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WORLD MARITIME UNIVERSITY

Shanghai, China

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The Feasibility Analysis of the third Euro-Asia Continental Bridge

By

Weng Tongyou

China

A research paper submitted to the World Maritime University in partial

Fulfillment of the requirements for the award of the degree of

MASTER OF SCIENCE

In

INTERNATIONAL TRANSPORT AND LOGISTICS

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DECLARATION

I certify that all the material in this dissertation that is not my own work has been identified, and that no material is included for which a degree has previously been conferred on me.

The contents of this dissertation reflect my own personal views, and are not necessarily endorsed by the University.

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ABSTRACT

Title of Dissertation: The Feasibility Analysis of the third Euro-Asia Continental Bridge

Degree: Master of Science in International Transport and Logistics

Abstract:

Nowadays, with the rapid development of economy, unimodal transport cannot meet the demand of customers, in respects of agile manufacturing, speed to market, logistics supply chain management, and multimodal transportation provides a good solution.

In this paper we mainly focus on the feasibility analysis of the third Euro-Asia Continental Bridge. Chapter 1 gives a simple introduction of the dissertation background and literature review. Chapter 2 gives the overview of the intermodal transportation, and mainly introduces the transport way through Euro-Asia Continental Bridge. Chapter 3, 4 and 5 are the main part of the dissertation. Chapter 3 presents the development situation of the Third Euro-Asia Continental Bridge, and analysis its main advantages and opportunities. Chapter 4 shows the economic impact of the Third Continental Bridge that it brings to the countries alongside, such as China, Burma, India and Netherlands. Chapter 5 gives a mathematic modal of regression to analyze the relationship between the continental bridge transport and national economy, and in this chapter it also gives us a simple analysis of the problems and aspects that we should pay attention to. The final part, chapter 6, is the conclusion.

KEYWORDS: Intermodal; Euro-Asia Continental Bridge

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Chapter 1 Introduction

1.1 Research Background

Nowadays, with the rapid development of economic and economic globalization, unimodal transport cannot meet the demand of customers, in respects of agile manufacturing, speed to market, logistics supply chain management, and multimodal transportation provides us a good solution. And in the process of Euro-Asia economic integration, the Euro-Asia Continental Bridge Transport as one of the most important ways in intermodal transportation plays a decisive role in connecting the economic development between Europe and Asia. Moreover, with the development of Euro-Asia Continental Bridge Transport, it also helps to develop the economic level of the countries aside the land bridge. Besides, although the land bridge transport has many advantages and has a good help to develop economics, it hasn't been widely used in maritime logistic industry, and many companies still choose single seaway transport instead of intermodal transportation, especially through the Euro-Asia Continental Bridge. So what are the reasons? Besides, to build the third Euro-Asia Continental Bridge in propose will bring lots of opportunities to the development of Chinese economics and also to that of the countries alongside.

1.2 Research Purpose and Research Methodology

In this paper we mainly focus on the research of the development of the Euro-Asia Continental Bridge and its important function in the process of Euro-Asia economic integration. Besides, by comparing with the three Euro-Asia Continental Bridges

each other, we analyze the main advantages of transport by the Euro-Asia Continental Bridge. And we also analyze the reasons that why the Euro-Asia Continental Bridge hasn't got its further development, although it has many advantages by comparing with other transportation ways. Moreover, we give a research on the impact of the third Euro-Asia Continental Bridge, especially to the economic effect to China and other countries aside the land bridge. Another important part of my dissertation is to analyze the problems that might happen in the development process of the third Euro-Asia Continental Bridge, and I also list the suggestions that might help to solve these problems according to the previous experience in building the first two Euro-Asia Continental Bridges. To conclude, the final purpose of the dissertation is to analyze the running possibility and necessity of the third Euro-Asia Continental Bridge transport.

Research Methodology:

This dissertation will mainly use comparison method to analyze the advantages of the Euro-Asia Continental Bridge and give the reasons why it hasn't developed very well. And in that process the paper use actual figures to analyze comparative advantages of Euro-Asia Continental Bridge. Then from the macro and micro view it focuses on the analysis of the third Euro-Asia Continental Bridge. It focus on the general situation of the third Euro-Asia Continental Bridge, and show us its development status, major strengths, opportunities, and its great significance and so on. Another focus point is the economic effect analysis of china and the countries along the third Euro-Asia Continental Bridge. And in the fifth part I give a simple mathematical modal to analyse the liner relativity between the second Euro-Asia Continental Bridge and the GDP development of China (Why I choose the second continental bridge? Because that the third continental bridge is still in the process of programming.). Through the analysis conclusion it deduce to the relationship between the GDP development of China on behalf of the countries along the third Euro-Asia Continental Bridge and the development of the third Euro-Asia Continental Bridge.

1.3 Literature Review

With the rapid development of economy, Globalization has made economies, mainly for sourcing and production functions, change from full product line/regional coverage to focused factory/global coverage and more integrated in recent years (Theo Notteboom, 2007). In the world logistic market, the unimodal transport cannot meet the demand of our customers any more, in respects of agile manufacturing, speed-to-market, logistics supply chain management, and multimodal transportation provides a good solution to customers. And nowadays, intermodal freight transportation are gradually playing a more and more important role in transportation industry, it is a flexible response to changing worldwide marketing and distribution requirement for moving all types of cargoes (Gerhardt Muller, 1999).

Enterprises pay more attention to logistics because of global economic development and sharp competition, so multimodal transportation is developing. The paper wrote by Peng Yuzheng and Shen jincun (2006) presents some advises for multimodal transportation development, by means of discussing the relationship between modern logistics and multimodal transportation. And as we know the primary task of the transport and logistics industry is to move cargo around the world, while from the customers' viewpoint, transport is a service, transport and logistics companies provide a variety of services to meet the specific needs of customers (Martin Stopford, 1997). These needs may involve a whole range of factors, of which the most important are price, speed, reliability, security.

