

Several Approaches for Establishing Shanghai as International Metropolitan

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ABSTRACT

To translate the goal of redeveloping Shanghai as one of the international hubs of economy , finance and trade in 2010, the foundation is to be created, and international standing as global city is to be established preliminarily. Transformation of urban functions and approach of " High starting position and jump over" will give impetus to promote Shanghai as an international metropolitan within fairy short period of time. To transform urban functions and translate" High starting position and jump over" ,certain links which have great impact on Shanghai 's rising-up must be handled and normal approach to develop the city must be renovated to reach the goal of establishing an international city. Four strategic approaches as following are explored in this paper:

- To transform urban function from industry only to integrated developments.
- To break through administrative boundary and expand urban development space.
- To develop centralized urban infrastructure framework .
- And to erect modern life and culture facilities towards 21st century.

Several Approaches for Establishing Shanghai as International Metropolitan

International metropolitan must have world -level economical capacity, utilities and facilities. However comparing with other international cities, there is some gap for Shanghai at present, but conditions are available to keep up. Two important approaches which are transformation urban functions and development in "High starting position and jump over" can facilitate Shanghai to be able in the rank of international modern city in fairly short period of time.

To transform urban functions and adopt approach of "High starting position and jump over" crucial links which have great impact on Shanghai's rising-up must be handled, normal approaches to develop the city must be broken through to reach the goal of establishing an international city. Hereafter several actions concerned are discussed:

1. To transfer from industry only to integrated functions

Logical economical structure and strong economical capacity are important base for establishing Shanghai as international metropolitan. Comparing with other international cities, Shanghai's economical capacity is approximately half of Singapore, one third of HongKong, one sixth of NewYork, and one twentieth of Tokyo . And comparing with some cities the gap in terms of GDP per head is even greater. International metropolitans have realized modernization at high level for industrial framework,

the tertiary industry has accounted for around 70%, but Shanghai is about 40%, Shanghai lags behind. Let's trace back history after founding of PRC in 1949. Under guideline of "Focusing on production, not on life" and "Transition from consumption city to productive city, industry was boosted rapidly, the city became an important industrial base in China. Basically, Shanghai was an industrial city with single economical function . Plus domestic development orientation which not only decrease Shanghai international standing, but also make it difficult to absorb capital and technology from international market. So the international standing of the city decreased continually and widened gap between Shanghai and international cities.

The target for establishing Shanghai as an international metropolitan is to provide foundation for developing Shanghai as one of international economy, finance and trade centers in 2010, and international standing as global city is to be created. To build international city as economical center the city must have corresponding function. It is a crucial strategy to transform city 's function from simple production to comprehensive functions to reach world level of metropolitans in terms of economical structure and scale. The starting point for reforming city function is grand circulation and service. Its integrated functions mainly are collecting and distributing , production , management, service and creation. They are pushed forward each other and developed in coordination. They are characterized by:

- a. Initiated by collecting and distributing resources to create international finance and trade center.
- b. Based on production and management to strengthen integrated economical capacity.
- c . Based on servicing function to ensure in-out communications and efficient running.

d . Motivated by creating new function to inject energy for a dynamic city.

Reforming city's function is guided by strategy which ranks the priority sequence as "first is service industry, second is agricultural industry, third is productive industry." As a result , service industry will be boosted, and pillar trades in productive industry will be increased, old pillar trades will be renovated, and urbanized agriculture will be studied and developed . In certain period of time service industry and productive industry will be developed together.

The priority is given to finance and insurance, commodity circulation, transportation and communications, real-estate, tour industry, information and to push forward service industry growth towards central radiation, aiming at strengthening integrated functions for central economical city. It is also planned by 2010 Shanghai will build 20 ~30 futures goods and whole -sale exchange markets either at world or at national levels. And 30~50 headquarters of international companies (group) and multi-national corporations, 200~300 branches of international multi- national corporations, 100~150 headquarters of national complexes , 200~300 sales departments of national complexes, which will be set up in Shanghai . While city's large size complexes with production , commerce and trade will establish their branches all over big cities in China , plus over 1000 companies and representative offices to be founded abroad. Many professional fairs and exhibition will be organized in shanghai.

