

# Shanghai in 2050: Its Development Challenges and Strategy Choices

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- Shanghai in 2050: analysis of the trends and challenges
- Shanghai in 2050: urban orientation and prospect
- Planning for challenges: policy choices for Shanghai in 2050

## 1. Research theory, ideas, significance and characteristics

1.1 Research theory

#### 1.1.1 Global City in the age of globalization

- **Henri Lefebvre(1970**): The Urban Revolution
- global city: as a "centre of power" and a "decision-making centre" that does not necessarily coincide with the capital city.
- 1970s, neo-liberalism gradually replaced the Keynesianism:
- encourages open domestic markets;
- attracts foreign investment, and investment facilitation;
- builds financial economy and transnational corporation as a means of promoting global expansion (Castell ,1989)
- Cohen (1981): the global coordination and control centre of the new international division of labor,
- London, New York and Tokyo, with the financial services industry.
- Sassen (2002): from multinational corporations to advanced producer services:
- The production sites of financial and professional services;
- The financial industry with related services such as legal, consulting, accounting, information services, advertising and so on:
- highly developed urban agglomeration economies;
- cross-border transactions networks;
- The collecting and distributing centre of knowledge and information.

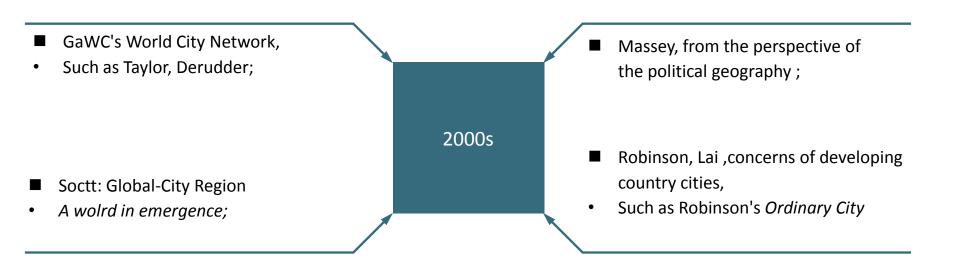


## 1. Research theory, ideas, significance and characteristics

## 1.1 Research theory

#### 1.1.2 Global City in the information age

- Traditional economic ,emphasized the location, hierarchy, power:
- Central place theory: local, hierarchy, competition;
- the total economy, port throughput, and urban population.....
- New economic geography has shifted attention to flow and network:
- Central flow theory: flowing, network, cooperation.
- Focus on the flow of information, , talent and capital.
- Emphasize the city's nodes and producer services, including innovative.



## 1.Research theory, ideas, significance and characteristics

1.1 Research theory

#### 1.1.3 Global City Region

#### **Scott-Global City Region**

- Backgrounds:
- the rapid urbanization and the development of information technology,
- the traditional metropolitan\_\_\_\_\_ conurbation.
- A new theoretical framework to study metropolitan, based on the Sassen's global city and network of cities and castells's World City Network;
- It reflects the evolution of capitalism and the revival of economic and political activities based on the region after the 1970s.
- Scott (2001), three characteristics of global city region:
- diverse urban core: polycentric pattern ---- central city , the sub-center, new town .....
- expansion of the suburbs;
- extensive hinterland systems.

#### revelations

- **Essence**: the economic power on the space allocation and optimize combination.
- relation network in Global National Regional Local four spatial scale within the metropolitan
- The analysis of the future Shanghai Global city-region should be analyzed from the global, national, regional, local four scales.



## 1.Research theory, ideas, significance and characteristics

#### 1.2 Research ideas

- Analysis of external environment in 2050:
- In 2050, the changes of world political and economic situation, the global city, the technological revolution, resources and environment.....;
- In 2050, the changes of China: economic, population, urbanization, transportation, new energy and new technologies, political system;

- Shanghai in 2050: Analysis of the trends and challenges
- economy, space layout, the Yangtze River
   Delta, new lifestyles and values,
   environmental and social problems, urban governance;

#### **Research ideas**

- Shanghai in 2050: urban orientation and prospect
- From the view of the function of global resource allocation, analyzed Shanghai's future in the level of the economy, region, space, environment and society I

- Planning for challenges: policy choices for Shanghai in 2050
- economic promotion, regional co-opetition, space optimization, environmental upgrading and social governance.....



**Cases** 

## 1.Research theory ,methods, significance and characteristics

## 1.3 Research significance

■ The long-term strategic development plan home and abroad:

Tab: the case studies on the long-term strategic development plan at home and abroad:

strategic issues

National Level	America 2050 Kazakhstan2050	Population, transportation, air, large areas of land, trade, growth patterns, social development Economy, society health and foreign affairs
	German Stadt 2030	Regional integration, social integration, characteristic shape
Regional level	Greater Chicago Metropolitan Area 2040 Regional Framework Plan Future Ruhr	Centers, corridors and green space  Coal, steel, transportation, energy, logistics
	2030)	
Urban	London 2062	Transportation, energy, intelligent infrastructure, water resources, population, housing and economy
level	New York 2030	Land, water, transportation, energy, air, climate change
	Sydney 2030	Globalization, global warming, energy shortages
	Beijing 2049	Population economy, space, environment, resources, transportation
	Wuhan 2049	Population, resources, environment, economy, industry, transport, urban planning, cultural and social
	Shenzhen 2030	Region, industry, space, ecology, social, infrastructure, environment

#### predictions about the trend of world and China

Tab: predictions about the trend of world and China

institutions	research results
club of rome	2052—A Global Forecast for the Next 40 Years
Asian Development Bank	Asia in 2050
McKinsey Global Institute	Urbanizing world: the rise of urban and consumers
Russian Academy of Sciences	2030 Global Strategic Prediction
world bank &Development Research Center of the State Council	2030 China's economic development
the United Nations	World Urbanization Prospects(2014)

#### ■ long-term strategic development planning of Shanghai

Tab: the long-term strategic development planning of Shanghai

J	
Name	characteristics
Shanghai2020	five-year planning that needs to set priorities and projects within the short term.
Shanghai2040	space strategy that emphasizes expression space layout and land structure;
Shanghai2050	development strategy that expands the concept of global city, including international, national(regional)and urban aspects.