Intermodal freight transport as one of the most important tools to satisfy our customers' needs in logistic transportation industry has many advantages by comparing with other single ways of transportation, such as in the aspect of convenient, cost level, speed and so on. And many previous researchs, Praveen Kumar Chanda (2004), Frank Southworth and Bruce E. Peterson (2000), show us why

intermodal transportation was widely accepted by our customers. One of the main concepts is to find shortest path of minimizing total transportation costs.

Praveen Kumar Chanda (2004) wrote the paper of *Modeling Intermodal Freight Flows Using GIS*. And in this paper, the author builds a simple mathematical model that is formulated taking into account the multiple modes and complex routing rules involved in the intermodal freight transportation. Frank Southworth and Bruce E. Peterson (2000) also worked on the practical issues involved in constructing intermodal freight networks in GIS.

When addressing intermodal transportation routing there are many issues that must be considered, and of the most critical factors is transportation costs. In the article wrote by I Marti;Nez-Zarzoso, L Garcij A-Mene; Ndez & C Sua; Rez-Burguet (2003), they analysed the impact of transport costs on international trade by the case of Spanish Ceramic Exports. And relevant researches include *Optimization of Coordinates Intermodal Transit Networks* wrote by Steven I Jy Chien (1995).

Land bridge transportation as an obviously type of intermodal transportation is widely accepted by our customers because of its own advantages. It gets a further development world widely in recent years, especially in Euro-Asia Continental. With the end of the Cold War and the collapse of the Soviet Union the large economic space of the Eurasian super-continental has also become part of the world-wide globalization process. How this process of integration of Eurasia is proceeding in key areas of cross-continental linkages is of great importance for the future of the region and for the future of the World as a whole (Johannes F. Linn and David Tiomkin, 2006). And in the article wrote by Donald J. Bowersox etc. (1999), the author also give us a simple introduction of the Euro-Asia Economic Integration, especially in the supply chain management. Moreover, we are sure under the macro-environment of integration of Euro-Asia economic the land bridge transportation model will play a more and more important role in the process of economy globalization.

Through the article wrote by Gaël Raballand and Agnès Andrassy (2007), it shows trade volume between Central Asia and China has tripled since 2002. This study, which is based on Chinese sources, explains the reasons for this expansion in trade. Even if numerous obstacles remain, Government development policy in China's western regions has induced trade growth between Xinjiang and Central Asia. So we can know our country pays more attention the construction of the western China, while the Euro-Asia Continental Bridge as a necessarily tool connecting each other.

Besides, we all know that there are two main continental bridges between Europe and Asia, Euro-Asia Continental Bridge (also called Siberian Land bridge) and the new Euro-Asia Continental Bridge. By comparing to each other, they all have their own characters. In recent years many research have introduced the development status of container transportation through the New Euro-Asia Continental Bridge and analysis the opportunities and challenges of the New Euro-Asia Continental Bridge, such as the article wrote by Chen Xueliang (2005), Chen Xueliang (2004),

Moreover, railway transportation is the key element in the transport through the Euro-Asia continental Bridge. And China as one of the representative country in Asia has a propulsion function in the economic development of Euro-Asia. And now there are currently 10 railway corridors in China, linking to the neighbor countries such as Russia, North Korea, Mongolia, Kazakhstan and Vietnam. These railway corridors provide the functions of bilateral passenger/freight transport, ocean-rail multi-mode combined transport and inter-continent land bridge, etc. The paper wrote by Jin Wanjian (2003) illustrates that China has implemented positive policies to bring a full play of these international corridors. It also introduces the development and research plans of inter-continent corridors and inter-region corridors among these international corridors and makes relevant suggestions

And also there are many defects in the railway transportation. In the researches of

Keith C. Campbell (1996), Alexandra Mary Newman (1998), Gao Yuanli (2003), Wei Qiaoyun, Zhang Peilin (2003), they gave the reasons and suggestions of lag development of railway intermodal transportation in China and also gave the optimizing intermodal rail operations. After analyzing the current situation of railway participation in multimodal container transport in China, it pointed out that there were financial, institutional and technological obstacles in the course of railway participation in multimodal container transport. Some proposals were given on railway participation in the multimodal container transport in China (Wei Jigang, 2000).

The research (Li Zhang, 2005) concentrates on the routing and scheduling of the railway line haul. Routing and scheduling is the most important portions of the planning activities performed by railway companies. In this research, they developed an integer programming model to determine optimal operations in minimizing the cost significant cost figures involved in such operations. Although the intermodal transportation system combines several transportation modes, their model concentrates on rail segment operations because improving the on-time performance of the rail segment can increase the timeliness of the entire intermodal route.

To solve the prevalent problem of the low informatization level and lack of relevant decision support systems for the multimodal transport in China (Wang Tao and Wang Gang, 2005), transportation characteristics of various transportation modes are analyzed firstly, and choice basis is put forward after comparison. Then a virtual transportation network of multimodal transport is set up. Finally, a combined optimization model for various transportation modes is deduced based on the above and algorithm is also proposed. And by comparing with single seaway transportation, Wu Zejun and Shan Yu (2007) got the comparative advantages of railway transportation and method of enhancement.

To conclusion, although railway transportation has its own disadvantages in many

aspects, it still has a large potential development in world transportation, especially as one of the important parts in the landbridge transportation, and many suggestions are given in most articles about sloving the problems appeared in the development of landbridge transportation and railway transportation.

Chapter 2 Euro-Asia Continental Bridge

2.1 The Introduction of Multi-transportation

International Multi-transportation is a form of transportation and organization using two or more than two ways to transport. Here what we mention two ways are: Sea-land, Land-air and Sea-air etc. The ways stated above are significantly different from the usual ways that are Sea-sea, Land-land and Air-air etc. The latter ways are transporting through the same traffic tools though they are called joint-transportation. As we all know, each way of transportation has its own pros and cons. Generally speaking, showing from the Table 2.1 and Table 2.2, transportation through sea has its advantages that are greater carriage and lower costs; road transportation is more flexible and is more convenient to meet the door to door service and railway transportation is not affected by the weather and can easily fulfill the long distance transportation on time because it can go further into and go cross the continent; the major advantage of air transportation is to travel goods in a very fast way. The International Multi-transportation has strict limitation that is the traffic should be travelled though two or more than two ways, so this kind of transportation grabs and takes the full use of the advantages of various ways of transportation to reflect the characteristics of the large-scale socialized production and traffic.