The existing "pillar" industries will be facilitated, new " pillar" will be constructed, traditional industries will be reformed so as to be more capable of joining international competition and division. It is also planned that by 2000, automobile, communication, equipment of power-station , and large- size

electrical machinery, domestic electronic appliance, oil refinery, refinery chemical and iron and steel industries will have an output of 50 billion Yuan (RMB) respectively. They will share more than 50% in total industrial output.

Aiming at international marine transportation center and information center radiation capacity of communications will be increased and social express information net work in large volume will be established to cover whole city and connect networks both at home and abroad. The key social networks will be formed for economy, social insurance, science and technic, education, statistic, administration decision-making, finance and taxation, trade and etc.

By fully using considerable urban grace and charm, modern times human resources, not only international business tourism can be promoted, but also domestic shopping tour and popular vocational tour can be facilitated. To have an integrated tourism with popularized science, history and humane knowlages Shanghai will be developed as international tourism city with rich tourism commodity and first class service.

2. Break through administrative boundary limitation and expand urban development space.

To reform international metropolitan function and fulfill role of central economical city which to some extent is dependent on provision of amply space for economical and social development. In some international metropolitans, because of high density development and high frequency activities transportation, residential, environment and other functions can not be realized normally, coursing decline at urban center. By learning international experience in aspects of rapid urban expansion,

outskirts development, downtown decline and revitalizing city centre. Shanghai can expand its urban development space and optimize urban framework to have a health development for the city.

2.1 Break through urban boundary to form grand metropolitan circle

At present the trend for world city development is to establish grand metropolitan circle densely scattered with city group. Located at delta region of Changjiang River the 13 cities which are Su-zhou, Wuxi, Changzhou, Yangzhou, Nantong, Zhengjiang, Nanjing, Hangzhou, Jiaxing, Huzhou, Shaoxing, Zhousan together with Shanghai form largest city group in China. It is among one of six city- groups populated with more than 25 million people in the world. Though delta region of Changjiang River covers only 1% of total land area and accounts for 6.2% of total population in China, its output accounts for 14.4% in GDP, 15.3% in financial revenue and 16.1% in industrial taxation of whole nation. To give the play to the integrated efficiency of delta region of Changjiang River it will boost Shanghai's rising-up.

History has shown that the closer linkage between Shanghai and its neighbouring cities, the more development can be achieved. So it is necessary to break through administrative boundary limitation to construct grand city circle and strengthen cooperation with the cities in delta region of Changjiang River, including speeding up construction of express highways of Shanghai--Nanjing and Shanghai--Hangzhou, express railway; plan and construction grouped ports which are in Shanghai, Ningpo, Zhousan, Zhapu, Nanjing, Zhengjiang, Zhangjiagang, Jiangying Nantong, etc. And information and communication

network for the region which are established and connected with international network. To translate service function of Shanghai as central city and integrated effect of group cities in delta region the industrial framework, especially first industry must be reformed so as to formulate professional industries division dependent on each other. While economical cooperation ought to be facilitated to develop Changjiang Region and provide sound basis for framing economical development region in Changjiang River.

2.2. Renovate and develop central city on zoning basis

The central city of Shanghai is terribly congested with 25000 persons / kilo m², some even as high as 100000 people / kilo m²; while buildings are congested with each other, industry is mixed with residential. Within central city of 147 kilo m², 55% factories of the total are located. It is projected that by 2010 urbanization ratio will reach 85%, totaling 19 million population (including mobile people) who will be decentralized into periphery of the city. Shanghai urban area comprises of 14 administrative districts including 10 old districts, Pudong new district and 3 outskirts districts which form main urban area and secondary urban area.

The 14 districts covers 2075 kilo m² land in which 800 kilo m² is urbanized area. This land pattern will provide sound condition to decrease population density to 10000 people / kilo m² and top roof 20000 people/ kilo m².

To reframe urban function by learning international experience in urban development of super cities, central areas must be renovated and developed on zoning basis. 4 zones are divided for establishing integrated functioning areas with reasonable division to boost centralization and radiation of urban area.

