LIAONING CITIES AND TOWNS SYSTEM
PLAN COMPOSITE REPORT

Selected parts

(2003-2020)

The People’s Government of Liaoning Province

April 2003
2 Social Economic and Civil Development Strategies

2.1 Social Economic Development Strategy

According to the master plan of central government, China will start the implementation of the third stage. The modernization will become true in the middle of 21\textsuperscript{st} century. Considering the development process of Liaoning, the reconstruction of the old industrial base will be completed basically in 2005 and the socialism market economy system will be established basically too in 2010. The way of economic growth will be changed totally and GDP will be doubled comparing with the growth in 2000. Up to 2020, Shenyang, Dalian and Anshan will achieve basic modernization in 2020.

Guiding Ideology

The Development is still the main point and the reform must be continued. The relationship between reform, development and stability should be coordinated well. Institutional and technical innovation is always emphasized. The living standard of people is tried to be improved. The healthy, sustainable and coordinative development of social economy should be ensured.

Overall Strategy

The development is the main subject and the economic restructuring is one important line. The reform and scientific development will provide good foundation for improving the living standard of people. The government will support the development of education and scientific research and try to achieve sustainable development in order to promote the overall social economic development and keep the stability of the society.

One Main Subject

Development is the main subject. The government will focus on promoting the healthy and sustainable development of economy and try to improve the socialism market economic structure further. The restructuring of economy will make good progress and the state-owned enterprises will enter the orbit of good development. The opening and reform will reach a new level. The living conditions will be improved greatly.
One Important Line

The economic restructuring is the important line. Through the restructuring, the overall quality and competitiveness of economy will be improved. The government will initially adjust the rural economic structure and support the industrialization of agriculture sector. The economic structures of industries will be optimized. Also the government will support the development of high-tech enterprises and utilize the new technology to upgrade the traditional sectors. The enterprises are encouraged to optimize their organizational structures. The government will improve the structure of ownership system and continue to support the development of service sector. The government will also improve the structure of employment and optimize the patterns of regional economy.

Three Strategies

(1) Promoting the Development of Education and Scientific Research Sector

Liaoning will fully carry out the ideas of “Science and technology are the primary productive force.” And “Education First”. The development of science and education is the most important issue in the growth of social economy. Liaoning will strengthen the input to scientific and educational sector. The technical innovation system will be built and enhanced. Liaoning tries to speed up the process of informationization and it will provide a good environment for improving the quality of human resource in the whole province.

(2) Internationalization

Liaoning will strengthen the opening strategy and join international cooperation actively. Liaoning will take the opportunity of the revitalization of old industrial base to utilize more international capital to optimize the economic structure and improve the quality of foreign trade. Liaoning will carry out the strategy of “Going Out” to expand the space of international cooperation. Liaoning will improve the international service system and try to provide uniform, regulated and efficient service. Meanwhile, Liaoning will strengthen the economic and technical cooperation with other provinces and provide support to the development of west part of China.

(3) Sustainable Development

Liaoning will take action to control the increase of population in order to reduce the pressure to the natural resources and environment. The use of resources will become more efficient and the tariff collection system will be improved. Liaoning will enhance the protection of biological environment. Several important pollution control projects will be implemented. The government will take action to reduce the pollution
in Liao River Basin and Bohai Sea. And the air pollution will be controlled in cities. Liaoning will strengthen the construction of infrastructures to support the sustainable development of economy. The government will speed up the process of urbanization in the whole province.

Main Objectives

Liaoning will optimize the economic structure and improve the quality of economic growth and increase the economic benefits. The government will work hard to reduce the difference between urban and rural areas. The living conditions of the residents will be improved.

(1) Objective of Economic Growth

In 2005, the GDP growth will be 9% and the GDP per capita will be 16300 RMB; up to 2010, the GDP will be doubled comparing with the level in 2000 and the GDP per capita will be 25100 RMB; up to 2020, the GDP per capita will be 38000 RMB.

(2) Objective of Economic Restructuring

In 2005, the ratios of added value in the first, second and third sectors will be 9:49:42; up to 2010, the ratios will be 6:44:50; up to 2020, the ratios will be 5:40:55.

(3) Objectives of Population and Employment

In 2005, the total population will be 43.40 million; up to 2010, the population will be totally controlled within 45.50 million; up to 2020, it will be 46.90 million. The registered unemployment percentage will be controlled less than 5% in cities and towns.

(3) Objective of Environment Protection

The quality of biological environment will be improved greatly. In 2005, the forest coverage percentage in the whole province will be 35%. The quality of surface water will satisfy the requirement of functional indicators. The air quality in cities will reach the secondary standard. Up to 2010, the forest coverage percentage in the whole province will be 40%; and it will be 42% in 2020.

(4) Objective of Social Development

Liaoning will achieve universal 9-year compulsory education for the students in the whole province. The government will construct more junior high schools in the rural area. Liaoning will take action to improve the employment situation and promote the
reform of social security system. The percentage of social security fund collection will reach 100%.

2.2 Population and Urbanization

Increase of Total Population

Liaoning has entered the period of low birth and low increase of the population. The increase of population is stable. According to age structure of the population in China, it is anticipated that the stable increase of population in Liaoning will continued in the 21st century. Up to 2020, the population increase will be zero and at that time the population will reach its peak level. The average increase of population is 40000 every year.

Urbanization

Generally, at the beginning stage, the urbanization level is always less than 30% and the process is slow; in middle stage, the percentage of urbanization is about 30%-70% and the process is faster; in the later stage, the percentage of urbanization is higher than 70% and the process will become slow again. And the reverse phenomena become more. The level of urbanization in Liaoning in 2000 was 53.8% that is in the fast developing stage. From 180 to 2000, the urban population increased from 11.38 million to 22.24 million with the average growth of 3.4% every year. The annual increase of urbanization is 1.1%.

The percentage of urbanization in Liaoning is over 50% and the process has been slowdown. From 1990 to 2000, the increase of urbanization in Liaoning was 8%. The annual increase was 0.8%. The urban population was increased 4.3 million with the annual growth of 2.2%.

Now even though the urban population has increased greatly, the quality of urbanization is not good (low economic growth and poor infrastructure quality). Improving the quality of urbanization is an important task. The reform of household registration system in small towns will be continued. It is helpful for promoting the increase of urban population in small cities and towns.

Generally the objectives of urbanization are as following:

- In 2005, the percentage of urbanization will reach 59% with the average growth of 1% every year; up to 2010, the percentage of urbanization will reach 63% with the average growth of 0.8% every year; up to 2020, the percentage of
urbanization will reach 70% with the average growth of 0.7% every year.

In 2005, the urban population will be 25.60 million with the annual increase of 670000; up to 2010, the urban population will be 28.60 million with the annual increase of 600000; up to 2020, the urban population will be 32.80 million with the annual increase of 420000. In the planning period, the increase of urban population will be about 10.60 million and the increasing percentage is 48%.

Increase and Transition of Urban and Rural Population

(1) Difference of Growth

According to the population sampling survey in 1995, the growth of rural population in China is 0.75% and the growth of urban population is 0.59%. The growth of rural population is higher.

(2) Increase of Urban and Rural Population

In 2000, the urban and rural populations in Liaoning were 22.24 million and 19.11 million. In the last tow decades, the growths at the peak level were 0.6% and 0.75% and the growths at the lowest level were 0.2% and 0.25%. If before 2010, the growths are 0.6% and 0.75% and from 2010 to 2020, the growths are 0.2% and 0.25%. Then without immigration, up to 2010, the urban and rural population will be 24.30 million and 21.20 million; up to 2020, the urban and rural population will be 29.40 million and 27.50 million.

(3) Transfers of Rural Population to Cities and Towns

Up to 2010, cities and towns will accept 4.3 million people from rural areas, of which about 0.8 million people will be accepted by cities and the rest 3.5 million people will move to small towns. Then the population size of 8 small towns will reach city level. Up to 2020, cities and towns will accept more 3.4 million people from rural areas, of which about 1.4 million people will be accepted by cities and the rest 2.00 million people will move to small towns. Then the population size of 16 small towns will reach city level.

2.3 Development Strategy of Cities and Towns

Development Strategy of Cities and Towns

Shenyang and Dalian will try to become international cities. Liaoning will establish Shenyang-Dalian-Anshan city zone, west Liaoning city group, and east Liaoning City
and towns group.

Liaoning will promote the development of small towns.

Liaoning will speed up the process of modernization, marketization and internationalization of the cities and towns.

Development Objectives

Considering the experiences of other provinces and countries, Liaoning has set 23 development indicators on 5 sectors as the development objectives. Those indicators are presented in table 2-1.