## 1.Research theory, ideas, significance and characteristics

## 1.3 Research significance

### ■ The main ideas of specialists and scholars on Shanghai 's 2050 home and abroad

Tab. The main ideas of specialists and scholars on Shanghai 's 2050 home and abroad

scholars	main ideas	source
Zhou Zhenhua	上海发展战略研究的研究意义、方法、原则和 已有基础	http://m.thepaper.cn/newsDetail forward 1275327 1
Saskia Sassen	"全球城市"内涵梳理;	http://m.thepaper.cn/newsDetail forward 1275370 1
Peter Calthorpe	新城市主义的对上海未来的规划的思考	http://m.thepaper.cn/newsDetail forward 1275368 1
Wang Zhan	过去30年主要矛盾咋解决	http://m.thepaper.cn/newsDetail forward 1275332 1
Zhu Jinhai	上海发展战略演变35年	http://m.thepaper.cn/newsDetail forward 1275322 1
Peng Bo	上海发展路径有借鉴意义	http://m.thepaper.cn/newsDetail forward 1275375 1
Liang Hong	需反思一些政策设计理念	http://m.thepaper.cn/newsDetail forward 1275383 1
Hou Yongzhi	研究清楚上海的特殊性	http://m.thepaper.cn/newsDetail forward 1275377 1
Zhou Zhenhua	要跳出上海看上海	http://m.thepaper.cn/newsDetail forward 1275372 1
Shi Liangping	技术对城市影响最大	http://m.thepaper.cn/newsDetail forward 1275381 1
WuJiang	人文特质很重要	http://m.thepaper.cn/newsDetail forward 1276213 1
Du Denbin	加快建设上海科技创新中心	http://m.thepaper.cn/newsDetail forward 1276220 1
Zhang Guangsheng	愿景要和现实基础结合	http://m.thepaper.cn/newsDetail forward 1276231 1
Wang Guoping	环境建设多一点	http://m.thepaper.cn/newsDetail forward 1276197 1
Wang Zhan	用阶段性目标来定位	http://m.thepaper.cn/newsDetail forward 1276196 1
Wang Dewen	就业机会和生活成本同样重要	http://m.thepaper.cn/newsDetail forward 1284649 1
Edward·Lee Maeng	要有区域发展的眼光	http://m.thepaper.cn/newsDetail forward 1284652 1
Wu Hongbo	上海如何应对挑战给世界启示	http://m.thepaper.cn/newsDetail forward 1284635 1
XiaoLin	关于未来30年的三个思考:现状、机遇、目标	http://m.thepaper.cn/newsDetail forward 1284646 1



## 1.Research theory, ideas, significance and characteristics

#### 1.4 Research characteristics

#### Comprehensive study

- including the economic regional spatial environmental and social levels, etc.,
- Focus on the policy choices for the challenges in 2050, making research more targeted.

#### Innovation in the research line

- Change the traditional static research methods of strategic objectives and positioning;
- Look for the development of the relative certainty factors (trend of technology, demographic changes, environment, etc.) from the uncertainty factors of both external and internal in Shanghai,
- Focus on major factors (such as urban development concepts, technology, resources, environment, governance, etc.) that will dominate the future development of major cities,.

#### Innovative in research methods.

- Change the traditional deductive analysis, qualitative analysis, feasibility analysis....;
- Take more dynamic predictive analysis, qualitative and quantitative analysis, benchmark-referenced analysis, alternatives analysis and other frontier approach research methods.



#### 2.1 International Perspective: What will happen to the world in 2050?

#### 2.1.1 The deepening of "globalization": equilibration and regionalization

- division of the global industry will still exist;
- inter-state: the relationship of co-opetition.
- Regional cooperation will become a global consensus.

#### 2.1.2 The global economic gravity: eastward-moving

- From the view of development trend, the global economic gravity will shift to Asia
- China, India will rise.
- From the view of power scale, the global economic gravity will more focus on the level of urban and region: mega-cities, global cities and mega-regions etc.

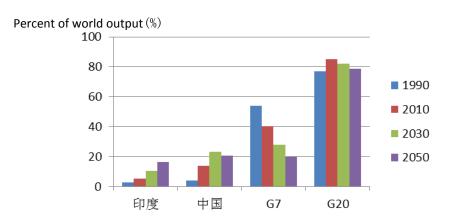
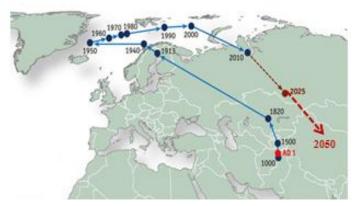


Fig: Economy of China, India,G7,G20, in 2050 (Source: Treasury, IMF and UN)

Fig: Change map of global economic gravity



(Source: McKinsey Global Institute)



#### 2.1 International Perspective: What will happen to the world in 2050?

#### 2.1.3 The rise of mega-regions

- Spatial level: the mega-cities as the core, the network of aviation, highways, high-speed railways
- Such as the America 2050, 11 mega-regions will occur
- Economic level: emphasizing function of the global resource allocation and innovation
- Innovation area:
- ✓ innovation clusters;
- ✓ Technology research, consulting and other innovative services; (Cahhorpe)
- Advanced manufacturing area:
- ✓ Emphasizes highly flexible and personalized digital products and services;
- Capital control areas:
- financial, trade and other capital control and management.

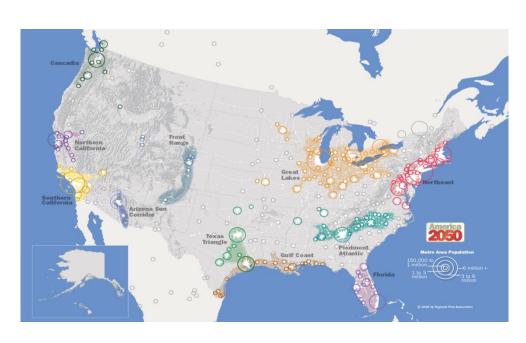


Fig: 11 emerging mega-regions in America 2050



#### 2.1 International Perspective: What will happen to the world in 2050?

#### 2.1.4 The deepening application of technological revolution

- Industrial level: the industry modalities and modes will change:
- Green Industry: green energy, energy-efficient buildings, green services, green consumption;
- Health Industry: health counseling, health management and care, mobile medical, pharmaceutical research and development;
- Spatial level:
- technology, high-speed traffic will change the traditional location advantage of cities,
   causing the construction of the urban inner pace

#### 2.1.5 Post-materialism age

- meet the diverse needs of people;
- the combination of innovation and personalization
- ecological, localization and sustainable development;
- justice and equity(intergenerational equity and intragenerational equity).

## 2.1.6 Urban environmental problems will become more prominent

- population growth, resources reducing, global warming and other issues will be intertwined,
- low carbon, emission reduction, green, environmental protection will be the new voice in the world diplomacy
- the need of co-operation to solve the environmental problems will be further enhanced.



### 2.2 Domestic Perspective: What will happen to China in 2050?

#### 2.2.1 Macro economy: post-industrialization system

- In 2050, China will basically complete the new industrialization, and gradually transform to post-industrial system
- Pay more attention to the quality of economic development,
- economic growth: technological innovation, consumer-driven;
- New economic growth point:
- Technology and services, commercial logistics, culture and entertainment, tourism consumption and urban agriculture.
- They will occur in large cities and around urban areas.

#### Two Belts And One Road

- Yangtze River Economic Zone
- the Silk Road economic belt
- Maritime Silk Road
- The meeting-point of the" Two Belts And One Road " is Yangtze Delta metropolitan.