East Zone

Bringing development of CBD and Pudong New District into full play, while importance is attached to Lujiazui Finance and Trade Zone, Jingqiao Export Processing Zone, Zhangjiang High-Tech Park, Waigaoqiao Free Trade Zone, CBD in the Bund, commercial street Nanjing Road, Yu Garden tourism area, so as to form integrated functional zone with finance, trade, high-grade third industry, high-tech export orientation industry.

South Zone

Bringing prosperous commerce and trade, developed social services, strong scientific and technical resources, high quality residential into full play while importance is to be attached to develop commercial street in Huaihai Road. Xujiahui commercial centre, Chaohejing Hi-Tech Park and renovate Minghang and Wujing industrial areas, so as to build this zone as modern urban area with developed commerce, trade and industry, booming culture and comfortable living quarters.

West Zone

Fully use advantages of three major transportation "corridors" river, land and air, and location of "Western Gate", focusing on construction of commercial centre in Nanjingxi Road, Hongqiao foreign trade centre, material centre in Zhongshanbei Road. An-Ting Automobile Town, Jiading Science and Technology Town, Nanxiang Tourism area, so as to form leading centres of commerce and trade, material, foreign trade and collecting, distributing centre for materials.

North Zone

Bringing impetus to sound industrial basis, condensed scientific, education institutions, importance is attached to construct everbright town adjacent to Shanghai railway station, and develop Sichuan Road commercial area, Dabaishu industrial and trade

enclose tide land of 6700 hectares. Luchaogang Area in East Sea mouth is to be redevelopped comprehensively. The history of Shanghai urbanization is initialized from both sides of Shouzhou Canel to Huang-Pu River, and it certainly will spraw to Changjiang River mouth area and end of East Sea area. So after Pudong development, coastal area along northern bank of Hangzhou Bay and coastal areas of Chongming Island are major orietation for Shanghai development in 21st century.

3. To construct centralized urban infrastruture

Modernized urban infrastructure is planned and developped on "high-level starting",and by using advanced international technics to realize "jump-over" progress. By adoptting "jump-over" approach Shanghai tele-communication has achieved substantial development in terms of quantity, programmed exchange, light fibre communication, their technics and equipments have reached world level at 80's. But if to modernize urban infrastructure totally accounts for 10% of GDP, then the investment needed is over 1000 billion Yuan(RMB) in 20 years according to projection of investment concerned. Considering financial constraint, during process of urban development key fronts which are most needed in satifying reformation of urban function and re-establishment of industrial framework must be financially supported, such as deep-water port,international air-port,information airport, railway transportation with large capacity, three dimentional transportation system in order to concentrade financial resourece and speed up modernization process.

3.1 To construct international central port mainly on container transportation

Starting from 30's of this century Shanghai has been one of largest ten port-cities of world. Total handling capacity of Shanghai port reached 176 million tons in 1993. At present major obstacle is water table of river channel is not deep enough, in Lanmensa water way of Changjiang river month water table keeps at -7m, even by sustainable dredging, for those ships with draught line -9.5m, high tide is the only time they can get into, while natural water table for Hangzhou Bay is -8m, also for those ships with draught line -11m, high tide is the only time they can get into. So aiming at Aiming to construct international shipping central developing an international marine container port, dredging deep water channel and channels across Changjiang River which are 3 major projects must be quickened. With 30 years time, intergrated coordinated, and grouped ports centralized in Shanghai must be formulated gradually together with land and air transportation, development of free trade zone, export processing zone, coastal open-up cities. Reformation and dredging deep water channel is to be carried out correspondingly with Wuhaoguo container port in Pudong. It is planned in 10 years time on phased base deep water channel is to deepen from -7 to -12.5, so the third and fourth generation container fleets can go through at any time, 100000 ton cargo ship can approach it at high tide. Water channel network across Changjiang River is to be planned and constructed so as to join Pudong-Chongming-Nantong together, also connect Pudong to north wing of Chagnjiang River even with European-Asian mainland.

3.2 To construct international airports mainly on Pudong International Airport

Rising-up of an international metropolitan is dependent on modernized international airport. At present Hongqiao airport is the only civil airport for Shanghai. It is too close to the urban, which has fierce effect on social and inhabitants life. According to the estimation for passangers in-out Shanghai airport, total volume by 2010 will reach 49 million. by 2020 it will reach 95 million. So The main airport construction for Pudong international airport, and secondary development for Hongqiao airport must speed up. By 2000 the target is to accomplish first phase construction of Pudong airport, while the pace for expansion of Hongqiao airport must be pushed forward.