Table 2.1 Comparison among main transportation modes

Ways of Transportation	Advantages	Disadvantages
Railway Transportation	Large carriage	Big cost in short distance
	Low cost in long distance	Cannot meet immediate

		transportation
	Safety with fewer accidents	
Road Transportation	Door to door service	Big cost in long distance
	Fewer effects by the outside factors	Not fit for large carriage
	Simple package	low speed in transportation
Sea Transportation	Big carriage with bulks	high loading fee
	Reasonable loading	highly influenced by the weather
	Fit for large goods	less safe and punctual
Air Transportation	Fast delivering	Not fit for cheap goods
	Fit for small carriage in medium and long distance	Limited by weighs and measures
	Simple package	Not fit for transporting far away from the airport

Table 2.2 Comparison of transport costs

Ways of Transportation	Fixed Cost	Variable Cost	General Cost
Railway Transportation	High	Low	Low
Road Transportation	High	Moderate	Moderate
Sea Transportation	Moderate	Low	Lowest
Air Transportation	Low	High	High

The International Multi-transportation has unparalleled superiority than other transportation forms, so this kind of new tech has already been promoted and implicated in major countries and districts all over the world. The forms of organization include:

a. Sea-land Transportation

The Sea-land transportation is the major organization form of international

multi-transportation and one of the major organization forms of Far East/ Euro multi-transportation as well.

b. Land Bridge Service

The Land Bridge Service plays a very important role in international multi-transportation and is the major form of Far East/ Euro multi-transportation. The so-called Land Bridge Service is a way of transportation that uses the trains and trucks special for the container, the roads and railways crossing the continent are supposed and imagined as 'Bridge', to connect the containers travelling by the sea transportation on both sides of the continent through the special trains or trucks. Strictly speaking, Land Bridge Service is a kind of Sea-land multi-transportation. Just because of its unique status in the international multi-transportation, we list it here as a single organization form of transportation. Land Bridge Service takes container as media because under Land Bridge Service, goods need to be loaded several times and if the traditional Sea-land transportation is undertaken, the transportation time is added, loading fee is added and the goods are easily lost and damaged. Reasoned above, this kind of transportation taking container as travelling unit can largely simplify the tally, carrying, storage, safekeeping and loading. What's more, the container is sealed by the Custom, so goods do not need rechecking during the transportation and goods placed in the container can easily be switched to another traveling tool. Judged from above, container transporting is the best way to enlarge Land Bridge Service.

c. Sea-air transportation

The Sea-air transportation is also called Air Bridge Service. The Airbridge Service is different from the Land Bridge Service in the form of organization: Land Bridge Service uses the same container and cannot replace the goods during the transportation, while Air Bridge Service needs the sea container to be switched to the air container at airport. However, the goals of the two services are the same that is to supply fast and convenient transportation service in low rates.

Taken this kind of transportation, the time is less than the one with whole sea transporting and the freight is lower than the one with whole air transporting. During the 20th century, the ships carried the goods from Far East to west coast of U.S. and then transport to inland or east coast of U.S. by air that brings the Sea-air transportation. Of course, such kind transportation is majorly traveled by sea and the last distance is traveled by air. Generally speaking, the longer the distance is, the bigger advantages the Sea-air multi-transportation has on the grounds that compared to whole sea transportation, it has less time and compared to whole air transportation, it has lower rates. So it's suitable to make Euro, Central America and Africa as target market of Sea-air transportation from Far East.

2.2 Euro-Asia Continental Bridge

2.2.1 Background of Continental Bridge Transportation

Continental Bridge Transportation comes after the container transportation. It came out in 1967 when the Suez Canal was closed and Panama Canal is blocked as well, the ships between Far East and Euro had to detour through the Cape of Good Hope in Africa or South America with longer distance, doubled time and more costs because of the rising oil price and at that time the container transport was coming up and was getting popular. Under such historical situation, Continental Bridge Transportation was born. In 1967, the America Continental Bridge Transportation was taken and the old way transportation, whole sea transportation, was changed to sea/land/sea transportation, so shipping goods from the Far East to Euro got great economic result through this method with shorter distance, lower costs and faster delivery.

2.2.2 The first Euro-Asia Continental Bridge

The first Euro-Asia Continental Bridge is also known as the Siberian Continental Bridge, which is the most famous line of the multi-transportation of containers. It runs through the north part of Asia, starting from Khabarovsk and Vladivostok located in the east of Russia, crossing the longest railway all over the world; Siberian Railway, going to the European countries and finally reaching the port of Rotterdam in Netherlands. The Bridge is 13000 kilometers long running cross seven countries including Russia, China, Kazakhstan, Belarus, Poland, Germany and Netherlands.

The Bridge connected the Siberian railways and European railways, the railways in Russia accounting for $\frac{2}{3}$ of the total length. The attraction of the Bridge is in great area. The east end is originally from Japan but now it develops to South Korea, Philippines, Southeast Asia, Hong Kong, Taiwan and other regions. While the west end extended to the whole European Continent, Iran and the Middle East from United Kingdom.

Siberian Continent Bridge was established by the All-Union National Foreign Trade Transportation Corporation in 1971. Nowadays, the fiscal year carriage is 100,000 TEUs and the maximum is 150,000 TEUs. The operators using this Bridge are Cargo Agents mainly from Japan, China and European countries. Among them, Japan exported $\frac{1}{3}$ European grocery and Europe exported $\frac{1}{4}$ Asia grocery by this Bridge. So it's obviously that the Bridge plays an important role in communicating the Euro and Asia Continents and promoting the international trades.