Table 2-1 Development Indicators of Liaoning Cities and Towns

<table>
<thead>
<tr>
<th>Indicators</th>
<th>2005</th>
<th>2010</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Social economy</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GDP per capita (US dollar)</td>
<td>1000</td>
<td>2000</td>
<td>4000</td>
</tr>
<tr>
<td>Percentage of the output value of third sector in GNP (%)</td>
<td>40</td>
<td>45</td>
<td>50</td>
</tr>
<tr>
<td>Rate of the contribution of scientific development to the economic growth (%)</td>
<td>20</td>
<td>30</td>
<td>50</td>
</tr>
<tr>
<td>Coverage of social security system (%)</td>
<td>70</td>
<td>70</td>
<td>80</td>
</tr>
<tr>
<td><strong>Human resource</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infant mortality rate (%)</td>
<td>&lt;1</td>
<td>&lt;1</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Quantity of the medical workers per 1000 people</td>
<td>7</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Percentage of adults with high school education (%)</td>
<td>30</td>
<td>40</td>
<td>50</td>
</tr>
<tr>
<td>Average human life (years)</td>
<td>75</td>
<td>75</td>
<td>76</td>
</tr>
<tr>
<td><strong>Living quality</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engel’s coefficient of urban residents (%)</td>
<td>&lt;37</td>
<td>&lt;34</td>
<td>&lt;30</td>
</tr>
<tr>
<td>Average housing area per capita (m²)</td>
<td>17</td>
<td>19</td>
<td>23</td>
</tr>
<tr>
<td>Water consumption per capita (l/day)</td>
<td>180</td>
<td>220</td>
<td>250</td>
</tr>
<tr>
<td>Standard rate of Drinking water quality (%)</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td><strong>Infrastructure</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quantity of public entertainment facilities per 100000 people</td>
<td>2</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Road area per capita (m²)</td>
<td>8</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>Coverage of gas provision to urban residents (%)</td>
<td>30</td>
<td>50</td>
<td>80</td>
</tr>
<tr>
<td>Water supply coverage (%)</td>
<td>90</td>
<td>95</td>
<td>100</td>
</tr>
<tr>
<td><strong>Environment</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public green area per capita (m²)</td>
<td>8</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>Indicators</td>
<td>2005</td>
<td>2010</td>
<td>2020</td>
</tr>
<tr>
<td>--------------------------------------------------------</td>
<td>------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>Greening coverage (%)</td>
<td>35</td>
<td>40</td>
<td>42</td>
</tr>
<tr>
<td>Rate of industrial wastewater treatment (%)</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Rate of sanitary disposal of solid waste (%)</td>
<td>60</td>
<td>80</td>
<td>90</td>
</tr>
<tr>
<td>Rate of municipal wastewater treatment (%)</td>
<td>60</td>
<td>70</td>
<td>80</td>
</tr>
<tr>
<td>Percentage of direct investment of environment infrastructure in GDP (%)</td>
<td>1.5</td>
<td>1.5</td>
<td>2.0</td>
</tr>
<tr>
<td>Percentage of high-quality energy in energy consumption (%)</td>
<td>40</td>
<td>50</td>
<td>75</td>
</tr>
</tbody>
</table>
3 Cities and Towns System Development Plan

3.1 The Guiding Theory, Principles and Period of Plan

3.1.1 The Guiding Theory

This plan is prepared on the basis of the theory of establishing socialism market economy. The development of the cities and towns in Liaoning also follows the “three steps” identified by central government. Liaoning will strengthen the comparative advantage, foster core cities and improve the town system in order to achieve the sustainable development of social economy.

3.1.2 Planning Principles

(1) Integrity

The development of towns will consider the integrity of towns and villages. The construction of industrial zones and residential areas will be planned together and the construction of infrastructure will be arranged in an overall view in order to ensure the coordinative development of towns and rural areas.

(2) Comprehensiveness

This plan is prepared coordinative with other related planning. It is a comprehensive plan incorporating with economic development plan, natural resource development plan, infrastructure construction plan, environment protection plan, and other urban development plans.

(3) Timing

This plan has considered sustainable development fully. Both the short-term and long-term development objectives have been included in the plan. The social, economic and environmental benefits will be taken care of and the space for future development has been considered in the plan.

(4) Practice

The plan is practical. The plan has considered the actual features of Liaoning and the difference between cities, towns and rural areas. The measurements and objectives
identified in the plan will match the actual situations and be practical.

(5) Safety

The anti-disaster measurements have been considered in the plan. Liaoning will establish disaster monitoring network and emergency rescue system in order to enhance the disaster prevention capability.

3.1.3 Panning Period

Starting time: 2000

Short term: 2005

Mid term: 2010

Long term: 2020

3.2 The General Idea of the Plan

3.2.1 Prioritizing the Development of the Cities and Towns along Shenyang, Dalian and Shenda Highway

Shenyang will continue to play its important role as the capital of the province and try to be one of the most important central cities in the northeast Asia. Dalian is still the regional center. It is an important international trading port in the northeast China. It will become an important tourism and trading city in northeast Asia.

The area along Shenda Highway is the main development zone. It will continue to be the link and become an international channel gradually in northeast Asia.

3.2.2 Promoting the Positions of Jinzhou and Dandong

Jinzhou will become the core city in west Liaoning city group and a main access to the sea. Dandong will develop its border trade and enhance its port construction. It will become an important outer gate connecting northeast Asia.
3.2.3 Promoting the Coordinative Development of Cities and Towns

Shenyang-Dalian-Anshan city zone is the most developed area in Liaoning Province. This city zone firstly achieved the modernization and the integration of urban and rural areas. It has become an important growth point. The west city group in Liaoning is a backward area. The development of cities is very slow. Following Shenyang-Dalian-Anshan city zone, the west city group of Liaoning will gradually achieve modernization and the integration of urban and rural areas.

The east city and town group in east Liaoning Province faces Korea. It will strengthen the opening and try to become the group of port cities and towns.

3.3 Spatial Layout

3.3.1 General Framework

The spatial plan is separated into three levels: the first level is the city and town system in the whole province the second level is Shenyang-Dalian-Anshan city zone, west city group, and east city and town group; the third level is metropolitan area, city group, and other cities and towns. Relying on the transportation network, regarding the cities and towns as joints on the network, a cities and towns system will be established.

Liaoning Cities and Towns System Framework
3.3.2 Plan of Metropolitan area and City Group

Big cities are the cores of metropolitan area and they connect the surrounding cities and towns. Liaoning will build 5 metropolitan areas: Shenyang-Fushun-Benxi metropolitan area, Dalian metropolitan area, Anshan-Liaoyang-Haicheng metropolitan area, Jinzhou-Huludao-Xingcheng-Linghai metropolitan area, and Yingkou-Panjin-Bayuquan metropolitan area.

The city group is formed by many medium-and-small-sized cities and towns. There are no big cities in the city group. The size and scope of city group is smaller than metropolitan area. The city group has the potential to become a metropolitan area.

3.3.3 Plan of Development Axis

(1) Primary Axis

There is one primary axis: Dalian-Anshan-Shenyang-Tieling. Shenda Development Axis passes through Shenyang and gets to Changtu and it is the primary axis. Shenyang and Dalian are the core points. A huge city zone will be established surrounding these tow points.

(2) Secondary Axis

There are 5 secondary axes. They are Shenyang-Jinzhou-Huludao, Shenyang-Fushun, Shenyang-Benxi-Dandong, Shenyang-Fuxin-Chaoyang, Dalian-Dandong. The secondary axes are radiated from Shenyang and Dalian. They are supporting the development of cities and towns in Liaoning with Shenda Axis together. In the planning period, Liaoning will focus on the improvement of transport network and communication facilities in order to strengthen the radiation and cohesion of the axes.

(3) Tertiary Axis

There are 4 tertiary axes: Jinzhou-Changyang-(Chifeng), Jinzhou-Fuxin-(Tongliao), Dandong-Haicheng-Panjin, Dandong-Huaien-(Tonghua). The tertiary axis passes through Jinzhou and Dandong. The area surrounding the tertiary axis is not developed because of low economic growth. But this area has big potential for development. Especially the axes of Jinzhou-Changyang-(Chifeng), Jinzhou-Fuxin-(Tongliao) and Dandong-Huaien-(Tonghua) will play important role for the opening of coastal area of Liaoning and they will promote the economic growth of inner cities and towns of Liaoning. The axis of Dandong-Haicheng-Panjin is an important part of Eurasia
Bridge. It is really significant for the economic development of Liaoning Province and northeast China.

3.4 Sizing Plan

3.4.1 Existing Structural and Sizing Features

There are many large and medium cities in Liaoning. There are 4 huge cities, 6 large cities, 9 medium cities, 11 small cities, and 659 small towns. The quantity of large and medium cities account for 6% of the total in China; The quantity of huge and large cities account for 11% of the total in China. Comparing with the quantity in 1990, there is one new huge city, 2 large cities, 6 small cities, and 214 small towns added. The quantities of small cities and towns are increased fast.

Comparing with the level in 19990, in 2000, the population of the cities (with the population from 0.5 million to 1 million) increased 3.6%; the population of the small towns (with the population from 50000 to 100000) increased 3.8%. The tables 3-1 and 3-2 present the changes.

