China’s Metropolitan Planning: Shanghai

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I China’s urbanisation
II Planning system reforms
III Case study: Shanghai & Yangtze River Delta Region
Urban population annual growth rate of the world and China: 1950-2050

Source: Hu, 2008
Urban population annual growth rate of China and major continents: 1950-2050

Source: Hu, 2008
From 1980 to 2005, in China:
GDP grew by 8 times;
Urban population grew by 3 times;
Urbanization rate increased by 2 times

In 2005, China has:
113 Chinese cities with over 1 million population;
38 Chinese cities with over 2 million population

By 2025-2030, China will have:
GDP multiplied by 5 times;
1 billion urban population;
221 cities of more than 1 million population
<table>
<thead>
<tr>
<th>WORLD RANK</th>
<th>CITY</th>
<th>POPULATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>SHANGHAI</td>
<td>17,500,000</td>
</tr>
<tr>
<td>16</td>
<td>GUANGZHOU</td>
<td>14,700,000</td>
</tr>
<tr>
<td>19</td>
<td>BEIJING</td>
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<tr>
<td>28</td>
<td>SHENZHEN</td>
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<tr>
<td>30</td>
<td>WUHAN</td>
<td>8,650,000</td>
</tr>
<tr>
<td>36</td>
<td>TIANJIN</td>
<td>8,000,000</td>
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<tr>
<td>43</td>
<td>HONG KONG</td>
<td>7,100,000</td>
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<tr>
<td>44</td>
<td>TAIPEI</td>
<td>6,700,000</td>
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<tr>
<td>46</td>
<td>CHONGQING</td>
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<tr>
<td>59</td>
<td>DONGGUAN</td>
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<tr>
<td>61</td>
<td>CHENGDU</td>
<td>5,450,000</td>
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<td>65</td>
<td>SHENYANG</td>
<td>5,050,000</td>
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<tr>
<td>70</td>
<td>XI’AN</td>
<td>4,675,000</td>
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<tr>
<td>73</td>
<td>NANJING</td>
<td>4,575,000</td>
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<tr>
<td>80</td>
<td>HARBIN</td>
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<tr>
<td>86</td>
<td>HANGZHOU</td>
<td>3,925,000</td>
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<tr>
<td>87</td>
<td>SHANTOU</td>
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</tr>
<tr>
<td>109</td>
<td>DALIAN</td>
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<tr>
<td>111</td>
<td>CHANGCHUN</td>
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<td>114</td>
<td>JINAN</td>
<td>3,275,000</td>
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<td>116</td>
<td>QINGDAO</td>
<td>3,200,000</td>
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<tr>
<td>120</td>
<td>FUZHOU</td>
<td>3,125,000</td>
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<tr>
<td>125</td>
<td>TAIYUAN</td>
<td>3,100,000</td>
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<tr>
<td>126</td>
<td>KUNMING</td>
<td>3,075,000</td>
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<tr>
<td>129</td>
<td>ZHENGZHOU</td>
<td>3,025,000</td>
</tr>
</tbody>
</table>

Source: Taylor & Hoyler, 2008: p 28
If current trends continue, nearly one billion people will live in China’s cities by 2025. The urban population will grow by some 350 million people—more than the population of the United States today. Some 240 million of China’s city dwellers will be migrants. China will have 221 cities with more than one million inhabitants—compared with 35 in Europe today—of which 23 cities will have more than five million people. There will be eight megacities with populations of more than ten million.
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Drivers of China’s urbanisation

- Political economic reforms: socialism vs. pragmatism; planned economy vs. market economy

- Land reform

- Housing reform

- Planning system reform

- FDI and export-oriented industrial strategy
A unitary centralised power system
Evolution of China’s planning system

- **1950s**: Soviet model; ideology dominated; physical planning of industrial sites; two-tier planning system (master plan, detailed layout plan)

- **1960-1978**: urban planning abandoned

- **1978-1989**: recovery and establishment of the planning system; law reforms on planning, land and housing; decentralisation of planning power; expansion of planning scope and skills


Past Urban Planning System

Master Plan

Detailed Layout Plan

Present Urban Planning System

Urban System Plan

Master Plan

District Plan

Detailed Development Control Plan (DDCP)

Urban Design & Parcel-Based Detailed Construction Plan (DCP)

Plans in the 1989 City Planning Act

Source: Yeh & Wu, 1999: p 190
Challenges

- Weak status of planning (a spatial/technical tool of economic development)
- Administrative discretion
- Inadequate public participation & policy making process
- Insufficient implementation and review
- Conflict and fragmentation between sectoral and territorial systems
- Non-statutory status of detailed development control plan
Shanghai Municipality

- Population – 18.15 million
- Land area – 6,340 km²

Key drivers of urban expansion in Shanghai

- Spatial dispersion of local population
- Rural-urban migration
- Industrial relocation and expansion
- Global investment
Urban Infrastructure Investment & FDI in Shanghai

Shanghai Metropolitan Master Plan (1999-2020)

- “One dragon head, four centres” – dragon head of Yangtze River Region; international economic centre, financial centre, trade centre, and logistics centre in 2020

- Central Shanghai: financial & insurance; IT high tech

- Residents in 2020 – 16 million, urbanisation rate of 85%

- Infrastructure: “three harbours & two ways” (seaport, airport, cyber harbour; high-speed railway, expressway); “two networks” (rail transit network; expressway network)

- Green space in 2020 – 10 m² per capita
- Multi axes
- Multi nuclei
Yangtze River Delta Region:

- 16 cities;
- 1% of China’s urban area;
- 6% of China’s population;
- 18.9% of China’s GDP

Source: CBRE Research Asia, 2008: p 91
Strategic planning goal

- China’s most powerful economic centre, to drive the growth of the nation;
- Leading portal for international business, to facilitate global cooperation and exchange;
- Global high-tech manufacturing industry centre
- World-class metropolitan region
- “One Core, Six Development Zones”

1 Core: Shanghai (domestic and international transport hub, resource allocation centre, cultural and innovation centre for the region)

2 Zone Shanghai-Nanjing-Hangzhou Transport Corridor (high-tech and allied service industries)

3 Zone Yangtze River Corridor (industry associated with manufacture of equipment, chemicals, metallurgy and logistics, and allied service industries)

4 Zone Hangzhou Bay Zone (high-tech and high value added manufacturing and processing industries and heavy chemicals industries utilising harbour)

5 Zone Coastal Zone (port logistics, large scale heavy chemicals and energy centre, and new coastal industries such as marine and ecological industries)

6 Zone Ningbo-Huzhou (high-tech, leisure and tourism, modern logistics, ecological agriculture and resource processing industry)

7 Zone Ecological Services: Lake Taihu (service industries: leisure, tourism, conferences and exhibitions; R&D and ecological agriculture)

Source: CBRE Research Asia, 2008: p 97
<table>
<thead>
<tr>
<th>Inter-city urban rail link</th>
<th>Year of completion</th>
<th>Railway</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2010</td>
<td>Nanjing-Zhenjiang-Wuxi-Suzhou-Shanghai</td>
</tr>
<tr>
<td>2</td>
<td>2010</td>
<td>Shanghai-Jiaxing-Hangzhou</td>
</tr>
<tr>
<td>3</td>
<td>2020</td>
<td>Nanjing-Hangzhou-Shaoxing-Ningbo</td>
</tr>
<tr>
<td>4</td>
<td>2020</td>
<td>Changzhou-Jiangyin-Changshu-Suzhou</td>
</tr>
<tr>
<td>5</td>
<td>2020</td>
<td>Suzhou-Jiaxing,</td>
</tr>
<tr>
<td>National high-speed rail</td>
<td>Under Study</td>
<td>Shanghai-Hangzhou magnetic levitation railway</td>
</tr>
<tr>
<td>6</td>
<td>2010</td>
<td>Beijing-Shanghai High-speed railway</td>
</tr>
<tr>
<td>7</td>
<td>2020</td>
<td>Hangzhou-Fuzhou-Shenzhen Passenger Line</td>
</tr>
</tbody>
</table>

Source: 《长江三角洲地区城际轨道交通网规划（2005～2020年）》 (Indicative purpose only)
Highways and Bridges

<table>
<thead>
<tr>
<th>Bridge 大桥</th>
<th>Chinese Name</th>
<th>English Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Hangzhou Bay Bridge 杭州湾大桥</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Jiashao Bridge 嘉绍大桥</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>Sutong Bridge 苏通大桥</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>Chongqi Bridge 崇启大桥</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>Chonghai Bridge 崇海大桥</td>
<td>5</td>
</tr>
</tbody>
</table>

Source: 《长江三角洲地区现代化公路水路交通规划纲要》
<table>
<thead>
<tr>
<th>No.</th>
<th>Province</th>
<th>Airport Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Shanghai</td>
<td>Shanghai Hongqiao International Airport</td>
</tr>
<tr>
<td>2</td>
<td>Shanghai</td>
<td>Shanghai Pudong International Airport</td>
</tr>
<tr>
<td>3</td>
<td>Jiangsu</td>
<td>Nanjing Lukou International Airport</td>
</tr>
<tr>
<td>4</td>
<td>Jiangsu</td>
<td>Changzhou Benniu Airport</td>
</tr>
<tr>
<td>5</td>
<td>Jiangsu</td>
<td>Nantong Xingdong Airport</td>
</tr>
<tr>
<td>6</td>
<td>Jiangsu</td>
<td>Wuxi Shuofang Airport</td>
</tr>
<tr>
<td>7</td>
<td>Zhejiang</td>
<td>Ningbo Lishe International Airport</td>
</tr>
<tr>
<td>8</td>
<td>Zhejiang</td>
<td>Hangzhou Xiaoshan International Airport</td>
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<td>9</td>
<td>Zhejiang</td>
<td>Zhuoshan Putuoshan Airport</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>Taizhou Huangyan Airport</td>
</tr>
</tbody>
</table>

*The airport symbols are scaled according to the airport passenger throughput in 2007.*
Ports and Inland Waterways

Coastal major ports
1. Shanghai Port
2. Zhoushan Port
3. Ningbo Port
4. Suzhou Port
5. Nantong Port
6. Zhenjiang Port
7. Nanjing Port

Local major ports
8. Jiaxing Port
9. Jiangyin Port
10. Yangzhou Port

Inland river major ports
11. Wuxi Port
12. Jiaxing Inland River Port
13. Huzhou Port
14. Hangzhou Port

Source: 《长江三角洲高等级航道网规划（要点）》 and 《长江三角洲地区现代化公路水路交通规划纲要》
Future Expansion

- Pan-YRD
- Expansion to western hinterland
- Expansion along the coast

Locations:
- Shanghai
- Lianyungang
- Yancheng
- Jiangsu Province
- Zhejiang Province
- Anhui Province
Bibliography