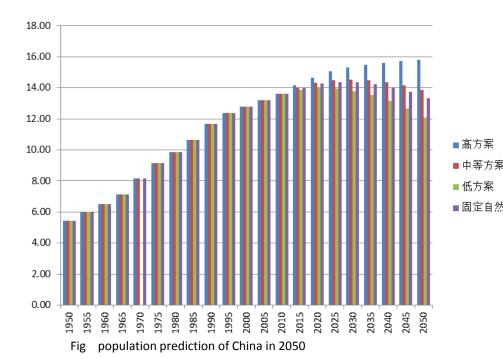
Fig :The regional strategic landscape of China



### 2.2 Domestic Perspective: What will happen to China in 2050?

#### 2.2.2 China will gradually enter the period of urbanization, with populations growing

- Fluctuations in population :
- UN: 2050 Population——1.42 billion
- National Population and Family Planning Commission: 2050 Population: ——1.376-1.44 billion;
- The serious aging problem
- In 2050: more than 300 million the elderly population
- By 2050, the ratio between labor force population and elderly population will be down to 2.8: 1 by 10: 1 in 2000
- Urbanization, will promote the rise of small and medium cities in Midwest areas
- The level of China's urbanization will increase more than 70% in 2050
- China's small and medium cities will be the important carriers of enlarging inland consumption and realizing industrialization.



Source: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, World Population Prospects: The 2012 Revision, http://esa.un.org/unpd/wpp/index.html



### 2.2 Domestic Perspective: What will happen to China in 2050?

#### 2.2.2 China will gradually enter the period of urbanization, with populations growing

- the floating population will continue to increase, and the flow direction and layout will show little change.
- Scale: 350 million in 2050
- Flow direction: coastal, riverside areas and along major transport corridors
- Quality: from surviving to developing;
- Challenge: their livelihood problem and service management system pressure.
- the scale of megalopolis will continue to increase
- By 2050, Yangtze River Delta will add by 80 million;
- Beijing-Tianjin-Hebei Region will add by 60 million,
- the pearl river delta will increase by 40 million;
- other areas will increase by 80 million.
- The rise of Middle and Lower Reaches of the Yangtze River urban agglomerations:
- China:"S" economic zone in 2050

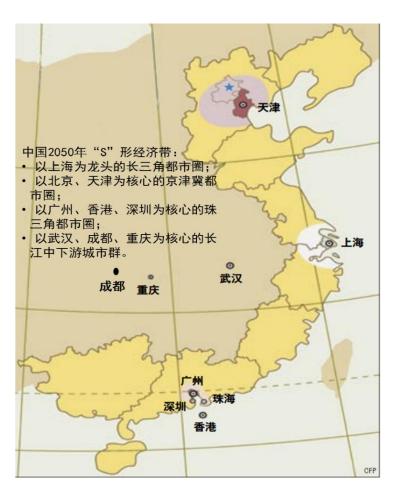


Fig: "S" economic zone of China in 2050



### 2.2 Domestic Perspective: What will happen to China in 2050?

## 2.2.3 The national transportation network will show the international and regional equalization feature

- High-speed railways and aviation network: opposite theories of vertical and horizontal
- inter-city express railway、 suburban railway: strengthen the connection between all levels of urban
- high-speed railway :promote the megacities the transfer of international manufacturing industry, the attractiveness of high-end services

## 2.2.4 New technology and energy will affect profoundly;

- The population carrying capacity of YRD will increase
- Especially in suburban and rural areas ,will be the application demonstration of all the new technologies, vast prospects for development

## 2.2.5 More advance political reforms: the promotion of social justice, protection of vulnerable groups

- Urban governance: "small government, big society, strong management"
- More democratic society: fostering civil society and enhance self-organizing capacity of society.
- More equiTab society: family assets declaration system, protection of vulnerable groups, tax reform·····



## 3.1 Economic level: the construction of the global city will improve the economic level of Shanghai

3.1.1 From the rankings of global cities, Shanghai in the status of the global urban system has continuously improved.

Global Cities Index Rank

City	2014	2012	2010	2008
New York	1	1	1	1
London	2	2	2	2
Paris	3	3	4	3
Tokyo	4	4	3	4
Hong Kong	5	5	5	5
Los Angeles	6	6	7	6
Chicago	7	7	6	8
Beijing	8	14	15	12
Singapore	9	11	8	7
Washington	10	10	13	11
Brussels	11	9	11	13
Seoul	12	8	10	9
Toronto	13	16	14	10
Sydney	14	12	9	16
Madrid	15	18	17	14
Vienna	16	13	18	18
Moscow	17	19	25	19
Shanghai	18	21	21	20
Berlin	19	20	16	17
<b>Buenos Aires</b>	20	22	22	33

## 3.1.2 Manufacturing industry: intelligent, integration, servicisation

■ Flexible ,personalized, agile and virtual manufacturing ;

Fig: The Global Cities rankings

Source: The Global Cities Index. 2014



## 3.1 Economic level: the construction of the global city will improve the economic level of Shanghai

#### 3.1.3 Services industry: high-end oriented, technicalization, and greenization

- High-end services:
- Financial and business services, power and influence (national governments, supranational organizations, multinational headquarters), the creative and cultural industries, tourism, etc.
   (Llewelyn-Davies. Four World Cities: A Comparative Study of London, paris, NewYork and Tokyo.. 1996)
- response to global climate changes and technological revolution:
- industry: technicalization, and greenization
- Between industries, between industry and employment, and transportation will be increasingly integrated;
- Experience Economy: Disney, world-class children's playground, video production, tourism and vacation;
- Social problem-solving types, people-oriented types of industries:
- Health Industry: combined with China's aging trend.



## 3.2 Regional level: the role of YRD with Shanghai as the core will become more prominent in China

- The formation of the YRD metropolitan with a higher level of internationalization will be accelerated:
- Along the Road, Along the River and Surround the Bay" will be the most important axis belts.
- The functional configuration of the core nodal cities will be further strengthened:
- Shanghai 、Nanjing 、Hangzhou 、Hefei·····
- Mega cities will occur in South Jiangsu
- The relationship of network cooperative development:
- Industrial division of labor and cooperation will be further deepened.
- Modern and efficient network infrastructure.
- Flow of innovative elements will accelerate.
- The relationship with Midwest regions will be more closely.

Tab: The trend of polycentrity of YRD

cities	Year	Concentricity of GDP(%)	Concentricity of fiscal revenue (%)	Concentricity of actual inflow of foreign investment (%)
Shanghai	2001	20.02	48.53	30.94
	2012	16.52	27.72	19.78
Nanjing	2001	4.64	8.06	6.34
	2012	5.29	5.13	5.60
Suzhou	2001	7.10	3.95	21.24
	2012	9.23	8.90	14.15
Hangzhou	2001	6.33	6.95	3.54
	2012	6.07	6.35	7.41
Hefei	2001	1.46	1.82	1.24
	2012	3.13	2.74	2.85
Ningbo	2001	6.33	6.95	3.54
	2012	5.22	5.32	4.41



### 3.3 Spatial level: megacities, polycentric urban spatial structure

#### 3.3.1 Urban scale: towards megacities

- About the urban scale of Shanghai in 2050, some scholars' predictions show large differences.
- Wang Yuming (2014): 34.32 million
- Zhouhai Wang (2014): 27.783 million
- After multi-plans comparison, 35million may be the reasonable prediction relatively .

