Grey water
Wall water transport system
Primary sedimentation
Clean gutter
Planted trench filter
Chinese citronella grass
Storage ponds
Clean air
Helophytes
Storage + first filter
Black water
Grey water
hylophytes and gravel
Storage ponds
Chengdu water system
series of enclosed worlds | plantation
series of enclosed worlds | plantation

- bamboo screen near walls
- iron patterns
By 2013 loss of arable land will go below governments minimum of 120million ha
By 2030 urban population will almost double from 572 m in 2005 to one billion
70% will be migrants
By 2030 7 to 20% of the landscape will be lost.
By 2030 3 billion cubic meters of water is short.
By 2030 energy demand will triple.
By 2030 35 million cars will be sold annually.
By 2030 the current subway system need to expand eight times.
By 2030 meat consumption will double
By 2030 solid waste will increase by 150%
result | INTEGRAL WALL
NEW CHINESE WALLS
result | NEW CHINESE WALLS
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