The Infrastructure in Liaoning

<table>
<thead>
<tr>
<th>Rank</th>
<th>Size (10000 people)</th>
<th>1990</th>
<th>2000</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Quantity of cities and towns</td>
<td>Population (10000 people)</td>
<td>Percentage in population (%)</td>
</tr>
<tr>
<td>I</td>
<td>&gt;200</td>
<td>1</td>
<td>360.4</td>
</tr>
<tr>
<td>II</td>
<td>100-200</td>
<td>3</td>
<td>412.9</td>
</tr>
<tr>
<td>III</td>
<td>50-100</td>
<td>4</td>
<td>250.0</td>
</tr>
<tr>
<td>IV</td>
<td>20-50</td>
<td>10</td>
<td>297.6</td>
</tr>
<tr>
<td>V</td>
<td>10-20</td>
<td>5</td>
<td>56.3</td>
</tr>
<tr>
<td>VI</td>
<td>5-10</td>
<td>16</td>
<td>110.6</td>
</tr>
<tr>
<td>VII</td>
<td>&lt;5</td>
<td>430</td>
<td>306.2</td>
</tr>
</tbody>
</table>

Cities and Towns with the Population over 50000 (year 2000)

<table>
<thead>
<tr>
<th>Population (10000 people)</th>
<th>&gt;200</th>
<th>100-200</th>
<th>50-100</th>
<th>20-50</th>
<th>10-20</th>
<th>5-10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shenyang</td>
<td>Urban area of Shenyang</td>
<td>Xinmin</td>
<td>Liaozhong, Kangping, Faku</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>------------------------</td>
<td>--------</td>
<td>----------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dalian</td>
<td>Urban area of Dalian</td>
<td>Wafangdian</td>
<td>Pulandian, Zhuanghe</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anshan</td>
<td>Urban area of Anshan</td>
<td>Haicheng</td>
<td>Tai’an, Xiuyan</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fushun</td>
<td>Urban area of Fushun</td>
<td></td>
<td>Qingyuan</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Benxi</td>
<td>Urban area of Benxi</td>
<td></td>
<td>Xiaoshi, Huairn</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dandong</td>
<td>Urban area of Dandong</td>
<td>Donggang, Fengcheng</td>
<td>Kuandian</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jinzhou</td>
<td>Urban area of Jinzhou</td>
<td>Linghai</td>
<td>Beining, Yizhou, Heishan</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yingkou</td>
<td>Urban area of Yingkou</td>
<td>Dashiqiao</td>
<td>Gaizhou</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fuxin</td>
<td>Urban area of Fuxin</td>
<td></td>
<td>A’jin, Zhangwu</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Liaoyang</td>
<td>Urban area of Liaoyang</td>
<td></td>
<td>Shoushan, Dengta</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Panjin</td>
<td>Urban area of Panjin</td>
<td></td>
<td>Dawa</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tieling</td>
<td>Urban area of Tieling, Diaobingshan</td>
<td>Kaiyuan</td>
<td>Changtu, Xifeng</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chaoyang</td>
<td>Urban area of Chaoyang, Beipiao</td>
<td>Yebaishou, Lingyuan</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Huludao</td>
<td>Urban area of Huludao</td>
<td>Xingcheng</td>
<td>Shuizhong, Jianchang</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3.4.2 General Idea of Master Plan
(1) Developing Shenyang and Dalian rationally

Shenyang and Dalian are the central cities in Liaoning and they will become international cities. The functions of the cities will be strengthened and the size will be increased. Since the size of the two cities are large, over expansion of the cities will enhance the conflicts between cities and surrounding area. So some of the functions of the cities will be transferred to the nearby towns. The size of the city will be controlled rationally.

(2) Promoting the Development of Dandong and Jinzhou

Jinzhou is the central city in the west part of Liaoning Province and Jinzhou Port is an important access to the sea of northeast China. Dandong is the biggest border city in China and is the central city of east city group in Liaoning. It is the main city trading with Korea and also it is an important access to the sea. But the sizes of the tow cities are small. It is necessary to increase the sizes.

(3) Coordinative Developing Anshan, Fushun, Benxi, Fuxin, Liaoyang

Anshan, Fushun, Benxi, Fuxin, and Liaoyang are all industrial cities. They are facing the pressure of job provision and population transfer. Considering the restructuring of industries, those cities need further development. The main industry in Liaoyang is chemical fiber production. But considering the rich tourism resources in Liaoyang, it has big potential for development. Since Liaoyang is located between two huge cities, Anshan and Shenyang, its development will be limited.

(4) Developing Small Cities and Towns

Panjin and Huludao are going into the group of large and medium cities. Chaoyang and Tieling will grow gradually. Xinmin, Liaozhong, Pulandian, Fengcheng, Linghai, Gaizhou, Dashiqiao, Diaobingshan, Xingcheng, and Kaiyuan are becoming medium cities. Shoushan is a small city.

(5) Increasing the Standard of Small Towns and Making the Key Points Stand Out

3.4.3 Planning of Sizes and Ranks of the Cities

(1) The quantity of huge cities will be increased from 5 to 7. Because the populations of Benxi, Jinzhou and Dandong are over 1 million, they are becoming huge cities.

(2) The quantity of large cities will be increased to 5. Panjin and Huludao are new members.
(3) The quantity of medium cities will be increased to 17. Xinmin, Liaozhong, Pulandian, Zhuanghe, Donggang, Fengcheng, Linghai, Gaizhou, Kaiyuan, and Xingcheng become medium cities since the populations of them are over 200,000.

(4) The quantity of small cities will reach 26. Except Changhai, the populations of other counties and county-level cities have been over 100,000.

Table 3-3 and 3-4 present the sizes and ranks of the cities in Liaoning Province.

The planning of the Sizes and Ranks of the Cities in Liaoning (2010)

Table 3-3

| Rank | Size (10000 people) | Quantity of the cities and towns | Population (10000 people) | Percentage in the total population of Liaoning (%) | Name of the cities and towns |
|------|---------------------|--------------------------------|---------------------------|--------------------------------------------------|-----------------------------
<p>| I    | &gt;200                | 2                               | 670                       | 23.4                                             | Shenyang, Dalian             |
| II   | 100-200             | 2                               | 270                       | 9.4                                              | Anshan, Fushun               |
| III  | 50-100              | 2                               | 530                       | 18.5                                             | Benxi, Jinhou, Dandong, Liaoayang, Yingkou, Fuxin, Panjin |
| IV   | 20-50               | 17                              | 410                       | 14.4                                             | Tieling, Huludao, Chaoyang, Haicheng, Wafangdian, Xinmin, Pulandian, Fengcheng, Linghai, Gaizhou, Dashiqiao, Dabingshan, Beipiao, Xingcheng, Kaiyuan, Donggang, Zhuanghe |
| V    | 10-20               | 11                              | 170                       | 5.9                                              | Changtu, Liaozhong, Dengta, Lingyuan, Xiaoshi, Shoushan, Shuizhong, Jianchang, Huaien, Beining, Yebaishou |
| VI   | 5-10                | 26                              | 200                       | 7.0                                              | Kangping, Faku, Tai’an, Xiuyan, Kuandian, Heishan, Yizhou, A’jin, Zhangwu, Qiansuo, Xifeng, Dachengzi, Teng’ao, Qingyuan, |</p>
<table>
<thead>
<tr>
<th>Rank</th>
<th>Size (10000 people)</th>
<th>Quantity of the cities and towns</th>
<th>Population (10000 people)</th>
<th>Percentage in the total population of Liaoning (%)</th>
<th>Name of the cities and towns</th>
</tr>
</thead>
<tbody>
<tr>
<td>VII</td>
<td>2-5</td>
<td>50</td>
<td>130</td>
<td>4.6</td>
<td>Xinbin, Dawa, Niuzhuang, Yezi, Liu’erpu, Xintaizi, Xiliu, Yangjiazhangzi, Gaqosheng, Goubangzi, Pikou, Ciyutuo</td>
</tr>
<tr>
<td>VIII</td>
<td>&lt;2</td>
<td>685</td>
<td>480</td>
<td>16.8</td>
<td>Others</td>
</tr>
</tbody>
</table>

The planning of the Sizes and Ranks of the Cities in Liaoning (2010)
<table>
<thead>
<tr>
<th>Rank</th>
<th>Size (10000 people)</th>
<th>Quantity of the cities and towns</th>
<th>Population (10000 people)</th>
<th>Percentage in the total population of Liaoning (%)</th>
<th>Name of the cities and towns</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>&gt;200</td>
<td>2</td>
<td>740</td>
<td>22.6</td>
<td>Shenyang, Dalian</td>
</tr>
<tr>
<td>II</td>
<td>100-200</td>
<td>5</td>
<td>580</td>
<td>17.7</td>
<td>Anshan, Fushun, Benxi, Jinzhou, Dandong</td>
</tr>
<tr>
<td>III</td>
<td>50-100</td>
<td>5</td>
<td>370</td>
<td>11.2</td>
<td>Liaoyang, Yingkou, Fuxin, Panjin, Huludao</td>
</tr>
<tr>
<td>IV</td>
<td>20-50</td>
<td>17</td>
<td>450</td>
<td>13.7</td>
<td>Tieling, Chaoyang, Haicheng, Wafangdian, Xinyuan, Pulandian, Fengcheng, Linghai, Gaizhou, Dashiqiao, Diaobingshan, Beipiao, Xingcheng, Kaiyuan, Donggang, Zhuanghe, Liaozhong</td>
</tr>
<tr>
<td>V</td>
<td>10-20</td>
<td>26</td>
<td>350</td>
<td>10.7</td>
<td>Beining, Changtu, Dengta, Lingyuan, Kangping, Faku, Tai’an, Xiuyan, Xiaoshi, Kuandian, Heishan, Yizhou, A’jin, Zhangwu, Shoushan, Qiansuo, Shuizhong, Xifeng, Jianchang, Huairen, Teng’ao, Qingyuan, Xinbin, Dawa, Yebaishou, Dachengzi</td>
</tr>
<tr>
<td>VI</td>
<td>5-10</td>
<td>14</td>
<td>190</td>
<td>5.8</td>
<td>Niuzhuang, Yezi, Liu’erpu, Xintaizi, Gaoqiao, Dongxinzhuang, Gaoqosheng, Goubangzi, Pikou, Ciutuo, Taiping</td>
</tr>
<tr>
<td>VII</td>
<td>2-5</td>
<td>60</td>
<td>160</td>
<td>4.9</td>
<td>Other central towns</td>
</tr>
<tr>
<td>VIII</td>
<td>&lt;2</td>
<td>671</td>
<td>440</td>
<td>13.4</td>
<td>Others</td>
</tr>
</tbody>
</table>
3.5 Functional and Structural Planning of the Cities and Towns

According to the positions, roles and radiation scope, the cities and towns in Liaoning are separated in five levels: provincial-level central city, municipal-level central city, county-level central city, central town, and others. The table 3-5 presents the functions and towns of the cities in Liaoning.