Tab: The methods and results of the predictions about shanghai population In 2050

method	model	result
compounded growth rate	Malthus's population model	43million
Linear regression	logistic growth model	34.68million
grey model prediction	"gray system"model GM (1, 1).	32.08million



### 3.3 Spatial level: megacities, polycentric urban spatial structure

#### 3.3.2 The current situation

- City field "multi-axis, multi-layer, multi-core", space layout of central city "multi-nuclear, open"
- Central City: high population density central city, showing a tendency to spread (Baoshan, Minhang);
- Suburbs and new towns: the capacity of city and industry integration is not enough, the populationabsorbing capacity is slow.

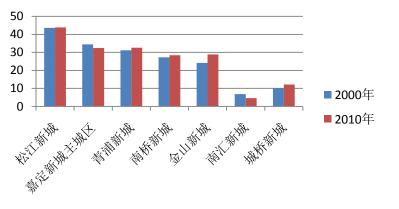


Fig: the percentage of population for each new town accounting for the total population for each region in Shanghai. 数据来源:上海市第五、第六次人口普查数据

Tab. The comparison of spatial structure between Shanghai and other global cities

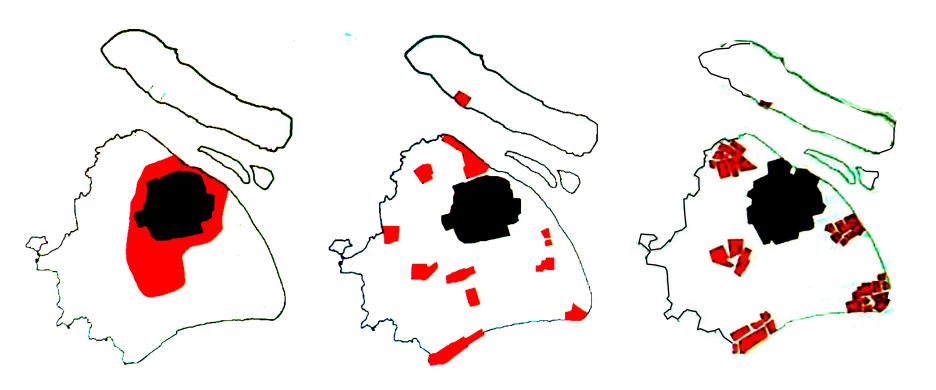
area	of population density	of Area	of Population density
central	city central city (per km	<sup>2</sup> ) metropolitan	of metropolitan (per
(km²)		(km²)	km²)
321	9379	1575	4870
786	10674	2955	3152
621	13006	2187	6031
663	17100	6787	3392
	central (km²) 321 786 621 663	central         city         central city (per km           (km²)         321         9379           786         10674           621         13006           663         17100	central         city         central city (per km²)         metropolitan           (km²)         (km²)           321         9379         1575           786         10674         2955           621         13006         2187           663         17100         6787

资料米源:上海致据米目第六次人口晋查数据,其他城市致据米目城市政府公布的2010年数据



### 3.3 Spatial level: megacities, polycentric urban spatial structure

#### 3.3.3 The scenario analyses of spatial development



Scenario 1: Based on the diffusion of Central City (Developer Realism)

Scenario 2: Based on the diffusion of dictricts and counties (Government Realism)

Scenario 3: Polycentric model (Compact Model)



### 3.3 Spatial level: megacities, polycentric urban spatial structure

#### 3.3.4 The evolution of Shanghai Spatial urban system: Polycentric and networked

"1966 urban system" VS Multi-center network urban system

- Central City,
- ✓ high-end function (industry, service, innovation) agglomeration
- √ dispersal of some industrial service function and population

• New towns will assume more regional functions, as industrial and population centers, full-featured, independent

city.



Fig: 1966 urban system

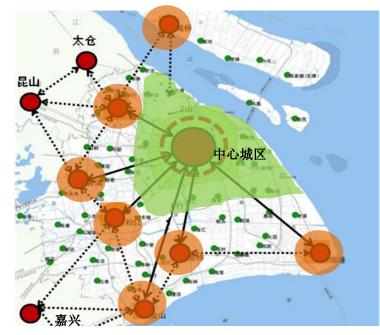


Fig: Shanghai Polycentric and networked spatial urban system



### 3.4 The challenge of ecological environment

#### 3.4.1 Lack of land carrying capacity, difficulty of land use structure

- From the point of view of land carrying capacity, at best it will meet about 27 million people's living space.
- currently :3070 km<sup>2</sup> of total land for construction, 24.15 million population
- Target: 3226 km<sup>2</sup> of total land for construction.
- the future can expand land resources than about 144km<sup>2</sup>,.
- land for construction per capita: 100-110m<sup>2</sup>
- In 2050:27 million people.
- difficulty of land use structures
- The proportion of industrial land is high (28%).
- The amount of industrial land in central city is high;

## 3.4.2 Difficulty of the renovation and expansion of municipal facilities

- From the view of Shanghai municipal facilities carrying capacity, at best it will carry about 30million people.
- Central City is facing an aging infrastructure and overload operation.

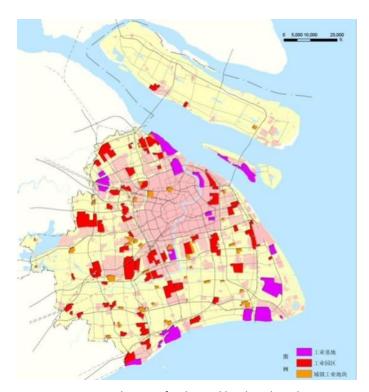


Fig: layout of industrial land in Shanghai



### 3.4 The challenge of ecological environment

#### 3.4.3 High-density city :environmental pollution, energy saving pressure

- Increasingly crowded living space
- High building density ,high-volume :
- Increasing building and living energy consumption
- Air pollution has increased the difficulty of talent attraction
- increasing Shanghai's vehicle numbers and energy consumption
- 600 motor vehicles per thousand population in developed countries, while that of Shanghai is 100
- Some scholars predict in 2050, per capita carbon emission of Shanghai will increase.
- ✓ Huang Rui et al (2010), Liang Chaohui(2009)

#### 3.4.4 Rising sea level and other potential natural disasters

- Conflict of urban construction land and greening land
- heat island effect, rising sea levels;



## 3.5 Social level: social conflicts caused by diverse population and culture

## 3.5.1 Population the structural contradictions of the aging trend

- The aging trend:
- Shanghai: enter an advanced stage of ageing.
- Wang Yuming 2050: Shanghai elderly population accounted for 33.74%;
- Zhouhai Wang (2014) considered, in 2050, elderly population will exceeded 10 million;
- Challenge: the shortage of labor, burden of social support, "the hole family"

## **3.5.3 Diverse value conflicts andinterest demands** diverse population in future

- The conflicts between migrants and local residents:
- The management of floating population are facing challenges;
- The rise of the middle class, and the higher demand of urban and social development .
- ✓ in 2050, the middle class will be the force of the working population:
- ✓ the high demand of city's governance, quality of living, the
  quality of public space, cultural life.