2.2.3 The Second Euro-Asia Continent Bridge

The Second Euro-Asia Continental Bridge is known as the new Euro-Asia Continental Bridge, stating from Lianyungang near the Yellow Sea of China, to the west crossing Xuzhou, Wuwei, Hami and Tulufan in Longhai-lanxin railway to

Urumqi, again to the west running to our border Alashankou through North Xinjiang Railway, entering Kazakhstan, then Russian, Belarus, Poland and Germany to the world's largest port Rotterdam in Netherlands.

The Second Euro-Asia Continental Bridge runs through the Euro and Asia Continents, connects the Pacific and Atlantic Ocean and goes to China, Central Asia, West Asia, East Euro and more than 30 countries in West Euro with a length of 10,800 kilometers which is the longest Continental Bridge in the world. The Second Euro-Asia Continental Bridge shorts the routes by 11,000 kilometers and 15,000 kilometers compared to the one going through the Panama Canal and the one rounding the Cape of Good Hope. And also the Bridge shorts 2,000 kilometers compared to the First Euro-Asia Continental Bridge and along the way of the Second Bridge the natural and economic conditions are even better.

The Second Euro-Asia Continental Bridge opened running international container business at Dec 1, 1992. The New Continental Bridge does not facility the communication between East and West China and foreign countries but also plays a tremendous impact in our economic development.

2.3 Development Status

International container multi-transportation is the trend of the international cargo transportation. We set the integration of European and Asian economies as example, the Euro-Asia Continental Bridge transportation played a key role in its development.

2.3.1 Siberian Continental Bridge Transportation

There are 3 joint-transportation ways using the Siberian Continental Bridge

transporting the goods from Japan, Southeast Asia and Hong Kong, China to Euro and Middle East after they were transported to Russian Oriental port or Nakhodka port by sea.

a. Railway/Railway Line

Transported by the Siberian Great Railway to Border Station in West Russia, through Iran, East Euro and West Euro railways to Europe and vice versa.

b. Railway/Sea Line

Transported by Siberian Great Railway to Moscow, St. Petersburg, Riga or Tallinn port in Baltic Sea, and then shipped to West Euro, North Euro and Balkans District and vice versa.

c. Railway/Road Line

Transported to western border in Russia by Siberian Great Railway and then traveled to the European by roads and vice versa.

2.3.2 Transportation of New Euro-Asia Continental Bridge

Here we set international container transportation as an example, from the beginning of international container transportation using the New Euro-Asia Continental Bridge, in 1977 the Bridge took the business to the peak 30,016 TEUs, but because of the financial crisis in Southeast Asia and bad economic market in Central Asia, in 1998 the Bridge carriage experienced a drop and remain in a low volume in the following years until the international transportation market went hot in 2005 when China Shipping Group invested in Lianyungang Container Corporation, the bridge head of the New Euro-Asia Continental Bridge, and built the New Oriental Container Port, and then the carriage returned to 29,004 TEUs, and reached 49,892 TEUs in 2006. (See Table 2.3)

Table 2.3 TEUs by the Bridge from 1995--2006

Year	TEUs by the Bridge	Year	TEUs by the Bridge
1995	257	2001	7526
1996	12118	2002	4175
1997	30016	2003	5350
1998	12194	2004	8329
1999	10514	2005	29004
2000	4893	2006	49892

Although the TEU by the Bridge is keeping the trend of increase, the business is still far away from the 3 million TEUs transported by sea between China and Euros and from the 70 million transported by the sea between Asia and Euro.

2.4 Existing Problems

2.4.1 Siberian Continental Bridge

Since the early 70js, Siberian Continental Bridge transport has developed rapidly. At present, it has become a very important transporting line between Far East and West Euro. Japan is the biggest client of this Bridge. During 80js, Japan used this Bridge to carry more than 100,000 containers of goods every year. To solve the traffic tense, the former Soviet Union also built a second Siberian Railway. However, there are still three major problems:

- a. The transport capacity is easily influenced by the cold winter for the ports are closed for months; the Nakhodka port, the Bridge head of Siberian Continental Bridge, is a seasonal port which faces the cold winter winds and operates very hard. Oriental port, placed to the opposite of Nakhodka port, has deep water which supplies the barrier protection and the condition of operation is improved in winter.

b. The carriage volume to the west is twice to the east, the back and forth carriage is imbalanced and the cost of carrying empty container is high, which affects the efficiency and profitability of the transportation.

c. The Bridge is still in tense with old railway equipments. The status is not as good as before after the operation of the New Euro-Asia Continental Bridge.

2.4.2 New Euro-Asia Continental Bridge

Since the operation of the New Euro-Asia Continental Bridge on Dec 1, 1992, the Bridge mostly took short distance transportation. 92% of the goods from South Korea and 70% of the goods from Japan are still carried by Siberian Continental Bridge. More than 50% of the goods from the coastal area of China, like Guangdong, Zhejiang, Shanghai, Shandong and other provinces to Russia and countries in North Euro are carried by Siberian Continental Bridge. The reason why the New Euro-Asia Continental Bridge did not fully use its advantages is:

a. high freight

From the whole picture, the freight of New Euro-Asia Continental Bridge per kilometer is \$0.142/TEU which is much bigger than the one with Siberian Continental Bridge and the one carried only by sea. Plus, there is a higher transit fee charged between China and Kazakhstan, the freight per unit by the railway is around \$160 more than the one using Siberian Continental Bridge. Uzbekistan Daewoo, transporting 17,000 TEUs of auto equipments through the New Euro-Asia Continental Bridge during the peak time of transporting, has to pay nearly 3 million dollars freight over the one using Siberian Continental Bridge. In order to improve the New Bridge business, from year 2001, the double payment of crossing the border fee has been canceled. Even so, the freight using the New Euro-Asia Continental Bridge is still much higher than the one using Siberian Continental Bridge.