Table 3-5

<table>
<thead>
<tr>
<th>Level</th>
<th>Name</th>
<th>Main functions</th>
<th>Functional development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provincial-level central city</td>
<td>Shenyang</td>
<td>It is an important industrial base in China. It is the capital of the province and the political, economic, cultural, educational, transport and information center of the province. Main industries are finance, trade, and manufactures. It is going to be the important economic center of northeast Asia.</td>
<td>CBD will be built in the city. It will become more famous internationally. Shenyang will strengthen its function of production and promote the development of high-tech enterprises. It will restructure industries and encourage the establishment of modern enterprise</td>
</tr>
<tr>
<td>Dalian</td>
<td></td>
<td>It is an important coastal city. It is internationally famous for its developed culture, rich tourism resources and modern industries.</td>
<td>Dalian will strengthen its function of international communication. The city will promote the development of the service sector and restructure the industries.</td>
</tr>
<tr>
<td>Municipal-level central city</td>
<td>Anshan</td>
<td>It is an important steel production base in China and is the central city of mid-south Liaoning.</td>
<td>The city will improve its biological environment and importantly develop its tourism sector.</td>
</tr>
<tr>
<td>Fushun</td>
<td></td>
<td>It is the energy, raw material processing, and petro-chemical city in China.</td>
<td>The city will promote the development of petro-chemical industry further.</td>
</tr>
<tr>
<td>Benxi</td>
<td></td>
<td>It is a steel production city.</td>
<td>The city will develop bio-pharmacy industry.</td>
</tr>
<tr>
<td>Dandong</td>
<td></td>
<td>It is a border city and is the political, economic, cultural, and information center of east Liaoning. The city is also the main access to the sea of Liaoning.</td>
<td>Dandong will enhance the port construction and develop the harbor industry. The city will strengthen the construction of roads and railways in order to expand its radiation to the surrounding area.</td>
</tr>
<tr>
<td>Level</td>
<td>Name</td>
<td>Main functions</td>
<td>Functional development</td>
</tr>
<tr>
<td>------------------------------</td>
<td>---------------</td>
<td>----------------------------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Jinzhou</strong></td>
<td><strong>It the political, economic, cultural, and information center of west Liaoning. The city is also an important access to the sea of Liaoning.</strong></td>
<td><strong>Jinzhou will promote the development of international trading, finance, and upgrade traditional industries. It will develop its harbor industry and try to become a goods and materials distribution center. The city will enhance its radiation to the surrounding area and promote the economic growth of those areas.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Yingkou</strong></td>
<td><strong>It is a harbor city with textile and chemical industries. It is an important access to the sea in Shenyang-Dalian-Anshan city zone.</strong></td>
<td><strong>The city will promote the development of sea transport and coastal industries. It will develop its tourism resources.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Fuxin</strong></td>
<td><strong>The main industries in the city are coal production and power generation.</strong></td>
<td><strong>The city will develop the substitute industry of coal.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Liaoyang</strong></td>
<td><strong>It is a historical city. Petro-chemical is main industry. It is the central city in the south Liaoning.</strong></td>
<td><strong>The city will promote the development of high-tech industry and tourism sector.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Tieling</strong></td>
<td><strong>It is the base of energy and agricultural product. The main industries in the city include energy, mechanical and chemical processing, electronic product, agricultural product processing.</strong></td>
<td><strong>The city will promote the development of agricultural product processing.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Chaoyang</strong></td>
<td><strong>It is a historical city.</strong></td>
<td><strong>The city will develop its service sector further.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Panjin</strong></td>
<td><strong>It is an important energy base in China. Petro-chemical is the main industry of the city.</strong></td>
<td><strong>The city will promote the development of petro-chemical industry.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Huludao</strong></td>
<td><strong>It is a coastal city. The petro-chemical and non-ferrous metal processing are the main industries.</strong></td>
<td><strong>The city will promote the development of coastal and tourism industries.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Country-level central city</strong></td>
<td><strong>Counties and county-level cities</strong></td>
<td><strong>They are the central towns with special features.</strong></td>
<td><strong>They will develop their special features and service sector further.</strong></td>
</tr>
<tr>
<td><strong>Central Town</strong></td>
<td><strong>Those towns have good</strong></td>
<td><strong>Those towns will build regional</strong></td>
<td></td>
</tr>
</tbody>
</table>
### Level Name | Main functions | Functional development
--- | --- | ---
**township excluding counties** | economic capacity and can drive the development of surrounding rural areas. | markets and drive the development of related industries.
Ordinary township | Other towns | They are modern towns with some functions. | They will promote the development of serving agricultures.

### 3.6 The Priority of Development

The development of Liaoning is not in a balance situation. The key cities and towns will develop first and other cities and towns will follow later.

In short term, the priority of development is Shenyang-Dalian-Anshan city zone. The provincial government will issue preferential policies and provide financial support in order to promote the centralization of populations and industries in this area. Meanwhile Liaoning will restructure the pattern of cities and towns and develop metropolitan area. While Shenyang-Dalian-Anshan city zone is formed, the focus of development will turn to the west and east city groups.

In the scope of one zone and tow groups, the construction of metropolitan area is prioritized. Relying on the strong economic, cultural, and scientific capacity, the metropolitan area will drive the development of surrounding cities and towns. The importance is to form Shenyang-Fushun-Benxi metropolitan area, Anshan-Liaoyang-Haicheng metropolitan area, and Tieling (including Diaobingshan) city and town group in Liaoning. The provincial government will support the construction of infrastructure in those cities and towns.

For the small towns, in short term, the importance is to develop the demonstrative and central towns in order to provide developing demonstration for other small towns.
4 Developments Planning of City Group (Zone)

4.1 Planning of Shenyang-Dalian-Anshan City Zone

Existing Features

Shenyang-Dalian-Anshan City Zone is formed relying on Shenda Highway and Hada Railway. It includes Shenyang, Dalian, Anshan, Fushun, Benxi, Yingkou, Liaoyang, Panjin, Tieling, Kaiyuan, Xinmin, Diaobingshan, Dengta, Haicheng, Dashiqiao, Gaizhou, Wafangdian, Zhuanghe, Pulandian, etc, altogether 19 cities, 17 counties and 410 towns in the middle and south parts of Liaoning.

(1) One of the most Developed Centralized City Area

This zone centralizes 2/3 cities in the province and the population is this zone accounts for 51.9% of the total in Liaoning. It is one of the biggest and most developed city zones in China.

(2) One of most Important Industrial Bases in China

Shenyang, Anshan, Fushun, Benxi, and Liaoyang are all important industrial bases in China. The main industries in those cities are metallurgy, machinery, and petro-chemical.

(3) One of the Economically Active Area in China

The city zone is located in Liaodong peninsula and is one of earliest opening areas. Dalian is one of the earliest opening coastal cities. In the city zone, there are nine national-level economic development districts (Shenyang Economic Development District, Yingkou Economic Development District, Dalian Economic Development District, Shenyang High Technology Development District, Dalian High Technology Development District, Anshan High Technology Development District, Shenyang Xinghuo Agricultural Test District, Dalian Bonded District, Dalian Tourism District), and nine provincial level development districts. In 2000, the city zone utilized international capital of 2.43 billion USD that accounted for 95.3% of the total in the province. The sales of goods accounted for 81.9% of the total.

(4) Obvious Difference between South and North Parts of Liaoning Province

In Liaoning, the cities are centralized in the north part and decentralized in the south
part. In the north part, there are three huge cities, Shenyang, Anshan, and Fushun, and two large cities, Benxi and Liaoyang. But in the south part, there are only one huge city, Dalian, and one large city, Yingkou. The sizes of other cities are relative small. There are no large cities between Dalian and Yingkou. The connection between cities is very weak.

Strategic Objectives

A developed city zone will be formed with optimal structures and strong competitiveness. The urbanization will be over 80%. Shenyang and Dalian will become international cities. A market economic mechanism will be established. The international financial agencies and corporations will be attracted to establish office and branch companies in Liaoning. Liaoning will become the center of goods, capitals, technology, and international trades in northeast China.

Liaoning will improve the infrastructure network. Shenyang Taoxian Airport and Dalian Zhoushuizi Airport will become important international airports. Dalian Port will be the main harbor for sea transport. A highway network will be formed on the basis of 6 important highways. A three dimensional transportation system will be fully established.

Liaoning will take action to improve the living environment for the local residents and promote the coordinative development of social economy. The government will work hard to establish a multi-level social security system.

Development Planning

General Idea

Shenyang is centered in the north part of Liaoning and promotes the development of surrounding areas; and Dalian is centered in the south part of Liaoning and drives the development of surrounding areas. Then a high-tech industrial zone, a high-efficient agricultural production zone, and a large-sized city zone will be established finally.

(1) Construction of High-Tech Industrial Zone

Liaoning will encourage the development of high technology industries. The IT, bio-pharmacy, and environmental protection are the most important ones. Liaoning will also utilize the high technology to promote the development of manufactures, such as machine tools, automobile and ship making. The metallurgy and petro-chemical industries will be supported. The industries with low productive capacity and high pollution will be abandoned. Liaoning will construct the base of
new materials. An overall high-tech industrial zone will be formed finally.

(2) Construction of High-efficient Agricultural Zone

Ensuring the stable increase of agricultural production, Liaoning will promote the development of special agriculture and strengthen the export of agricultural products. Dalian and Yingkou will construct fruit production zones; Panjin, Yingkou, Anshan and Liaoyang will form paddy rice production zones; Tieling will construct crop production zone; Fushun, Benxi, Liaoyang, and Tieling will form the zones of tussor, medical materials, and wild plant production. Liaoning will also encourage the development of agricultural tourism.