The construction of Pudong international airport must change traditional model which is for passanger only. Suppose the land area for the port covers land of 30 km² including 17km² international airport, surrounding area 13 km². It mainly comprises an international airport, a high-tech park, a comprehensive development area, a maintenace centre and a circled green belt which is surrounded by roads on three sides, and water on one side. A metro network which connects Pudong International Airport-Shanghai centre-Hongqiao Airport is to be constructed. So a transferring central MTR station is to be established in Pudong International Airport.

3.3 To develop an international information centre with information resource network as principal part

Starting from 1989, Shanghai communication give access to "jump-over" stage. From 1989~1995, in 7 years more than 3 million exchange telephone sets were conneted, especially during Jan.-Sept. 1995, 1.016 million sets were provided, Nowdays, total exchangeable telephone units in Shanghai has surpassed

HongKong. Plus 8 dailing numbers which is introduced only in a few super cities in the world, all of which allow Shanghai to be capable of providing services such as intellegential assistance, wide belt and information and establish desirable environment for develloping Shanghai as an "information port". By the year of 2000, information port comprises "a network", (public trunk information network) "a communication satellite," 2 centres" (information communication centre and information service centre), while serveral information applied system is to be framed and to establish fundamental framework for information centre. Construct information network in delta region of Changjiang River as soon as possible and establish communication network which gradully extends to coastal cities along Changjiang River.

As a new booming area in economy and society for Shanghai, By 2000 Pudong's public communication is basically devellopped and total capacity for exchangable telephone units will be over 2 million, while on basis of social public information network, information high express will be target without hesitation.

3.4. To create multi demensions and levels integrated traffic network

The orientation for Shanghai is to establish full dimension, multi levels integrated traffic network. It can not only follow the demand of urban expansion, but also connect Shanghai's traffic to outside.

At present Shanghai traffic facility and service approximately are equiverlant to the world metropolice level in 60~70's. Apart from management capacity provided by facilities is far form increasing traffic demand. From now on, the best way to incease traffic capacity is to expand road space and add veichles. But due to land

limitation it is no easy to have large actions. The way out is to "jump over" on traffic framework.

In Shanghai public transportation accounts for 50% , and bicycle accounts for 44% in the total respectively. The ratio of bicycle is far out of reasonal scale in terms of covering plenty road, while density ratio of road and space ratio in shanghai only accounts for a third and a half respectively comparing with developed countries . As a long term target Shanghai strives to increase proportion of public transportation to 82~90%, in which express rail transportaiton in great capacity accounts for 70% (similar to Newyork and Paris) , the proportion for central city is to be 90%(similar to London and Tokyo). In 21st century Shanghai should enjoy perfect MTR network. 300 Km MTR network planned ought to be constructed at quicker pace . But the investment for MTR is so large and time taken is so long that the acute demand nowadays can not be satisfied. So whenever environment permits, rail transportation should be constructed on ground or overhead road to speed up process improving Shanghai traffic conditions.

Bicycle is a major transportation means extensively used. At present bicycles amount to over 7 million which can not be simply banned at once. To improve Shanghai traffic condition it is necessary to separate bicycle form veichle and have special road for bicycle. And establish bicycle parking lot at traffic centres to provide convenience for bicycle riders taking bus into busy central city. Since it is too difficult to widen road in Shanghai, to construct high road is a natural solution. In order to fully use space, high road can be built in different levels for car, bus, express rail respectively. Also high road can be planned with building on both sides to connect with each other and reduce pressure on ground level.

The guideline of sparse and dredge must be implemented in developping Shanghai major triffic network so as to improve urban frame work with development of traffic network. The key projects 3 longitudinal roads and 3 latitudinal roads . is to be constructed as trunk urban road . Still 3 ring roads and 10 radiation roads which form express road system will be constructed to have a reasonal time/distance for urbanization as following:

Central city ----in 0.5 hour

Surburb area ----in 1 hour

Metropolitan area ---- 1 hour ~1.5 hour

The cities in Grand Shanghai Metropolitan Circle , such as Suzhou, Wushi, Changzhou, Hangzhou, Jiaxing and Ningbo ,will enjoy convenient traffic connection after Shanghai--Nanjing, Shanghai--Jiaxing--Ningbo high express roads being constructed. The circle can be even extended by the establishment of express train form Shanghai to Beijing.