### 3.5.2 Serious polarization of the rich and the poor

Tab. Shanghai demographic situation in 2050

	Income	polarization;
--	--------	---------------

- Polarization of living space;
- unemployment and poverty brought by the rapid change of social environment.

	Present situatio	n (2013)	The future (2050)		
	Population (million)	Accounting for the resident population (%)	•	Accounting for the resident population (%)	
Expatriates	0.17	0.7	1.5	5	
Floating population	9.90	40.49	18	60	
The aging of the population	3.87	27.1	9	30	



### 3.5 Social level: social conflicts caused by diverse population and culture

#### 3.5.4 Urban public safety and crisis response mechanisms are facing challenges

- High population density, traffic control capabilities and the carrying capacity of urban space is close to the upper limit;
- City information network risk and the urban economy Political security; urban natural disasters;
- Citie's important institutions and establishments; Transportation and other urban public infrastructure;
- City emergency rescue forces and equipment, facilities, etc.

## 3.5.5 Open culture, bring the conflict between globalization and localization

Tab. The changes and developments of Shanghai every 30 years since its port opening

forward the goal of constructing Shanghai into a modern international metropolis

between globalization and localization		time	events
		1830- 1860	Shanghai was involved in the great change of modern China with the port opening, being in hesitation and chaos
	The city culture will be more inclusive and	1860-	Shanghai started to go to the world with the inflow of foreign capital and the
	open .(See the Tab)	1890	collapse of feudal system, becoming the center city in Yangtze River Delta.
	the conflict between globalization and localization	1890- 1920	Shanghai began to step toward the global central city , with the development of national capitalism and the demonstration of foreign settlements.
•	information network infrastructures make shanghai	1920-	Being an important metropolis in the Far East after the golden period of 1930s;
	closer to the world:	1950	Gradually declining after World War II;
	,	1960-	Being a domestic market-oriented central city with a single industrial function in
•	Faced with the lack of Shanghai unique urban style;	1990	the context of chaotic political and economic pattern at home and abroad
•	Global City features VS features by localization .	1990- 2020	With the development and opening of Pudong and the construction of "four centers", World Expo and free trade zone, Shanghai gradually integrated into the world and turned to a multifunctional and export-oriented central city, putting

and the "four centers".



### 4.1 The method of urban orientation of Shanghai

"Goal-oriented" + "Problem-oriented" + "Value orientation" method

#### 4.1.1 Goal-oriented

- Review the past relevant planning of Shanghai, the main line is economy;
- "Notice on the guidance for formulation of Shanghai new-round overall city planning", Shanghai Municipal Government propose the goal of Shanghai in 2040 is to construct the global city of the global resource allocation centre, strong international competitiveness and influence;
- In 2050, the urban orientation of Shanghai should be strengthened and extended by the basis of the Functional basis of the "global city" on location in 2040 to strengthen and extend.
  - Tab. The previous urban orientation of Shanghai

Time	File Source	urban orientation
1949	" Urban Planning of Shanghai in 1949 "	Stevedoring city, being one of the country's largest industrial and commercial center, the financial center of China and the international.
1959	"preliminary observations of Urban Master Plan for Shanghai in 1959"	Building one of the world's most advanced beautiful city in the production, culture, science, art and other aspects .
1986	"Urban Master Plan  for Shanghai in 1986 "	Shanghai is China's most important industrial base, China's largest port and important economic, technological, trade, information and cultural center, and should be built into one of the Pacific West Coast's largest economic and trade center."
1991	" Ten-Year Plan for national economic and social development and the Eighth Five-Year Plan in Shanghai"	a socialist, modern and international city
1996	" Ninth Five "plan for economic and social development and compendium of distant view target for the year of 2010 in Shanghai	one of International economic, financial, trade centers and the center city for international economy
2001	" Urban Master Plan for Shanghai in 1999 "	a socialist, modern and international metropolis, One of the international economic, financial, trade and shipping centers;

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## 4.1 The method of urban orientation of Shanghai in 2050 Tab. Each index global city rankings

#### 4.1.2 Problem-oriented

- Based on comparison of global cities rankings
- From the point of comprehensive rankings,
   London, New York, Paris, Tokyo are still the top four, Shanghai 12 (GPCI) and 18 (GCI);
- From the economic perspective, Shanghai is higher ranking in economy (GAWC,6)
- Shanghai's financial index, innovation index, livability, ecology and environment are in the lower position.

			5.000.01.01.	
	GPCI(2012) Composite Index	GAWC(2012) Enterprise networking degree	GFCI (2014) Global Financial Centres Index	2thinknow(2014) Global Innovation Cities Index
London New York	1 2	1 2	2 1	3 2
Tokyo <b>HongKong</b>	4 11	7 3	6 3	15 20
Singapore	5	5	4	27
Shang hai	12	6	20	35
Beijing	14	8	32	50