Table 2.4 The Indicators Comparison between New Bridge transport and other kinds of transports

Means of transport	Transport Distance	Freight per Kilometer	Total Freight
New Euro-Asia Continental Bridge	10870	\$0.142/TEU	\$1543.54/TEU
Siberian Continental Bridge	11880	\$0.060/TEU	\$712/TEU
Sea Transport	20000	\$0.045/TEU	\$900/TEU

b. Low speed transport, Short daily travelling distance

The speed of travelling is getting more and more important in international trades. Although the New Euro-Asia Continental Bridge has short distance, it needs more times loading, so compared with the Siberian Continental Bridge, it has slow travelling speed. Here we set the railway in Xinjiang as an example; the technique speed of the cargo train is 46.9 kilometers/hour in 2000 and a little bit better 48.2 kilometers/hour in 2003, while the travelling speed of the train is 43.6 kilometers/hour and a lower 36.2 kilometers/hour in 2003. The daily travelling distance leads that New Euro-Asia Continental Bridge takes more short distance transportation than long distance transportation. The daily travelling distance of goods in Xinjiang did not change after the operation of New Euro-Asia Continental Bridge, that is 927 kilometers in 1991, 918 kilometers in 1992 and 865 kilometers in 2003 and most of them are short distance transportation.

After our domestic railway of New Euro-Asia Continental Bridge is scheduled to open five lines, the travelling time is getting shorter, like the time between Zhongyun and Alashankou is shortened to 10days, but it still cannot meet the requirements of present international transportation.

c. Tense in railway capacity

One of the important reasons losing New Euro-Asia Continental Bridge business is

that a lot of goods have to stay because of the tense of the railway capacity. Still set Xinjiang Railway as an example, since the operation of New Euro-Asia Continental Bridge in 1992, the volume and turnover of the goods are sharply increased, however, the operation miles of railway is not increasing until a double increase in 1999, which leads to the tense of Xinjiang railway capacity especially the north Xinjiang railway and influences the speed of the transporting using Euro-Asia Continental Bridge because the transport capacity is 100% full of use.

d. Weak Boundary Clearance

The efficiency of the boundary work is an important reason affecting the efficiency of the Euro-Asia Continental Bridge. Euro-Asia Continental Bridge needs four or five countries; ports whatever land ports or sea ports. Showing from the statistics, the stay-in-port time takes up 30% of the total transporting time. In this residual time, the time because of documents and Custom inspection accounts for 60% and the service transfer takes up the rest 40%.

The fundamental construction of railway equipments drags the lag of developing, which makes replacing the goods and entering the Custom interminable. The New Euro-Asia Continental Bridge runs across seven countries by two kinds of gauge: standard gauge in China, taking up 37% of the total length; the broad gauge in CIS territory, accounting for 48.8%, and standard gauge in Poland, Germany and Netherlands with 13.6%. The average transport speed is low, the freight is high and the goods are lost and transferred late in the ports, which leads twice replacement and several times changing agents using the Euro-Asia Continental Bridge.

e. New Euro-Asia Continental Bridge is less competitive in Euro

New Euro-Asia Continental Bridge is less competitive in Euro and is unable to take more business traveling back to east. In addition, the clients of New Euro-Asia Continental Bridge are mainly in Central Asia, like Kazakhstan and Uzbekistan. And because the economy in Central Asia is less developed, the goods travelling to the east are not in big amounts.

f. Poor information service

As to the Continental Bridge transportation, learning the current transporting situation of goods becomes the basic requirement of clients because of long distance, many transfers and some uncertainties. However, this kind of service using New Euro-Asia Continental Bridge cannot compare with the one using Siberian Continental Bridge and such service has a long way to walk.

Chapter 3 The Third Euro-Asia Continental Bridge

3.1 Basic Situation

In strategic thoughts, the Third Euro-Asia Continental Bridge starts from Shenzhen port, the preventative of coastal ports of Guangdong, runs along Kunming, via Myanmar, Bangladesh, India, Pakistan, Iran, Turkey and then goes into Euro and finally reaches Rotterdam in Netherlands, crossing more than 20 countries with a length of 15,157 kilometers, which is around 3,000 kilometers shorter than going through the southeast coast and Indian Ocean through the Strait of Malacca.

The Third Euro-Asia Continental Bridge passes through the Trans-Asian Railway line under the AMBDC mechanism (ASEAN-Mekong Basin Development Cooperation mechanism), connects the south of Asia with southeast of Asia. The Third Euro-Asia Continental Bridge makes the Asia from east to west and from south to north connected by the railway nets for the first time and becomes another most convenient and safest international land channel linking the south China with East Asia, Southeast Asia, Central Asia, West Asia, Euro and Africa after the north line and middle line in China.

3.2 Major Strengths and Opportunities

3.2.1 Major Strengths

- a. good location and climate condition, the whole Bridge avoids the cold and desert

region and the neighbor ports do not have freezing period, intensive railway nets along the way, easily connect to the important sea ports and airports in the world, meet the basic requirement of international traffic transporting that is convenient, safe, efficient and less costly;

b. There are intensive railway nets along the Third Euro-Asia Continental Bridge, from east to west that are the in-do China railway network, the subcontinent of South Asia railway network, West Asia railway network, European railway network and North Africa railway network. There are nearly completed railway networks in China except the line from Dali to Ruili. Then after the line is completed, we can easily reach the border of Myanmar. Outside China, we only need to build the line from Ruili to Laxu and then we can connect with the Myanmar railway networks. For Myanmar, they only need to build a line to Chittagong of Bangladesh, and then they can connect the Chittagong with the Indian railway networks. Then a railway bridge network will be made, making the whole bridge running through;

c. The Third Euro-Asia Continental Bridge connects the world's biggest port with largest volume, at the same time, these ports are also important airports (such as Shenzhen, Hong Kong, Singapore, Chittagong, Calcutta, etc.) with intensive air network. So the built of Third Euro-Asia Continental Bridge combines the sea transport, land transport and air transport, uses the strength of each kind of transport, implicates joint transport and fully takes advantage of the complicated traffic transportation system;

d. The Third Euro-Asia Continental Bridge connects the Asia, Euro and Africa, the area and the population of the three continents account for 50% and 80% separately of the world, so the future is bright. The area along the Bridge is rich in water, flora and fauna, minerals, oil and gas and other resources. Countries are economically complementary. There is an economic bridge built between the resources and markets in order to better the economy and society developing of the countries and districts

along the Bridge. At present, 100% of goods imported and exported to Euro are carried by sea bypassing the Strait of Malacca and the Suez Canal route, almost all the oil from Middle East and Africa shipped to China through the Strait Malacca. The Third Euro-Asia Continental Bridge shortens the transport distance between China and countries in Southeast Asia, South Asia, Middle East, Europe and East Africa, connecting directly to the Mediterranean countries.