(3) Construction of Shenyang-Dalian-Anshan City Zone

The central roles of Shenyang and Dalian will be enhanced. The new district of Yingkou will develop faster. In the north part of Liaoning, the cities and towns will form a group with the center of Shenyang; and in the south part, the cities and towns will be a group with the center of Dalian. They will become internationally famous city zones in Liaoning.

Planning of Cities and Towns Intensively Located in the Middle Part of Liaoning

The cities and towns closely located in the middle part of Liaoning include Shenyang, Anshan, Fushun, Benxi, Liaoyang, and Tieling with the total area of 59000 km2. In this area, the population is totaled 18.93 million, of which the urban population is 11.65 million. The urbanization is 61.6%.

(1) General Layout

Considering the relationship with central city, the cities and towns located in the middle part of Liaoning will be separated into metropolitan area, city and town group, and marginal zone.

Shenyang-Fushun-Benxi and Anshan-Liaoyang-Haicheng metropolitan areas, and Tieling (including Diaobingshan) city and town group are the core parts in the middle of Liaoning. They are the focus for the further development.

The marginal zone includes mountains and agricultural areas. It is far away from the center city. The economic growth in the marginal zone is very slow. There are few towns located in the zone and they are relative small. In the planning area, the development focus is the counties and central towns.
(2) Restructuring Plan for Cities and Towns System

1) The sizes of the important cities will continue to grow, but the increase of population will slow down. The population of central county will reach 100,000 and the population in central town will be over 30,000. The construction of infrastructure will be strengthened and the investment environment will be improved in order to enhance the attractiveness of central counties and towns.

2) The cities will promote the development of high technology and establish technology and capital intensified economic structure. The towns will develop their special products and drive the development of related industries. While serving the development of cities, the towns will accelerate their own development.

3) In the small cities, Haicheng is the developing focus. The position of the city in the surrounding area will be raised. The development of Haicheng and Xiliu Town will be in the overall planning. The city districts will be re-identified in a proper time.

(3) Planning of Metropolitan Area and City and Town Group

1) The development of the towns and villages along the important railways and highways will be included in the overall planning. Unreasonable development of towns and villages should be avoided.

2) The public transportation between Shenyang and Fushun, Shenyang and Benxi, Shenyang and Liaoyang, Anshan and Liaoyang, Shenyang and Tieling, Anshan and Haicheng will be developed.

3) The uniform light rail system will be built. The main light rail lines are: Tieling-Shenyang-Liaoyang-Anshan, Shenyang-Fushun, and Shenyang-Benxi. The interchange will be built in the passing-by urban area.

4) The city codes of telephone will be unified.

5) A regional greening system will be built including the greenings along the ring roads, highways, railways, and the construction of forest parks and shelter belts. The small towns should also construct ring greening belt.

6) More gas supply facilities will be constructed and the coverage will be improved. The urban residents can receive the service of gas supply.

7) The percentage of electricity consumption will be increased. Up to 2010, the rates between electricity and gas consumptions will be 77:23.

8) The quality of the residential houses will be improved greatly.

Planning of Cities and Towns Intensively Located in the South Part of Liaoning
This area mainly includes three cities: Dalian, Panjin and Yingkou. It is developing very fast. Even though Panjin is located in the west part of Liaoning, because of fast economic growth, the connection between Panjin, Dalian and Yingkou is becoming more closely. Now it is included in the area of cities and towns intensively located in the south part of Liaoning.

(1) Construction of Dalian Metropolitan Area

1) The development of urban area, old districts, new districts, suburban area, surrounding towns and villages will be included in the overall plan. The restructuring of industries and construction of infrastructure will be planned uniformly. The attractiveness of the city will be strengthened.

2) Wafangdian, Pulandian, and Zhuanghe are the towns surrounded Dalian. They have strong economic capacity. Some of the functions of Dalian will be transferred to those towns in order to promote the further development of them.

3) Dalian will support the development of the villages between the urban area, Wafangdian, and Pulandian. Dalian Metropolitan Area will be formed with the center of Dalian.

4) Jinshi Beach will be constructed an internationally famous tourism area.

(2) Constructing Yingkou-Panjin-Bayuquan Metropolitan Area and Improving Sheyang-Dalian-Anshan City Zone

1) The development of Yingkou, Panjin, Dashiqiao, Gaizhou, and surrounding towns will be unified and coordinated. The Yingkou-Panjin-Bayuquan Metropolitan Area will be formed.

2) Bayuquan Port is the new port of Yingkou and it is only smaller than Dalian Port. It is one of the 19 most important ports in China. Yingkou Economic Development Zone is a national level development district, which is neighbored Bayuquan Port. The area of the new district is 12.1 km2 and the population is 101,000. The new district is located in the weak part of Shenyang-Dalian-Anshan City Zone. The construction of the new district is very significant.

Construction of Infrastructure

The construction of transportation infrastructure will be supported. Shendan Railway, Shenyang-Hairpin and Shenyang-Dalian passenger lines will be constructed. The connection between northeast economic area and the four ports at Dalian, Yingkou, Dandong and Jinzhou will be enhanced.

Shenshan and Gouhai lines will accept the upgrading of electrification. Liaoning will
enhance the cooperation with Beijing, Tianjin, Tangshan and other cities. They will form economic circle surrounding Bohai Sea.

The highways from Shenyang to Fuxin, Dalian to Dandong, Panjin to Haicheng to Xiuyan to Dandong will be constructed. The transportation connecting cities will become more convenient.

Shenyang Taoxian Airport and Dalian Zhoushuizi Airport will be expanded. And a new airport in Dalian will be constructed. The quantities of international airlines will be increased. The transportation capacity will be improved greatly.

Key Points for the Construction of Important Cities

Shenyang
Shenyang will construct CBD and regional market serving the whole northeast China. The land use will be adjusted. The city will be expanded to the south bank of Hun River. The University Town will be constructed at the south bank of Hun River. Shenyang will support the construction of infrastructures. The expressway and subway will be constructed. The transportation system will be improved. The landscaping zone along Hun River will be constructed and the living environment of the city will be improved.

Dalian
Dalian will build CBD and adjust land use. Dalian will improve the link-up of the sea and land transportation. There will be a new airport constructed in Dalian. Meanwhile, Dalian Zhoushuizi Airport will be expanded. The landscaping zones in the old, new and development districts will be constructed.

Anshan
Anshan will develop the tourism resources and construct necessary facilities. Anshan will improve the quality of service provision. The land use in Tiedong District will be adjusted and the CBD will be constructed. The city will strengthen the construction of infrastructure and improve the transportation network. Anshan will take action to reduce the pollution and the living environment of the city will be improved greatly.

Fushun
The layout the city will be adjusted. The city will be expanded to the north bank of Hun River. The old district will be upgraded and the sinking scope of the mining area will be controlled strictly. The landscaping zones in the urban area will be constructed.
Fushun will take action to reduce the pollution and the living environment of the city will be improved greatly. The city will develop the tourism resources and construct necessary facilities.

Benxi

Benxi will develop the new district and reduce the density buildings in the urban area. The city will develop the tourism resources further and construct necessary facilities. Benxi will take action to reduce the air pollution and strengthen the greening construction along Taizi River.

Yingkou

A new railway station and Liaohe Bridge will be constructed in Yingkou. The transportation system in the old district will be improved. The city will strengthen the greening construction along Liao River and the greening coverage will be improved. Yingkou will support the construction of Bayuquan Port and the new district. The size of the existing port will be increased and the related infrastructure will be improved.

Liaoyang

Liaoyang will support the development of high technology and speed up the construction of the new district in the south part of the city. The municipal government will take action to protect the historical sites and improve the construction infrastructure. The urban transportation system will be improved.

Tieling

Tieling will construct new district in the south part. The city will utilized the rich water resources in Cai River and Longshou Mountain to construct landscaping zone. The trunk road connecting the towns along Longshou Mountain will be constructed and the transportation system will be improved.

Panjin

Panjin will strengthen the construction of flooding protection facilities and enhance the connection between Shuangtaizi District and Xinglongtai District. The city will improve the urban transportation network and support the greening construction along Shuangtaizi River. The municipal government will take action to protect the water resources in the city.

4.2 Planning of West City Group in Liaoning
The West City Group includes 4 cities (Jinzhou, Huludao, Chaoyang, and Chaoyang), 5 county-level cities (Linghai, Xingcheng, Beipiao, Baining, Lingyuan), and 9 counties with the total area of 50700 km². The population is totaled 11.01 million, of which the urban population is 4.309 million. The urbanization is 39.13% and the density of population is 217 persons/km².

The south part of this area is plain and the north part is mountains connecting Inner Mongolia; the west part of this area neighbors Hebei Province; the east links Shenyang-Anshan-Dalian City Zone.

4.2.1 Existing Features

(1) The towns, population and economic activities are mainly focused on the coastal area. The area of Jinzhou and Huludao accounts for 40.80% of the total of West City Group and the population accounts for 52.23% of the total; the GDP in those tow cities account for 70.77% of the total; the industrial value accounts for 76.31%; the quantity of towns in those tow cities accounts for 50.78 of the total.

(2) There are rich tourism resources with high qualities in this area, such as Yiwulv Mountain, Bijia Mountain in Jinzhou, the ancient city (Xingcheng) in Huludao, Jiumenkou great wall, Phoenix Mountain in Chaoyang. Those resources are centralized and easy for development.

(3) The industries of petro-chemical and metallurgy are relative developed. Jinzhou and Huludao are the important petro-chemical bases and Huludao is the base of metallurgy. The zinc company in Huludao has been listed in Shenzhen Stock Market.