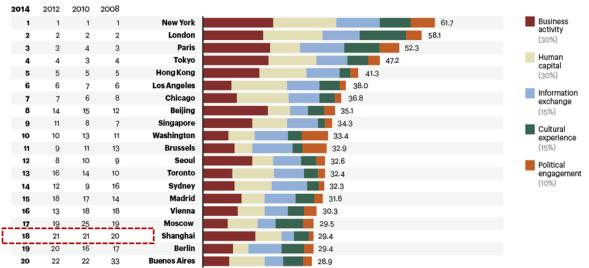


Fig. global city rankings Source: The Global Cities Index. 2014



## 4.1 The method of urban orientation of Shanghai in 2050

Rank	Total Sco	ore	Economy	У	R&D		Cultural Inter	raction	Livabilit	y	Environme	ent	Accessibi	ility
1	London	1485.8	Tokyo	345.9	New York	223.2	London	347.2	Paris	307.1	Geneva	205.8	London	248.
2	New York	1362.8	New York	312.8	Tokyo	155.7	New York	260.9	Vancouver	290.7	Stockholm	198.9		234
3	Paris	1292.4	Beijing	309.5	London	149.4	Paris	243.3	Berlin	288.5	Zurich	196.9	Amster P	، ر
4	Tokyo	1276.1	London	307.7	Los Angeles	134.8	Singapore	188.1	Vienna	285.7	Frankfurt	194.5	Frankfurt	21
5	Singapore	1138.6	Hong Kong	267.7	Boston	118.4	Berlin	160.6	Barcelona	280.8	Singapore	190.5	Seoul	21
6	Seoul	1117.8	Singapore	265.9	Seoul	111.6	Tokyo	159.8	Geneva	276.0	Vienna	189.5	Hong Kong	20
7	Amsterdam	1055.5	Shanghai	252.7	Paris	111.5	Beijing	158.7	Zurich	275.4	London	189.0	New York	20
8	Berlin	1054.9	Zurich	246.7	Singapore	107.1	Vienna	154.6	Amsterdam	274.2	Copenhagen	183.3	Singapore	19
9	Hong Kong	1012.8	Sydney	239.5	Chicago	93.4	Istanbul	152.4	Milan	273.1	Tokyo	180.9		18
0	Vienna	1004.3	Toronto	239.2	San Francisco	84.9	Sydney	150.2	Stockholm	273.1	Berlin	179.9	Tokyo	1
1	Frankfurt	988.1	Seoul	237.4	Osaka	79.8	Los Angeles	145.7	Madrid	272.4	Seoul	175.3	Shanghai	1
2	Zurich	973.8	Paris	233.4	Hong Kong	78.1	Seoul	142.2	Osaka	267.9	Madrid	171.6	Bangkok	1
3	Sydney	968.7	Washington, D.C.	229.1	Washington, D.C.	68.3	Brussels	137.4	Copenhagen	267.8	Amsterdam	167.2	Milan	1
4	Beijing	960.3	Vancouver	226.4	Sydney	64.7	Barcelona	133.9	Toronto	267.5	Sydney	164.8	Madrid	1
5	Shanghai		Stockholm	222.3	Shanghai	63.1	Amsterdam	130.4	Fukuoka	263.7	Sao Paulo	164.4	Brussels	1
6	Stockholm	954.3	Geneva	221.5	Berlin	62.5	Bangkok	124.4	Frankfurt	260.0	Paris	162.5	Barcelona	1
17	Toronto	938.5	Copenhagen	215.4	Toronto	56.4	Madrid	121.6	Tokyo	257.9	Washington, D.C.	161.0	Berlin	1
18	Copenhagen	921.7	Amsterdam	214.9	Taipei	54.5	Moscow	1175	Taipei	255.8	Milan	157.5	Moscow	1
19	Madrid	914.8	Berlin	210.3	Moscow	53.5	Shanghai	117.3	Shanghai	250.1	Hong Kong	157.1	Taipei	1
20	Los Angeles	912.0	Frankfurt	206.8	Stockholm	52.3	Mexico City	112.4	Brussels	247.9	Los Angeles	152.2	Vienna	1
21	Istanbul	901.2	Istanbul	198.1	Beijing	51.4	Chicago	109.4	London	244.0	Bangkok	151.7	Copenhagen	1

Fig. Various dimensions of the global city rankings (rankings:1-42) Source: The Global Cities Index. 2014



**GCI** 

## 4. Shanghai in 2050: urban orientation and prospect

#### 4.1 The method of urban orientation of Shanghai in 2050

#### 4.1.2 Problem-oriented

Functional characteristics of global city



Future development priorities

Further upgrade the industry level

Enhance the mobility, connectivity

Obvious shortcomings, need to strengthen in the future

Enhance the environment and livability

Marketization and regional co-governance

- The highlighting shortcomings of Shanghai: innovation and green development;
- Future development priorities:

Global model of social

governance

• the economic level of Shanghai cored by" Four centers" nee to be further strengthened .

 $\star$ 

• And the functions that match the global city ,like livability, environment, social governance need to be improved significantly.



### 4.1 The method of urban orientation of Shanghai in 2050

#### 4.1.3 Values orientation: the principles of urban orientation of Shanghai in 2050

- Global Vision, national strategy:
- ✓ Conform to the trend of global cities' development;
- ✓ In line with the national strategy missions of Shanghai.
- Based on Shanghai, respect the status quo:
- ✓ Refer to the history development path, realistic conditions, foundations and advantages of Shanghai;
- Regional Co-opetition, serve all nation.:
- ✓ The Yangtze River Delta Co-opetition as a platform for the development of the Yangtze River Delta Shanghai's future development;
- ✓ Strengthen the developing links with urbanization of the small cities in midwest .
- ✓ people-oriented, ecologically sustainable:
- ✓ Facilitation of working and living, the ecological beautiful environment, high-end life support,
- ✓ Create the convenience of working, living, traveling



### 4.2 Prospect of Shanghai in 2050

Overall orientation: a more competitive and sustainable world-class global city

- Economic level: a world-class global city featured with global economic center and global technology innovation center;
- Regional level: the core city of co-opetition development of central city、suburban、hinterland in Yangtze River Delta mega-region.
- Spatial level: The compact city of compact development and mixed layout;
- Spatial layout of the polycentric city; rational population layout; efficient transportation; high-density land use
- Environmental level: eco-city of a good ecological, low-carbon and wisdom environment;
- Metropolis , Close to Nature
- Social level: sustainable city of multiple balanced, fair, flowing vital and multi-culture
- Multiple balanced: Let the aged be supported;
- Inclusive City: social fairness and justice, social mobility and integration;
- Resilient City: a global model of a good social governance;
- Urban culture: the international cultural metropolis with the world's most influential
   "Shanghai" culture and urban quality

a more
 competitive and
 sustainable
 world-class
 global city



## 5. Planning for challenges: policy choices for Shanghai in 2050

## Some References from Policies of Shanghai's Development Since 1990

#### 1 Economy

- optimize the industrial structure
- ✓ the 321 industry
- Reasonable industrial layout
- ✓ Clear the city function orientation, play a role of key industries
- development of the real economy
- promote the construction of industry agglomeration area
- Innovation policy started relatively late

#### 2 Region

- cooperation system
- industrial division
- traffic integration
- benign interaction between local governments, enterprises and social organization
- lack of cooperation with the international metropolis

#### 3 Space

- optimize the spatial structure of urban and rural
- ✓ Urban "1966" system
- optimize the population spatial layout;
- Plan for Strategic opportunity zones
- √ Shanghai Free Trade Zone
- Priority to the development of public traffic and external traffic
- Category of industrial land, and promote the transaction and upgrade

#### 4 Environment

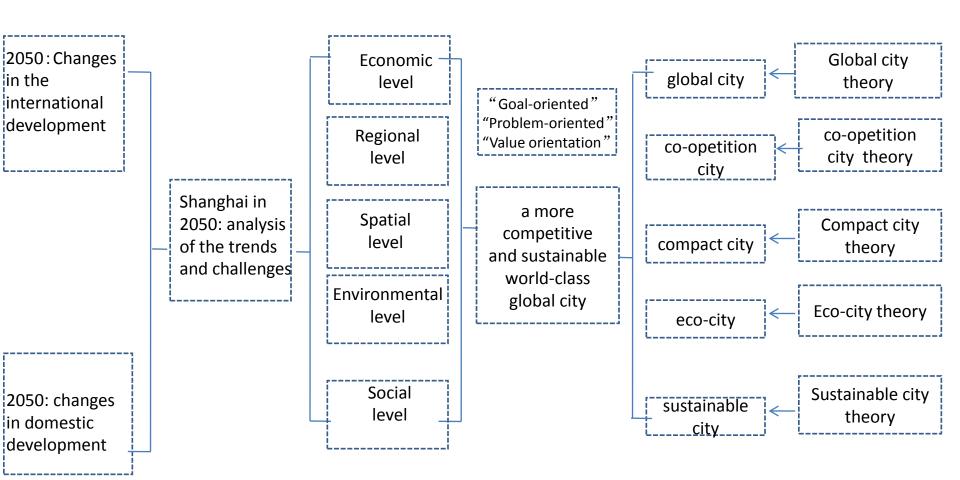
- Control the bottom line of ecological space
- strengthen the construction of public green space;
- Lack of the construction of green city construction