4. To build modern life and culture facilities towards 21st century.

Modern city should provid well-off life, work , study and recreation facilities for her inhabitants. And as an international metropolitan, it must also have international compatability to create better conditions for people from abroad to work , live and travel in Shanghai.

4.1 Concentrate on modern residential community at large scale.

The establishment process for international metropolitan is the process to re-distribut population and change its pattern. In rather long period of time, population of Shanghai will grow up

constantly. While its distribution pattern will be changed from inner to outer with function readjustment of central city and industry relocation to the outer. Due to its volume and capacity, residential quarter has great impact, so it is not only considered to release housing problem, but its impact towards future development of the city in order to facilitate city reformation and give its full play to function with residential quarter development. From now on, development of residential community must apply following principles.

a. Area is to be large enough to accommodate one hundred thousand even to a few hundred thousand people. The orientation is to erect a sub-city.

b. Site layout is to be logical. At outskirts of central city, adopting "several centres and open-up" pattern, residential quarter must be combined with employment, commerce and recreation. So direction and time spent by residents to work, shopping etc. would be reasonable to avoid "pendular" traffic pattern.

c. Following life requirements of inhabitants in international metropolitan modern residential quarter ought to be planned and developed aiming at providing easy transportation, elegant environment, comfortable living, full facilities and services, which can not only decentralize population from central city and attract more to be here for happy life and work, but to promote integrated development in surrounding area and to radiate further country area.

4.2 To build "break through" ring green belt

Though ecological environment of Shanghai has achieved substantial progress since "reform and open-up", comparing with

demand of " constant development ", there is a big gap. Especially average green area per person in urban which is not only far behind world level for international metropolitan but also is lower than average public green area rate ----4.2 m²/head for 517 cities in China.

The master plan of Shanghai in 80's designated green area distribution pattern which was scattered at outskirts. It further improved green area plan of Shanghai. In recent years the green area planned was occupied in large scale, so it is quite difficult to increase green area rate in central city and outskirts.

Establishing ring green belt breaks limitation of original plan and form the pattern which is an integrated multi-function system with point, line and circle in spacious region.

The ring green belt is constructed along outskirts. It can add more public green area about 4012 hectares. The total land is 5768 hectares which are 3.2 times and 50% as that of present level respectively.

It is an important ecological improvement which has great impact on desirable ecological environment. It is beneficiary to optimize population distribution, zone structure, site lay-out pattern. It can prevent city from blind spraw and over development, and form natural transition from city to country.

The ring green belt is an important project across century which not only provides adequate space to realize 3~4 m²/green area per head in Shanghai at the end of this century, but satisfy city development in 21st century which leaves space for planning and constructing tourism and sports facilities.

4.3 To plan and develop public facilities as symbol of "city civilization"

Inheriting excellent traditional culture and absorbing progressive culture of modern world which are quite necessary to create culture environment for an international metropolitan and to boost Shanghai development as an international metropolitan.