3.2.2 Opportunities

a. To enhance the opening up of western border is the important aspect of export-oriented economy of China's new era

The 30 years of reform and opening up makes the Chinese economy on the track of continued development, in 2006, the volume of Chinese economy retains its position as fourth in the world. China has formed the situation that east part, central part and west part develop together, so the development of China cannot live with the development of the west part. West part of China is rich in resources, 160 kinds of mineral resources discovered, and the reserve of the rare metals accounting for more than 90% of the country and water resources taking up more than 80% of the total. The west part of China, known as 'Kingdom of Plants', 'Kingdom of Bio -genetic' and 'Treasure Trove of Mineral Resources', is the great potential market of China.

b. To establish an international channel promotes China's further integration into the world

Since China's opening policy, a lot of money flows to eastern coast, which promotes the formation of the manufacture center and gets together of the airports, sea ports, finance, education, science and technology such factors of the economy development. The eastern coast becomes the district, which has great economic attraction and is effective, and goes into good track of development. However, there is embarrassment that is 'East part is developed and strong but west part is less developed and weak' .

The west part of China seats in the hinterland of Asian continent, linking with Mongolia, Russia, Pakistan, Afghanistan, Indian, Myanmar, Laos, Vietnam etc. in all there are 14 countries, with a border line of 18,000 kilometers, which is nearly the 91% of the total land border line of China. The development of Third Euro-Asia Continental Bridge not only affects on the Chinese opening, promoting economic development and poverty eradication but also promotes China's further integration into the world. From the trend of East Asia and South Asia, China is facing increasing competitive pressure. So China needs building the international great channel to speed up the globalization form the land transport and explores new markets.

c. The construction of railway networks, the protection of opening up the west part

From 2006 to 2010, the investment in Chinese railway construction is four or five times the one 5 years before, reaching over 1,000 billion RMB. Yunnan will invest 50 billion RMB to railway construction in the nest five years, adding 1,500 kilometers of new railway and 600 kilometers of used railway. At that time, Yunnan will create a railway transport network including 'Four lines coming to Yunnan' (Guiyang-Kunming railway, Chengdu-Kunming railway, Nanning-Kunming railway and Neijiang-Kunming railway), 'Three lines going abroad' (China -Vietnam railway, China-Laos railway and China-Myanmar railway) and 'To the north and to the west lines' (Dali-Lijang-Shangri-La railway and Dali-Ruili railway). The railway network, center of which is Kunming, is getting more and more convenient, which will provide network security to China's opening up the west.

3.3 Great Significance

The meanings of building the Third Euro-Asia Continental Bridge are:

a. The transportation of the goods from Sichuan, Yunnan and Guizhou that have nearly 200 million people from the southwest part of China needs 5 or 7 more days

than the transportation bypassing Shanghai and Guangzhou. Here we set the transport between Kunming and Calcutta of India as example, if there is no Yunnan-Myanmar Euro-Asia railway, the goods need to be transported to Shanghai, Guangzhou or Zhanjiang, and then loaded and shipped to India by nearly 6,000 kilometers by sea. Now because of the Yunnan-Myanmar Euro-Asia railway, the distance between Kunming and India is nearly the same as the distance between Kunming and Shanghai, saving 6,000 kilometers travelling and the replacement from railway to ship, meanwhile, the turnover of the goods is increasing and the freight is getting low sharply. So, the goods from West China or maybe the whole China to India subcontinent, Euro and Africa can transport through the Third Euro-Asia Continental Bridge from Kunming or shipped from Rangoon. The distance between Kunming and ports of the South Europe is nearly 7,000-8,000 kilometers fewer than the sea transport distance. The time will decrease from more than three weeks to around 10 days and so the time of transporting between China and Europe is less than that between China and U.S. By doing so, the freight can be saved a lot, and because of the increasing of turnover and the use of the funds, Asian and European goods will be more competitive and the funds of trading will increase sharply, and then the corporation between Asia and Europe can catch up with the OPEC.

b. The Third Euro-Asia Continental Bridge can not only split the goods from North China transporting by the first and second Euro-Asia Continental Bridge, increase the total amount of Asia-Euro trades, and increase the economic links among nearly 400 million people from Asian, European and North African countries along the road, affecting the models of international trade, but also have positive impacts on China's opening up. Nowadays, the dependent degree of our external trade with APEC is 74% (means that 74% of external trades are made with APEC countries). Along with the operation of the third Euro-Asia Continental Bridge, the trades with coastal countries of Indian Ocean (South Asia, West Asia and Africa) and the European Union will be increased sharply, which reduces the dependent degree with APEC and splits the risks of being too dependent on U.S. and Japan.

c. It's not common that the trade amount between China and India is only 100 million but China and India have more than 200 million people. Such situation will end after the third Euro-Asia Continental Bridge is completed and the relationship will get better. Meanwhile, the cooperation between China and East Union countries is getting closer. So we can say it's really a big thing in South-South cooperation.

3.4 The necessity and the key of the construction

3.4.1 Necessity

3.4.1.1 To adapt to the needs of development of economic globalization

Economic globalization is getting formed along with the development of international market and information reform. Under the trend of economic globalization, any country cannot live alone in the world but join the globalization to get further development. The construction of the third Euro-Asia Continental Bridge promotes the links of countries along the Bridge, deepens the international diversion of labor, achieves the optimal distribution of resources and increases the economic development. So the construction of the third Euro-Asia Continental Bridge is the adaption of economic globalization and the need of the international economic development.