### Society

- Attach importance to the introduction of high-end talents;
- enhance the social provision for the aged
- Deal with the social polarization not effectively
- Pay less attention to the Shanghai "culture"



## 5. Planning for challenges: policy choices for Shanghai in 2050





### 5. Planning for challenges: policy choices for Shanghai in 2050

### 5.1 Economic level - global city

#### 5.1.1 Optimize and upgrade the industrial structure

- Construct industrial system matches the worldclass global city:
- Service economy -- oriented;
- One of the world's resource allocation Center, Part of the leading industries with control of global industrial chain, value chain, Strong ability of innovation.
- **Industry System:** Platform-based, led by large enterprises, small and medium enterprises to participate.
- **Industry Format:** High-end, service-oriented, knowledge-based, green.
- Support of technological innovation increase for the industry;
- upgrading industry promotes urban development: livability, investable and tourism property (Philip Kotler);

Tab. 2014 and 2050 Shanghai industrial system

#### Status quo (2014)

A new industry system with modern A new industry system with modern service service oriented, strategic emerging industries leading, Advanced manufacturing supporting

现代服务业:金融、航运物流、现代商 贸、信息服务、文化创意、旅游会展等 重点的现服务业:

战略性新兴产业:新一代信息技术、高 端装备制造、生物、新能源、新材料等; 环保等的研发制造业; 先进制造业:汽车、船舶、电子信息制 造业、钢铁石化、都市型工业等:

#### Future (2050)

oriented, Advanced manufacturing supporting, social services for the secondary

现代服务业:金融、航运航空服务、科 技服务、文化创意、旅游会展;

先进制造产业:新一代信息技术、大数 据、新能源、生物医药、新材料、节能

社会服务业: 医疗健康、教育培训、文 化体育、家庭服务业等

#### Case - London, New York experience in industrial restructuring

#### Habitability, investable and tourism

- ✓ Improve the investment through the development of financial, consulting, accounting, design and other producer services.
- ✓ Improve livability through the development of quality education, health care and other life of service;
- ✓ Improve the tourism propertythrough the development of entertainment, sports, fashion---shopping and other high-end services



# 5.1 Economic level- global city5.1.2 Optimize the industrial layout

Tab. 2050 Shanghai industrial layout and development direction

Area	Development direction
Central City	Finance, science and technology, commerce, information, management
suburb	Headquarters economy, modern logistics, research and development, e-commerce and other modern services and big data, energy saving and environmental protection, new energy and other advanced manufacturing industry.
O u t e r	Ecological agriculture,,highlight the

research, education and other functions

# 5.1.3 Improve the pivotal status of Shanghai in global city network

- Enhance the attraction for multinational corporations' regional headquarters;
- Gather global producer service industry, taking advantage of local service industry agglomerations;
- Promote the global layout of local large enterprises , obtain the control power in network of the globalies:
- Attach importance to the establishment of oversea R&D centers,
- Actively establish the brand promotion centers, enhance the brand influence in global markets
- Support the overseas expansion of enterprises, to gain a bigger international market share
- Attract the global capital by talents
- Highlight the advantage of talents, attracting the capital infusion by talents



# 5.1 Economic level-global city

#### 5.1.4 Accelerate the technological innovation

- Build the strategy special zones of technological innovation;
- Zhangjiang National Innovation
   Demonstration Zone, Shanghai Free Trade
   Zone, "Zizhu Caohejing" and the region along

- Guide the direction of innovation in key industries;
- platform economics; intelligent manufacturing; green economy; health economics

- Improve the agglomeration of innovative resources;
- Reform of higher education, foster world-class universities and research institutes
- The introduction of innovative talents, high-end service personnel;
- Optimize the environment for innovation, innovation culture;

- Highlight the dominant position of the enterprise innovation.
- state-owned enterprise: the reform of mixed ownership economy
- foreign-funded enterprise: the interaction with local enterprises;
- private enterprise : the main force of technology innovation.



## 5.2 Regional level——co-opetition city

# 5.2.1 International dimension: strengthen coopetition between Shanghai and metropolis in neighboring countries

- Build the trade and economic strategic partnership with the cities along"One Belt and One Road":
- build free trade zones and other regional economic organizations with neighboring countries and regions;
- With the "culture" and kinship ties of global ethnic Chinese, establish the information network cored by Shanghai;
- Attract worldwide organizations, organize international public events;
- Shanghai Olympic Games.

# **5.2.2** Regional dimension: From regional competition to regional co-opetition

- Strengthen co-opetition with other metropolitans in domestic
- Integrate the development relationship;
- ✓ Beijing, Shanghai, Hong Kong need to integrate together to create the world's economic center.
- Strengthen the infrastructure of cooperation
- Transportation
- Actively promote the industry division and cooperation;
- Strengthen cooperation between enterprises
- ✓ Producing technology, method of marketing and management, co-industrial zones.



# 5.2 Regional level——co-opetition city

# **5.2.2** Regional dimension: From regional competition to regional co-opetition

- Strengthen co-opetition between Shanghai and the other cities in Yangtze River Delta
- The orientation of the Yangtze River Delta in 2050
- High-end services agglomerations with global influence
- World-class scientific and technological innovation center with national strategic significance
- High-tech industry agglomerations with a world competitiveness
- Global international gateway and Asia-Pacific integrated transportation hub
- Build a common market
- Consumer goods markets, capital markets, technology markets, labor market, job market and property market.

- Regional infrastructure network
- Regional transportation network:
- Energy transmission network
- Information and credit network
- Ecological network;
- The establishment and perfection of multiple levels regional governance mechanisms
- enhance the ability of regional governance:
- improve the mechanism of coordinated development of Yangtze River Delta metropolitan area;
- cultivate various types of non official crossadministrative region organizations;
- integrate related planning from the YRD regional level



# 5.3 Spatial level- compact city

5.3.1 With Shanghai city group model matches global city scale system

- The" compact +polycentric " city agglomeration mode :
- Four levels of urban system: Megacities (Central City)——
   Metropolis(major new towns)——Medium-sized cities (the other new towns)—Small cities (towns in general)
- Megacities: 10-15 million;
- Metropolis: 1-1.50 million;
- Medium-sized cities: 500,000
- Small cities: 50,000-10,000

#### • 5.3.2 Optimize the population distribution

- Central City: outflow of population;
- Suburbs: increase the supply of public services, attract highend talents, accelerate the concentration of population;
- Major towns and general towns: Improve public service delivery capabilities, attract local villagers and migrants gathering.