(4) There area 2 huge cities, 2 medium cities and 5 small cities along Shenshan Railway and 102 national road in this area. The capacities of those cities are relative weak. The functions of those cities are not obvious.

(5) The economic capacities of those cities are relative weak. The land area counts for 34.26% of the total in the province and the population accounts for 26.63%. But the GDP, industrial value and the value of service sector only account for 10.77%, 8.06% and 11.14% of the total in Liaoning. And the per capita indicator are much lower, only about 1/2 of the province and 1/3 of Shenyang-Dalian-Anshan City Zone.

(6) The biological environment is in poor quality and the soil erosion is relative serious.

4.2.2 Development Objectives
A city group with rational development will be formed. The economy will grow healthy and the city group will join the international economic system fully. The transportation network will be improved. The tourism resources will be developed and the bio-environment will be protected and improved.

4.2.3 Development Planning

Developing Pillar Industries

The development of petro-chemical, metallurgy, and transportation equipment manufacture will be supported. The high technology will be utilized to upgrade the traditional industries and the scientific products will be developed.

Developing Marine Industry and Tourism Sector

The development of marine industry will be strengthened and the focuses are marine chemical and marine bio-pharmacy. Relying on Xingcheng, the coastal ancient city, and Wajia Jieshi Park, the tourism market will be developed greatly.

Developing Bio-agriculture

The treatment for soil erosion will be strengthened. The planting of trees and grass will be supported. The land development will be controlled strictly and the bio-agriculture will be developed.

Promoting the Process of Urbanization

The development of central cities and towns will be prioritized, especially the construction of Jinzhou-Huludao-Xingcheng Metropolitan, Fuxin City Group and Chaoyang City Group. The development of the counties, such as Shuizhong and Lingyuan, will be supported.

The development of the towns along Shenshan, Weita, Jincheng, Jin-Fu-Huo railways will be developed. Those railways form a development axis.

Relying on the development of central cities and towns, the economic growth of the towns located on and along the development axis will be promoted.

Construction of Jinzhou-Huludao-Xingcheng-Linghai Metropolitan Area

Jinzhou, Huludao Xingcheng and Linghai are nor far from each other. The functions of those cities have supplementary features. The development of those cities should
be integrated planned. The construction of infrastructure should be coordinative. The construction of Jinzhou Port will be quickened and it will become an international goods distribution center as early as possible. The industries will be restructured. The development of high-tech industries is the focus. The development of service sector will be supported and the construction of infrastructure will be strengthened. The transportation network with the center of Jinzhou will be improved in order to enhance the attractiveness of the west city group.

**Improving Transportation System**

Qinshen Railway and Chaochi Highway will be constructed. Considering that Jinzhou Port and Huludao Port are both located in Jinzhou Bay, a port group will form in future. The construction of ports should be integrated planned. Chaoyang and Jinzhou airports will be reconstructed. A medium-sized airport will be constructed in the west part of Liaoning at a proper time. So three-dimension transport system will form.

4.2.4 Key Points for the Construction of Important Cities

4.2.4.1 Jinzhou

The development point is the new district. The investment environment of economic and technical development zone will be improved. The old district will be upgraded. The transportation system will be improved. The greening construction along Xiaoling River and Nv’er River will be strengthened. A medium-sized airport will be built at a proper time.

4.2.4.2 Fuxin

The city will be expanded to west and north. The development of new district will be quickened. The sinking scope of the mining area will be controlled strictly and the residents in the sinking area will be resettled. The living environment will be improved. The land of waste mining area will be re-fertilized and greened. The treatment of Xi River will be continued. The urban protection forest will be constructed. The bio-environment will be improved.

4.2.4.3 Chaoyang

The highway connecting Chaoyang and Chifeng will be constructed. The construction of the new district along Jinzhou-Chaoyang Highway will be quickened. The old district of the city will be upgraded gradually. The bio-environment will be improved.

4.2.4.4 Huludao
The development focus of the city will move from west to the south. The development of coastal line will be continued. Xingcheng and Huludao will be connected. The resettlement of the airport will be completed. The use of land will be adjusted. The transportation system will be improved. The bio-environment will be protected further.

4.3 Planning of the East City and Town Group in Liaoning

4.3.1 Existing Features

The East City and Town Group in Liaoning includes Dandong, Fengcheng (county-level city), Donggang (county-level city), and Kuandian (county). The total area of this region is 14900 km². The total population is 2.4097 million, of which the urban population is 1.284 million. The urbanization is 53.3%. The population density is 161.7 persons/km².

4.3.1.1 Coastal City

Dandong is the only coastal border city in China, which owns an important port. The biggest bilateral economic cooperation zone has been constructed in the city. It has the special condition to develop international trade with South Korea, North Korea and Japan.

4.3.1.2 Rich Resources

(1) The water resource is very rich in the city that can satisfy the needs of urban economic development.

(2) The tourism resource is very rich. The Phoenix Mountain, Qingshan Valley, Yalujiang River and Dalu Island are all very good place to travel. The city has special condition to develop overseas tourism (to South Korea and North Korea).

4.3.1.3 Developed Light Industries

The textile and electronic industries are relative developed in the whole province.

4.3.1.4 Transportation System Needing Improvement

There is only railway connecting Shenyang and no railways connecting Dalian. The communication with the northeast part of Liaoning is not smooth.

4.3.1.5 Limitation of Land Use

Dandong is located near Yalujiang River. The city is surrounded by mountains. The
expansion of the city is limited.

4.3.2 Development Objective

A modern city group, including Dandong, Qianyang, Donggang and other towns, will be formed. Relying on the port, the export-oriented economic structure will be established. The transportation network in the region will be improved and Dandong will become one of the important ports in the northeast China.

4.3.3 Development Planning

4.3.3.1 Developing Export-oriented Economy

The development of port economy will be promoted. The textile and electronic industries will be upgraded. The coastal industry will be constructed. The development of international trade and tourism will be supported.

4.3.3.2 Strengthening the Development of Tourism

The rich tourism resources will be developed. The construction of traveling lines, landscapes and service facilities will be integrated planned. A famous tourism system will be formed.

4.3.3.3 Construction of Dandong City Group

Donggang is 30km far from Dandong. Between them, there are Qianyang Development Zone and Langtou. All of them have been connected. A city group closely connecting Dandong, Donggang, Langtou and Qianyang will be formed. The central position of Dandong in this region will be enhanced.

4.3.3.4 Fostering Sub-center Cities

The development of Fengcheng and Kuandian will be supported and they will become two sub-centers that will drive the economic growth of surrounding area.

4.3.3.5 Developing Important Towns

The development of the towns, which are the important joints of the transportation system, near the central cities and located in the industrial zones, will be supported. The construction of infrastructures will be improved. Those towns will become the comprehensive towns or the satellite cities of the central cities.

4.3.3.6 Construction of Bio-functional Protection Zone
The forest, water bodies and oceans will become the bio-functional protection zones. The development will be controlled strictly. The soil erosion will be prevented and the pollution will be reduced.

4.3.3.7 Construction of Good Transportation System

Road construction: the highways from Dandong to Dalian, from Dandong to Xiuyan to Haicheng to Panjin will be constructed. The levels of existing national and provincial roads will be raised. The east channel connection Jilin Province will be constructed.

Railway construction: the railways from Zhuanghe to Dandong, from Guanshui to Huaiiren to Tonghua and the multi track of Shendan Railway will be constructed.

Port construction: Dadong Port will be expanded. Its capacity and the capability of sea transportation will be improved.

Through the construction of above infrastructural facilities, the connection between this region and Shenyang and Dalian will be strengthened.

4.3.4 Key Points for the Construction of Important Cities

Dandong

The city will be expanded to the downstream of Yalujiang River. The structure of land use will be adjusted. The highway from Dandong to Dalian, the railway from Dandong to Dalian, and the road from Dandong to Tonghua will be constructed. The transportation system will be improved. The connection of the city and port will be strengthened. The construction of imagine projects along Yalujiang River and at the port will be supported.
5 Constructions Planning of Small Towns

5.1 Analysis of Existing Situation

Existing Features

Up to the end of 2000, there are 659 towns, 464 rurals, 14383 chief villages, and 39040 villages in Liaoning Province. The population is 22.84 million accounting for 55% of the total in the province.

The average area of each town is 126 km² and the average population is 20000. The total area of agricultural land in the province is 4.16 million hectares. The average agricultural area per capita is 2.79 mu.

The small towns are mostly located along the roads and form many town belts.

(1) The town belt along Shenda Highway. There are 425 small towns accounting for 37.9% located in this belt. There are 87 small towns that are the members of 100 Developed Small Towns. The township enterprises are very developed in this belt and also have good development trends. They are the head leading the development of small towns.

(2) The town belt along Shenshan Highway. There are 330 small towns accounting for 29.4% located in this belt. The geological condition of this belt is very good. The transportation is very convenient. The development is very fast. It has big potential for further development.

(3) The town belt along the highways from Shenda to Fushun, from Shenyang to Dandong, from Shenyang to Tieling, and from Shenyang to Chaoyang. There are 198 small towns accounting for 17.6% located in this belt. They have become industrial, agricultural and commercial centers. They have the willing to quicken the development, but the development is not balanced.

There are 170 small towns accounting for 15.1% of the total located in the places far away from the main transport lines. The economic growth of those small towns is very slow. They need further development.