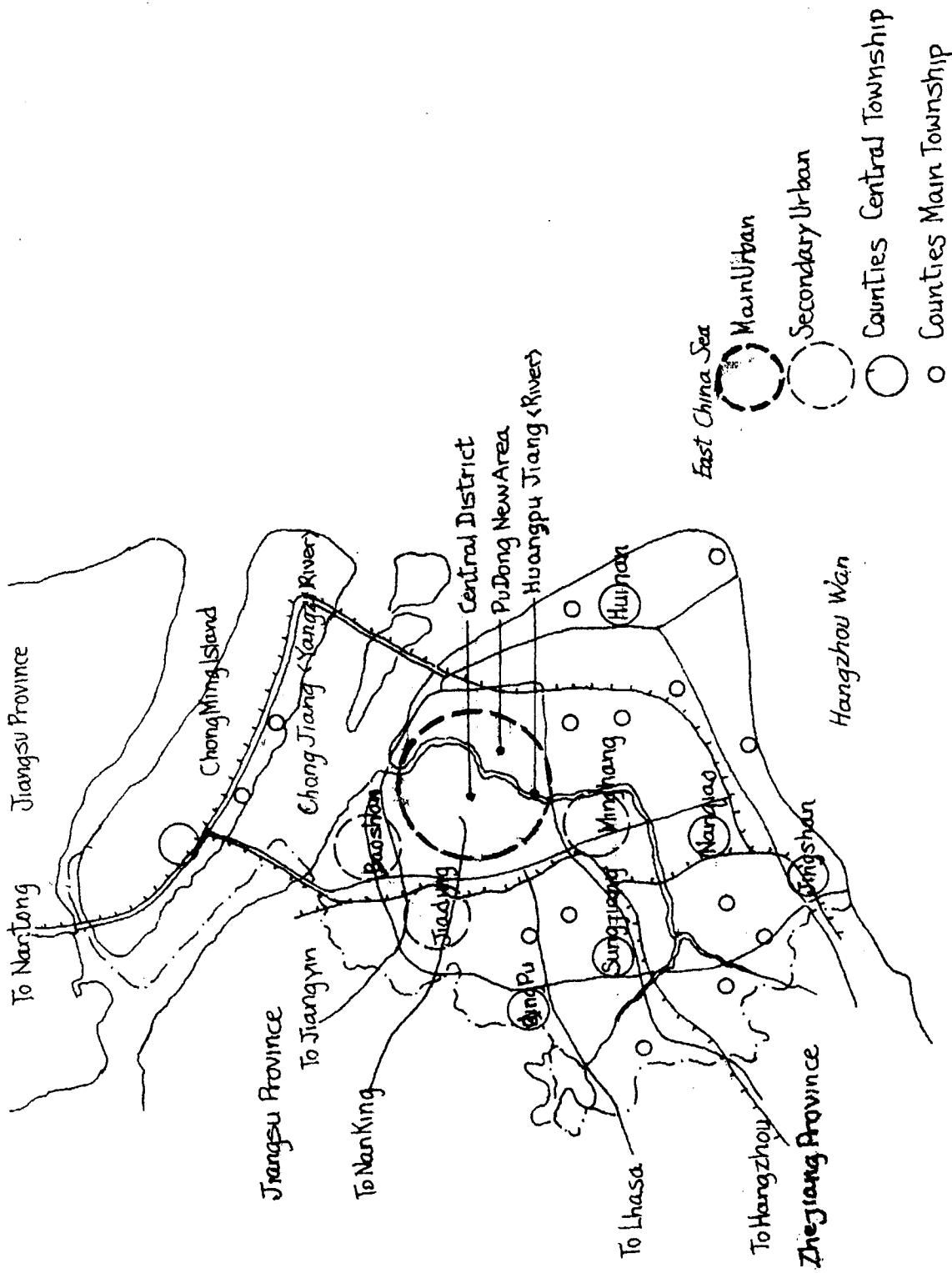
A great number modern, large sized, cultural facilities at top level such as theatre, cinema, recreation centre, social-science centre, international sports centre, museum are to be established. From 1996~2000 resources are concentrated on Shanghai new library, Shanghai theatre, oriental concert hall, Shanghai circle house, Shanghai book house, Shanghai scientific house, Shanghai youth cultural centre, Shanghai scientific education centre for adolescents, Shanghai new stadium (with 80000 seats) and Pudong central park occupying 140 hectares land with combination of natural environment, scenery, culture and recreation, and wild animal zoo covering 153 hectares land, which will all be built up as symbolic facilities for science, education, culture and medicine. Shanghai is one of the historical culture cities at national level designated by state council. It is rich in historical and cultural buildings, and modern times splendid buildings which are all precious resources full of potential value towards city's long term development. So preserve historical community, outstanding historical and modern buildings, and strive to have desirable coordination between modern city development and historical building preservation, which are also important parts for city "constant development".