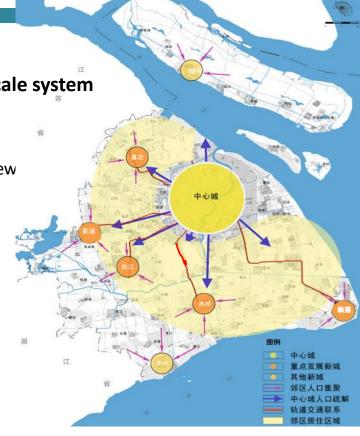


Fig. Shanghai city group mode in the future

#### ■ New Urbanism(Calthorpe):

- Regional traffic to be networked;
- Suburban City to be independent, to achieve multiple function;
- Central city to upgrade, to improve service functions.



### 5.3 Spatial level- compact city

# **5.3.3** Innovation of land development and utilization system

- High-density and mixed land use of urban development
- Accelerate the twice or even three times of industrial land development;
- The second industrial land transfer to the third industrial land;
- Tax or rent adjustment, promote portion of stock and vacant land of enterprises into the market.
- Control and increase the floor area ratio reasonably
- The life cycle of different industries, implement the flexible transfer of industrial land system

## 5.3.4 Multi-mode, high-quality transportation services

- Mainly in the public transport system vehicle systems and slow traffic systems combined.
- Strengthen the role of rail transport, enhance transit service level;
- Increase the deep use of underground space;
- Build the pleasant slow space;
- Advocate green commuting and improv the slow traffic environment
- Bike&Ride,B&R
- Central city: special bike paths, separating motor and non-motor



## 5.3 Spatial level- compact city

#### 5.3.5 Community: humanistic, ecology, multifunction

- Human scale: Compact, small-scale, humanistic, ecological communities.
- Ecological scale: build low-carbon communityies
- Energy-efficient communities' design, promote the applications of green technology and clean energy;
- America 2050-- "California":
- ✓ community development with a more compact, multiple industries types, and walkable formats;
- ✓ Cogeneration systems+Close to communities and commercial centers
- Functional scale: Transit-oriented, complex community with traffic transfer, business office, public facilities, eco-living..
- Community new economy: small and micro business enterprises, Internet companies and other "micro-economy"



# 5.4 Environmental level - Sustainable City

#### 5.4.1 the control of total ecological land

Premise: total ecological land in 2050 (approximately 3500 km²)

# 5.4.2 Construct ecological network covering Shanghai region , and connecting the Yangtze River Delta.

- Ecological green rings, ecological interval spacing, ecological corridors, conservation areas, etc.
- Chongming: world-class eco-island





Fig. Shanghai ecological spatial structure of the future



## 5.4 Environmental level - Sustainable City

#### 5.4.3 Improve the accessibility of Shanghai ecological space

- The leisure ecological network:
- Farmland Forest Country Park urban green space Community Park);
- Residents can walk up to one park or green space within 10 minutes;
- Create urban greenways, in link with the main leisure activities

#### 5.4.4 Combine protection with utilization

ancient towns, landscape scenery, tourism, eco-leisure.....

#### 5.4.5 Green building concepts and urban renewal

- Inner ring: the elevated inner ring road—public high line park
- Creatively expand the green area: roof greening, vertical greening, building greening;
- Outer areas: high-density green building
- Coastal area in Yangtze Delta: combine green and flood wall





# 5.5 The social level - Sustainable City

#### 5.5.1 Innovation of pension mode

- Plug-in pension towns:
- Aging Community:
- Mixed retirement community:

# **5.5.2** Strengthen social integration, eliminate polarization

- Enhance social integration
- Residence: community population of diversification and the integration with different careers;
- Employment: In the center of Shanghai, the establishment of property services, retail, logistics and other secondary office hub;
- Education: Fair and reasonable allocation of educational resources;
- Public space: Parks, green spaces, playgrounds;
- Consumption: Civilian consumer spaces:
- ✓ sidewalk snack booth、wholesale markets、 flea
  markets…

#### Case - US HOPE VI Policy

美国一些公共住宅由于建造质量差,缺乏维护,过于集中,沦为贫民窟,毒品泛滥,社会问题集中,居民生存环境恶劣。在这一背景下,国会通过了Hope VI项目:

- HOPE VI: Redevelopment of public housing
- ✓ HUD (U.S. Department of Housing and Urban Development)
  fund PHA ( Public Housing Authorities ) every year.
- ✓ Convert high-density communities into lowdensity townhouses or garden apartments and mix the construction o f public and ordinary housing.
- ✓ Subsidize moving-out families and help them find suiTab housings
- Solve society poverty in diversified means:
- •Family welfare policy system based on the families;
- Vocational training and re-employment projects;
- •By mixing living to address poverty neighborhoods and communities;
- •Family children welfare system.



## 5.5 The social level - Sustainable City

#### **5.5.3 Support and service migrants**

- "By house, control the population" "By house, promote the population":
- Providing high quality housing services, Helping migrants iintegrate into the city and become the emerging middle class.
- "By industry, control the population " "By population ,promote the industry":
- Strengthen training education and human capital investment.
- Provide more inclusive and equal access to welfare provision:
- Children's education, health, employment, social security, etc.

#### 5.5.4 Promote refined management of Shanghai

- Refined Management governance mode of the city
- Joint participation for government, business, community organizations, volunteers and residents
- Promote humanized management level
- governance for group-oriented leasing, renovation for Violation of regulation, mobile vendors, Service facilities.....
- Public share of governmental data information
- Combine big data and promote the modernization and delicacy of urban management
- Smart power grids, smart environment protection, smart home care and smart community......
- Construction of information communication mechanism :
- the benign interaction among government, media and society.



## 5.5 The social level - Sustainable City

#### 5.5.5 Cultural Level

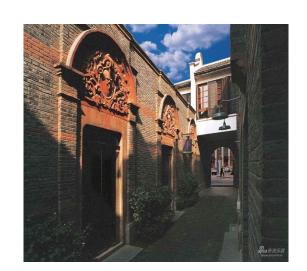
Build the international cultural metropolis with the world's most influential "Shanghai" culture and urban quality .

#### ■ Develop the metropolitan culture to match the top global city

- Promote creative industry to be creative culture and fashion culture.
- Popularize Shanghai-style culture; attract and gather masters of arts and culture of various fields.
- Construct world-class cultural industrial agglomerations, such as People's Square, Xujiahui.
- Encourage the development of public art, such as urban sculpture, street art.

#### ■ Strengthen the protection and utilization of Shanghai's history and culture:

- Historical and cultural heritage:
- ✓ industrial heritage, the terrace housing, water village, and so on
- Integrate the reconstruction and utilization of old area.
- Reconstruction of old area: innovation and entrepreneurship;
- Old pubic houses: transitional places for young and low-income people;
- Shikumen: urban cultural landmarks;
- Popularize the traditional culture of Shanghai:
- Shanghai opera, Kunqu opera, Shanghai dialect······





# Thank you! LIUSUK Aoni