Improving Economic Capacity and Social Benefits Gradually

Agricultural production: in 2000, the food production was 11.40 million tongs. The production of meat, egg, milk, fruit, vegetable, and marine products can not only satisfy the demand locally, but also can export to other provinces and countries.
Comprehensive economic capacity of agriculture: in 2000, the output value of agriculture, forestry, animal husbandry, and fishery was 96.7 billion RMB in the whole province. The added value of agriculture, forestry, animal husbandry, and fishery was 50.3 billion RMB accounting for 10.8% of the total in China.

Living quality of peasants: in 2000, the average income per capita was 2355.6 RMB; the average consumption per capita was 1753.5 RMB. About 20% peasants in the province are living in a good condition.

Educational quality of peasants: there are no teenage and young illiterates in the rural area in Liaoning. The 9-year compulsory education has been spread to the rural area. The awareness of peasants has been improved.

Surplus labor force in rural area: with the development of agricultural machines and new products, the quantity of surplus labor force in rural area is about 2.08 million people.

The types of the small towns are as following:

1. Industrial: Teng’ao (in Anshan), Liuerpu (in Liaoyang), Qianyang (Dandong)
2. Trading: Ciyutuo (in Shenyang), Tongerpu (in Liaoyang), Xiliu (in Anshan), Natai (in Anshan), Fuzhoucheng (Dalian), Gaokan (in Yingkou), Dongxinzhuang (in Huludao)
3. Transport hub: Goubangzi (in Jinzhou), Gaoqiao (in Huludao)
4. Outward driven: Pikou (in Dalian), Yangshufang (in Dalian)
5. Mining service: Xiaonan (in Tieling), Huizhuang (in Yingkou), Gaosheng (in Panjin)
6. Tourism: Yongling (in Fushun), Gushan (in Dandong),
7. Agricultural product processing: Nanzamu (in Fushun), Paozi (in Fuxin)
8. Comprehensive: Hutai (in Shenyang), Gaoling (in Huludao)
9. Hot spring convalescence: Anbo (in Dalian), Wulongbei (in Dandong)

Existing Problems

1. The size of population is small and the position of central town is not obvious. The functions can not work well. The radiation to the surrounding area and attractiveness are very weak.
2. The township enterprises are located separately and the planning is nor rational. Without overall planning, some of the enterprises are failed to centralize in the industrial zones. On one side, those enterprises occupies large agricultural lands, on the other side, they pollute the bio-environment. The scale economy cannot be achieved. It requires the large input on infrastructure construction.
The quality of infrastructures is very poor that affects the economic development negatively. In the recent decade, the rural output value has been increased for 10 times. But the input for small towns construction was only increased for 3.5 times. Now most of the funds are collected by the town government. It cannot satisfy the need of small towns. The lack of funds has become an important factor limiting the development of small towns.

5.2 Strategy and Objectives

Ideology and Principles

The ideology for the development of small towns is as following: the rural reform will be continued and deepened. The social development and the growth of rural economy will be promoted and the purpose is to improve the living standard of rural residents. Through scientific planning, the small towns with convenient transportation, functional infrastructure facilities and good bio-environment will be constructed.

The principles for the construction of small towns include:

(1) Optimizing the economic structures and establishing market system
(2) Keeping the coordinative development of society and economy and promoting the overall development of rural areas
(3) Achieving sustainable development, unifying the social, economic and environmental benefits, protecting agricultural lands, and strengthening environment protection
(4) Providing tailor-made guiding to different small towns
(5) Prioritizing the development of central towns

Development Strategy

The development of small towns should be planned scientifically. The tailor-made guidelines should be provided. And the important points should be emphasized.

The development of demonstrative towns should be prioritized. The key point for development is the construction of central towns. The development ranking is county first, then central towns, and ordinary town finally. The cities should support the development of counties and central towns and help them improve their economic capacity and expand functions. The population should be increased and the level of urbanization should be raised. The construction of infrastructure should be strengthened. The environment of the small towns should be improved. The provincial will pay attention to the development of 15 demonstrative towns and provide
developing guidelines to 100 central towns and then drive the development of ordinary towns.

**Development Objectives**

**Social Economic Development Strategy and Objectives**

(1) The development of agricultural sector will be supported by high technology. The development of tourism agriculture will be encouraged. The metropolitan agricultural zone will be constructed.

(2) The industrial structures of small towns will be adjusted and the industrial foundations will be fostered. Centralized industrial and commercial zones will be constructed. The development of main industries will be supported on the basis of local economic condition and natural resources.

(3) The economic growth of small towns should be market-oriented and the economic capacity will be improved. The income of peasants will be increased.

**Social Development Objectives**

(1) Increasing the quantity of population and the level of urbanization

(2) Quickening the construction of public facilities, improving living environment and quality

(3) Prioritizing the development of education, science and cultural sector and improving the educational quality of rural residents

(4) Developing sanitary sector and improving the health of rural residents

(5) Establishing and improving the social security system of small towns and arranging the surplus labor force rationally

**Construction Objectives of Small Towns**

In 2005, there will be 650 small towns. About 23% rural population will live in small towns. The average urban population in small towns will be over 20000 and the GDP of small towns will reach 1 billion RMB. The key point is the construction of 15 demonstrative towns. Up to 2010, about 30% rural population will live in small towns. The average urban population in small towns will be over 30000 and the GDP of small towns will reach 2 billion RMB. New small cities will occur. And they will become the main bases for attracting surplus rural labor force.

**5.3 Layout and Development**

**Development Layout**
The small towns located in Shenyang-Dalian-Anshan City Zone will be developed importantly. Those towns will drive the development of small towns in the east and west city groups. The distribution of central towns, ordinary towns and central villages will be planned rationally. The development of the small towns located along Shenda Highway, Shenfu Highway, Shendan Highway, and the section of Jingha Highway in Liaoning will be planned well.

**Key Points of Planning**

(1) The master plan should include the layout of industrial zones and the construction of infrastructure. All the new industrial projects should be located in industrial zones and the industrial projects located in villages will not be approved any more. The construction planning of small towns should identify the nature of the town, the size of population, land use, development trend, functional division, road network, squares, and the distribution of public facilities.

(2) The development standards for towns and villages should be different. The development of the towns and villages located in the planning area of cities should match the master plan of the cities. The construction of 100 towns should follow the city standard. The standard of construction of poor towns and villages will be increased gradually with economic growth.

**Infrastructure and Bio-environment**

(1) Road

Before 2005, the standard of roads connecting counties and towns will reach the third level and all the roads have black surface. Up to 2010, the standard of roads will reach the second level.

Before 2005, the standard of roads connecting towns and villages will reach the fourth level and almost all the villages will be connected by roads. Up to 2010, the standard of roads will reach the third level.

(2) Roads in Towns and Villages

For the trunk roads in the towns with the population over 50000 (including 50000), the red line should be 35-40m and the quantity should not be less than 2. For the trunk roads in the towns with the population from 3000 to 50000, the red line should be 24-32m and the quantity should not be less than 2. For the trunk roads in the towns with the population less than 30000, the red line should be 20-24m and the quantity should not be less than 2.
In the planning area, for the trunk roads in the villages with the population over 5000, the red line should be 15-18m and the quantity should not be less than 1. For the trunk roads in the villages with the population less than 5000, the red line should be 14m and the quantity should not be less than 1.

(3) Water Supply

In 2005, the towns will get water from drinking water resources. The standard compliance of water quality will be 100%. The water coverage in towns will be 80%. The water consumption per capita will be 100 l/day. Up to 2010, the water coverage in towns will be 90%. The water consumption per capita will be 120 l/day. Up to 2020, the water coverage in towns will be 100%. The water consumption per capita will be 150 l/day. The water coverage in villages in 2005 will be 43%; it will be 49% in 2010; it will be 60% in 2020.

(4) Drainage

In towns, the drainage pipelines will be laid under the main roads and streets. The combined system is acceptable in short term. But in long term, it should be separate system.

(5) Greening

The greening in the towns should match the local natural conditions. The industrial and residential areas should be separated by the greening belt with the width not less than 20m. The large greening belt surrounding the towns should be constructed.

(6) Sanitary Facility

The sanitary management agency should be established in towns. A sanitary institute also needs establishment. The staff of the institute should be about 0.2-0.3% of the population. The institute should be equipped with some professional vehicles and other tools. It is responsible for the cleaning of trunk roads and secondary roads and the transportation of solid waste.

A sanitary disposal plant for solid waste should be constructed. The location of the plant should be far from the water resources and match the local geological conditions. The life of the plant should be longer enough and the transportation should be convenient. The packing of residential solid waste should be encouraged. In the town area, there should be a certain number of solid waste collection stations. Some stations also need setting in the villages.

The public toil should be constructed in the town area and its service semi-diameter
should be 150 m. The toilet should be water-rushed and the dry toilet should be upgraded gradually.

(7) Energy

The energy structure should be adjusted in towns. The facilities of central heat supply, power supply and liquid gas supply should be constructed. The utilization of methane and solar energy should be developed. The use of coal will be reduced in order to improve the bio-environment and living quality.

(8) Construction of Wastewater Treatment Plant and Other Centralized Treatment Facility

Central Town and Demonstrative Town

Central Towns

In order to speed up the development of small towns, a series of central towns and demonstrative towns will be identified. They will drive the development of ordinary towns and central villages.

A central town should satisfy the following conditions.

(1) It should have location advantage with convenient transportation. It is normally located in the center of the county area.

(2) The population should reach a certain size and the percentage of non-agricultural population should be higher than the other towns under the administration of same county.

(3) It should have relative strong economic capacity. The main economic indicators, such as GDP, financial revenue, income per capita, percentage of secondary and tertiary industries, should be better than the average level of the county.

(4) The infrastructure and public facilities of education, culture and sanitation should be constructed well.