Shanghai's development and construction must follow the guideline "High starting position and jump-over". And there will be a series problems in implementation from programming, planning, policy and regulation making, to fund collection, integrated development, unified management and etc. Finally

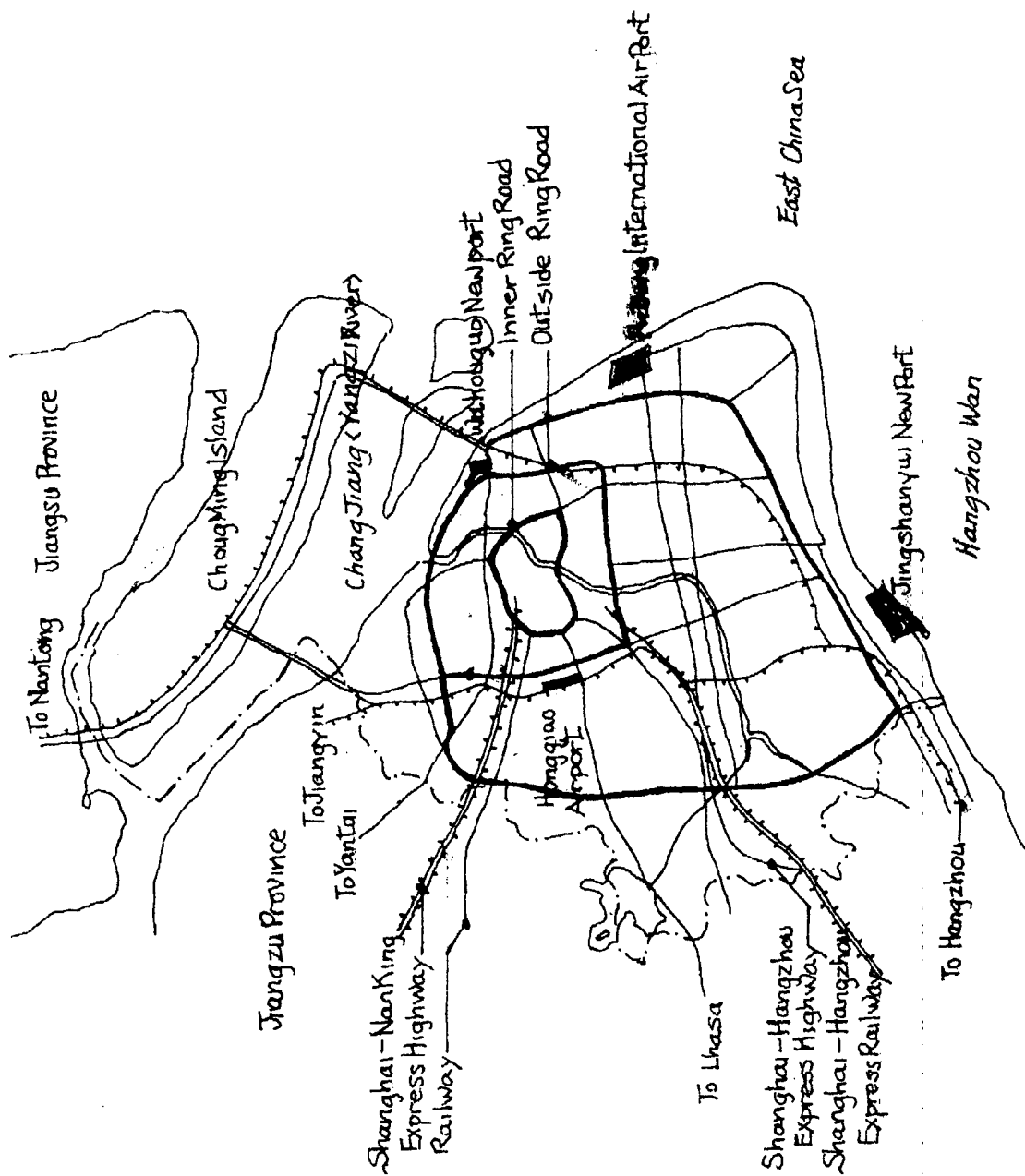
Shanghai nevertheless can surely be rising up as a new modern international metropolitan in 21st century, should we seize opportunity, accept challenges and create new advantage.

Main reference

<<Shanghai marching towards 21st century>>



SHANGHAI MUNICIPALITY URBAN-TOWNSHIP DISTRIBUTION SKETCH



SHANGHAI TRAFFIC NETWORK TO NEIGHBOURING REGION