3.4.1.2 The objective needs of promoting the economic cooperation of multi-regions

Regional cooperation is the trend of the international economic development. Along the third Euro-Asia Continental Bridge, there are many multi-related regions and sub-regional organizations such as the Cooperation Forum of China, India, Burma and

Bangladesh; ;South Asian Association for Regional Cooperation; ;South Asian Free Trade Area; and ;West Asia Oil Allies;. And these cooperation organizations constitute a huge network of regional economy. The construction of the third Euro-Asia Continental Bridge will definitely improve the construction of the regional and sub-regional organizations of economy cooperation from developed and less developed districts along the Bridge to a wider area and a deeper level and create a more favorable condition of opening up and cooperating among regions. So, the construction of the third Euro-Asia Continental Bridge is the objective need of regional economy cooperation and economic win-win mode.

3.4.1.3 The needs of future development of the countries along the Bridge

In favor of the communications of goods and information between Asia and Europe; in favor of improving the development in economy and international trades of countries along the Bridge; in favor of improving the opening up in coastal area, pushing forward the balanced regional economic development and speeding up the process of industrialization and urbanization process; in favor of the economic complement between Asia and Euro; in favor of the Asia-Pacific economic recovery and rising; in favor of pushing the economic and trade center of the world eastward and making it to be a huge economic area of European and Asian economic and culture cross lands

3.4.1.4 The needs of Chinese economic development

In favor of our economic construction and creating a peaceful surrounding environment; in favor of improving the status of the cities and ports along the Bridge and the competition of Chinese market; in favor of building a multi-channel pattern of shipping and improving the ability to avoid the risks of international sea transports; in favor of remaining the peaceful and stable relationship between China and surrounding countries and promoting the communication of economy, culture and labor with surrounding countries; in favor of implementing the strategy of the development of western region and having significance of comprehensive national

unit, economic growth, social stability and considerate border.

3.4.2 The key of the construction

The key of the third Euro-Asia Continental Bridge construction is Asia and also the key of Asia is Kunming-Chittagong railway. Kunming-Chittagong railway is not only an important part of the third Euro-Asia Continental Bridge but also the main content of Trans-Asia Railway and integrated transport network of Euro-Asia. Speeding up the construction of Kunming-Chittagong railway will not only improve the traffic fundamental equipments and development of economy and society of cities and countries along the Yunnang-Burma railway but also plays an important role in construction of the third Euro-Asia Continental Bridge.

The suggestion of building the Kunming-Chittagong railway is started by Kunming. The railway bypasses Kunming, Dali, Ruili, Muse in Burma, Lashio, Mandalay, Neibidu, Maguire, Ancun, and finally reaches Chittagong in Bangladesh, with a length of 2,000 kilometers, 1,400 kilometers of which is in foreign territory. Nowadays, the railway Kunming-Dali-Ruili in China which is under reconstruction or will be constructed is the west line of Trans-Asia railway. Kunming-Dali railway which is 300 kilometers long is under reconstruction of speeding line, while Dali-Ruili railway which is more than 330 kilometers is under construction. Therefore, Kunming-Chittagong railway will be completed only if the construction and reconstruction of foreign parts are finished. Extend the railway from Chittagong to the west and then Indian railway network will be connected and extend further to west, the railway can reach Middle East, Euro and North Africa to form the third Euro-Asia Continental Bridge.

Chapter 4 Impact Analysis of districts and countries along the Bridge

4.1 China

In the current situation of China and the world, the reference of the strategic thought of the third Euro-Asia Continental Bridge has important practical significance to the development of Chinese economy:

a. The construction of the third Euro-Asia Continental Bridge will help to expand our international development. Since 30 years of China's opening up, 'Made in China' is spreading in international market especially in developed countries of Europe and America, which inevitable raises the number of the trade friction. Some European and American countries increased the number of trade barriers and anti-dumping measures to limit our exporting, which will make our traditional exportation market face bigger and bigger risks. The pressure of the fact forces us to find new export market. The thought of third Euro-Asia Continental Bridge provides us the level to further explore new markets because the third Euro-Asia Continental Bridge connects the Southeast Asia, South Asia, North Africa and Middle East. On one side, most of the countries in this area are developing countries that have desperate need of developing the local economy. And, this area is one of the top areas in economic growth all over the world; on the other side, China is getting closer with this area in economy cooperation and the space of cooperation is getting bigger and bigger. Especially entering the 21 century, the trades between China and Southeast Asia, South Asia, North Africa and Middle East is increasing. From 2001 to 2007, the average growth speed of export trades between China and East Union is 27.7%, while that of import trades is 26.2%; the average growth speed of export trades between China and Middle East is 33.4% and that of import trades is 28%; the average growth speed of export trades between

China and North Africa is 33.6% and that of import trades is 34%. All of these are higher than the number Between China and Euramerican countries, which shows that our country have strong complement with these areas and if the thought of the third Euro-Asia Continental Bridge can go from the academic level to real country cooperation level, our international development space will be greatly explored.

b. The construction of the third Euro-Asia Continental Bridge will help us to improve international cooperation of energies. Although our country is rich in the energy and can meet 90% self-supply, the energy needed to speed up the development of economy and society is not fully self-supplied especially for the need of oil because the structure of the energy is un-balanced and factors like lower capita of the energy. Nowadays, our country is one of the biggest countries in oil import and the dependent degree of outside is around 43% which is very high. Some experts expected that, around 2020, China will be the no1oil import country all over the world. For a long time in the future, the use of international energy will be an important content in our economic and society development. The third Euro-Asia Continental Bridge in thought connects the world energy treasury; Middle East and the economic complement is fairly high between China and Middle East. The economic cooperation is getting closer nowadays between two parts, and the Dubai financial center pointed that: the trade amount between China and Middle East doubled since 2000 up to \$240 billion and would increase several times in the following ten years. Therefore, the construction of the third Euro-Asia Continental Bridge will further advance the economic links between China and Middle East and provide bigger space for our cooperation in international energy.