(5) The various markets should be established. The service facilities should be constructed. It should be the goods distribution center in the area.

(6) The leadership should be strong enough. The leader should have strong reform and service awareness.

(7) It should have strong radiation capacity and drive the social economic development of the surrounding area.

Table 5-1 presents the 100 central towns.

Central Towns with the Population over 50000 in Liaoning (2000)

Table 5-1
<table>
<thead>
<tr>
<th>Name of city</th>
<th>Quantity</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shenyang</td>
<td>10</td>
<td>Laiozhong, Faku, Kangping, Hushitai, Baitapu, Shaling, Hutai, Chenxiangtun, Honglingpu, Ciutuo</td>
</tr>
<tr>
<td>Dalian</td>
<td>10</td>
<td>Dachangshan, Pikou, Anbo, Dengshahe, Dalianwan, Yingchengzi, Tieshan, Qingduizi, Fuzhoucheng, Paotai</td>
</tr>
<tr>
<td>Anshan</td>
<td>11</td>
<td>Tai’an, Xiuyan, Nantai, Niuzhuang, Xiliu, Teng’ao, Pailou, Gaolifang, Pianling, Ningyuan, Shahe</td>
</tr>
<tr>
<td>Fushun</td>
<td>7</td>
<td>Qingyuan, Xinbin, Nanzamu, Yongling, Caoshi, Hongtoushan, Zhangdang</td>
</tr>
<tr>
<td>Benxi</td>
<td>4</td>
<td>Huairen, Xiaoshi, Caohekou, Erhulai</td>
</tr>
<tr>
<td>Dandong</td>
<td>6</td>
<td>Kuandian, Qianyang, Tongyuapu, Saima, Yongdian, Gushan</td>
</tr>
<tr>
<td>Jinzhou</td>
<td>8</td>
<td>Heishan, Yizhou, Xinlitun, Goubangzi, Shuangyang, Shishan, Zhong’an, Qilihe</td>
</tr>
<tr>
<td>Fuxin</td>
<td>5</td>
<td>Ajin, Zhangwu, Huadong, Paozi, Ha’ertao</td>
</tr>
<tr>
<td>Yingkou</td>
<td>6</td>
<td>Gaokan, Shuiyuan, Tangchi, Gouyan, Wanfu, Xiongyue</td>
</tr>
<tr>
<td>Liaoyang</td>
<td>6</td>
<td>Shoushan, Yezi, Liu’erpu, Huangniwa, Tong’erpu, Luodatai</td>
</tr>
<tr>
<td>Tieling</td>
<td>8</td>
<td>Xifeng, Changtu, Bamiuncheng, Xintaizi, Fanhe, Qingyunpu, Haojiadian, Xiaonan</td>
</tr>
<tr>
<td>Chaoyang</td>
<td>7</td>
<td>Dachengzi, Yebaishou, Heishui, Dapingfeng, Yangzhangzi, Xiguantun, Sanshijiazi</td>
</tr>
<tr>
<td>Panjin</td>
<td>5</td>
<td>Dawa, Taiping, Gaosheng, Shaling, Tianzhuangtai</td>
</tr>
<tr>
<td>Huludao</td>
<td>7</td>
<td>Shuizhong, Jianchang, Gaoqiao, Dongxinzhuan, Shahousuo, Wajia, Gaoling</td>
</tr>
</tbody>
</table>

**Demonstrative Towns**

In the 100 central towns, 15 demonstrative towns are identified that can drive the development of central towns. For the demonstrative towns, they have certain independent economic management authority and the town government can make decisions independently. The governmental agencies and staff could be set and hired according to the actual need.

The 15 demonstrative towns are: Ciutuo, Fuzhoucheng, Yongling, Gaosheng, Qianyang, Xiliu, Nantai, Goubangzi, Sanshijiazi, Tong’erpu, Gaokan, Caohekou, Paozi, Xintaizi, and Donxinzhuan.
10. Policies and Measurements

10.1 Strengthening the Government Control to the Land Resources

Adjusting the Administrative Area

In order to promote the economic growth and improve the town network, the administrative area will be adjusted with the principles of vicinity, attractiveness and economic linkage.

Implementing Payable Land Use Mechanism

(1) The primary market of land is controlled by central government; the secondary and tertiary markets of land are controlled by the local governments.
(2) The land management department should work with planning agency to prepare the land provision plan. The plan should be modified in accordance with the actual demand.
(3) The land supply should be increased properly. Keeping the dynamic balance of land supply, the rural land use should be reduced in order to ensure the land provision for construction purpose.
(4) Each unit is not allowed to sell its land freely. The illegal revenue from land sale will be expropriated. The extra land will be arranged by the government uniformly. The government will give some award.
(5) The land sale for housing development must be bided competitively in order to prevent corruption and increase the revenue of government.
(6) The use and sale of state-owned land in towns should match the master plan of land use. Otherwise, the state-owned land is not allowed to be sold or transferred and the use of the land will not be approved.

10.2 Establishing Macro-control System of Towns

Strengthening the Planning Management of Provincial Government

(1) The planning management for provincial scenic areas (natural reserves, cultural heritage protection area, forest parks) should be strengthened. The construction of the above scenic areas needs the approval of provincial government.
(2) The location selection of the important projects at provincial level should be strengthened. The planning management departments of cities or towns review the selection of project location and then submit it to provincial planning
management department for approval.

(3) While the master plan is approved officially, it must be implemented strictly. Without the approval of provincial government, the master plan is not allowed to be changed. The constructions must follow the short-term plan.

(4) The preparation and approval of master plans of cities should be quickened.

Playing the Roles of Provincial Urban and Rural Planning Guiding Committee

The institutional arrangement for Provincial Urban and Rural Planning Guiding Committee will be improved. Some scholars will be invited to be the members in order to achieve the scientific and democratic decision making.

Any city and town system plan, city group plan, city plan, county and town plan, master plan, and development zone plan, before submitting to the central government for approval, they must be reviewed by the Committee. The infrastructure construction and environmental projects crossing cities must be reviewed by the Committee. Provincial Urban and Rural Planning Guiding Committee will also monitor and inspect the preparation and implementation of the urban and rural planning.

Strengthening Implementation Management and Monitoring to the Planning

(1) The urban planning display and consulting system. The urban planning should be managed uniformly and the decisions should be made democratically.

(2) The serious illegal construction projects will be handled by the higher administrative authority.

(3) The planning reviewer and monitor must be trained before starting the job.

(4) The provincial planning and monitoring departments will investigate the illegal construction projects together in accordance with the Urban Planning Law.

(5) The monitoring system should be improved and enhanced. The government will review the implementation of planning.

(6) Liaoning Urban Planning Monitoring Regulation will be issued.

Speeding Up the Implementation of Planning

Cities and towns are encouraged to start “ten goods” activity: good residential community, good landscaping street (road), good urban square, good urban park, good commercial street (area), good small towns, good civil sculpture, good public building, good industrial zone, good metropolitan agriculture zone.

Cities and towns are also encouraged to start “six ones” activity: one high standard planning, one planning and construction management method, constructing one entertainment square, upgrading one trunk road, managing one residential community, constructing one industrial zone.
10.3 Deepening and Improving Provincial City and Town System Planning

Preparing Shenyang-Dalian-Anshan City Zone Plan, West Liaoning City Group Plan, and East Liaoning City and Town Group Plan

Preparing Coastal Line Development Planning of Liaoning

Preparing Landscaping Plan along Highways

Preparing Metropolitan Area Planning

Under the direction of Liaoning City and Town System Plan, 5 metropolitan area planning will be prepared. The construction and distribution of large infrastructural facilities will be planned uniformly.

Quickening the Planning of Counties

Under the direction of Liaoning City and Town System Plan, the quantity and distribution of towns should be identified rationally. The central towns should be selected. The construction of infrastructure should be planned uniformly.

Preparing Provincial Road Control Planning

The construction works along the national and provincial level roads must be controlled strictly. A certain area at tow sides of the roads should be regulated as no construction area, control area and construction planning area.

Improving the Content of Urban Planning

The mast plan should cover the overall planning area of the city.

10.4 Quickening the Construction and Reform of Small Towns

Reforming Agriculture Operation

The peasants working in cities and towns are encouraged to withdraw from the contracted land. The intensive production of agriculture will be achieved.

Reforming Management Institution
The construction function of town government should be enhanced. The special management agency should be established.

**Reforming Household Registration System**

The household registration should be focused on the residential area. The registered population should be separated into agriculture and non-agriculture.

**Reforming the Model of Land use**

A certain area of land should be allocated for the construction of small towns. The land use should be chargeable.

**Strengthening the Construction of Central Towns**

The quantity of the small towns should be reduced and the quality should be improved. The quality of construction planning for small towns should be improved. The urbanization of small towns should be promoted. In short term, the development focus is the 15 demonstrative small towns and 100 central towns that can provide good experience for other towns.

**10.5 Various Fund Sources**

**Land Sale**

The land allocation should be optimized and the value of lands should be increased. The revenue from land sale must be used on the infrastructure construction and land development.

**Financial Budget**

The funds supporting the development strategy study and public facility construction of small towns should be included in the local financial budget. The budget should be increased gradually. The provincial level planning will be supported by provincial financial budget.

**Social Source**

According to the principle of “investor benefits”, the social funds should be attracted as much as possible. The external capitals should be attracted to support urban development and construction. For the roads, bridges and channels funded by loans, they should be chargeable to the users.
Taxation

The standard of urban facility maintenance tax could be increased.

Others

For the projects that need to construct greening area and parking lots, all those items should be planned, designed, constructed and used together. Government is responsible to organize related department to construct.