c. The construction of the third Euro-Asia Continental Bridge will help our country to implement 'Free Trade Zone Strategy'. Hu, Jintao, the general secretary, pointed during the report of 17th Domestic Meeting of People that: we need implement the 'Free Trade Zone' Strategy. Our country started building the free trade zones in 2004, and up to Oct, 2007, our country has been negotiating 12 free trade zones with 29

countries or districts. In the 12 zones, 5 zones have been signed and 7 zones have been negotiating, what's more, other 3 zones have been researching under authorities. And 5 zones of them are running cross the third Euro-Asia Continental Bridge. The China - ASEAN Free Trade Area and the Mainland and Hong Kong and Macao Closer Economic Partnership Arrangement have been made substantive progress, China - Pakistan has signed a free trade area agreement, and only China - India regional trade arrangement is still the official joint research. At the same time, the third Euro-Asia Continental Bridge in thought connects to China-based Asia-Pacific Economic Cooperation in East Asia board, Association of Southeast Asian Nations, China-India-Burma-Bangladesh Cooperation Forum, the Bay of Bengal Cooperation Organization, the Pan-South Asian Association for Regional Cooperation, the Indian Ocean by the community South Asia Free Trade Area, the Gulf Cooperation Council, Organization of Petroleum Exporting Countries, the European Union, the African Union and many other interrelated and mutually covered region and sub-region economic cooperation organizations. The construction of the third Euro-Asia Continental Bridge will enable these organizations to connect through a main artery of transportation to promote a higher level in the region and wider cooperation. This will further provide a new platform to promote the China's strategy of Free Trade Area and actively participate in the development of regional economic integration.

4.1.1 Bridge Head--Shenzhen

The threshold of the third Euro-Asia Continental Bridge is Shenzhen port which has 21,099,100 TEUs throughput with a 14.24% increasing. There are 298,400 ships in and out of the Shenzhen port. The effect and radiation of the port are increasing and the port has economic benefit of scale and a strong ability to integrate. At present, Shenzhen port still needs more supply to drive the economic growth. In the third Euro-Asia Continental Bridge under construction, Shenzhen port, as the bridge head, will stimulate the port business nearby, fully support the construction of the third

Euro-Asia Continental Bridge and take the advantage of the comprehensive strength of Shenzhen container hub and Hong Kong free port. Along with the integrity of Shenzhen and Hong Kong is accelerating, Hong Kong and Shenzhen can complement each other, build the world's strongest and biggest port hands with hands and construct the more competitive and benefit ports with high efficiency, convenience and modernism.

Yantian port is the most advanced, most efficient in management and biggest in scale. The throughput of the containers will increase over 10 million TEUs in 2010 than that in 2006 which is 8.86 million TEUs. And further play the advantage of Shenzhen-based foreign trade container cargo hub. In addition, Shenzhen port has good cooperation relationship with main ports in Euramerica, Asia and Africa and world famous shipping companies and builds a friend relationship with Rotterdam port, which will help to greatly enhance its international competition and effect.

4.1.2 Hub--Yunnan

2000 years ago, Yunnan was the important channel connecting China with Southeast Asia and South Asia, known as 'the ancient Southern Silk Road'. Yunnan province locates on the connection with China and Indochina Peninsula and the South Asia subcontinent, bordering with Vietnam, Laos and Myanmar directly, and it is the most convenient channel to South Asia, Central Asia, the Indian Ocean, Euro and Africa without bypassing the Strait of Malacca. Yunnan province has a good location, faces broadest market, has the strongest complementary with ASEAN and countries along the Bridge, has a longest history of friendly communications and has the best external connectivity. Along with the completion of three-dimensional traffic network in Yunnan, Yunnan can take the advantage of unique location and traffic strength to gather the labor flow and goods flow from Southwest China and South China especially those to South Asia and Southeast Asia, becoming the hub of the third

Euro-Asia Continental Bridge. Nowadays, Yunnan, in Southwest China, is on the forefront of international communication with countries of Southeast Asia and will take the next step to extend westward to Bangladesh and India and southward to Thailand, becoming the information platform of the third Euro-Asia Continental Bridge. Besides, Yunnan will be all kinds of industrial business and export processing base of the third Euro-Asia Continental Bridge and because of the good location, promotes the integrity between China and Euro-Asia Continent in economy, explores the width and depth of opening up and becomes the model district to enhance the border open.

Yunnan has the potential to be the financing center for Asian mineral trades. At present, China and neighboring countries are becoming the hottest area of mining investment because of being rich in mineral resources, however, the lack of a world-class trading and financing platform for mining blocks the business development. At present, there are three financing centers of mineral trades in the world, namely, Toronto Stock Exchange in Canada, Stock Exchange in Sydney, Australia and South Africa Johannesburg Stock Exchange. Yunnan, as the province rich in mineral, has the conditions to first explore this area, building a world-class mineral trades and financing center that should be famous in Asia and known in the world. Yunnan Mining right trading center has a certain market size since establishment in 2006 and the influence of this center in China and even in Southeast Asia is rising. What's more, because of the obvious strength in location and mineral resources, Yunnan has good foundation in communicating with foreign countries, especially in mining exploration and development cooperation with Southeast Asian countries. The build of professional right trading market and financing platform will further improve the regional economic development and expand the demands of the logistic market.

4.2 Burma

The construction of the China-Burma oil and gas pipeline has increased the weight of the third Euro-Asia Continental Bridge. From the history of Continental Bridge development, the construction and improvement have close relationship with energy strategy. The third Euro-Asia Continental Bridge run through many oil-exporting countries and the sub-line of the third Euro-Asia Continental Bridge can further extend to Africa Continent, which has great significance in China's energy safety strategy. From the plan research result of the construction of China-Burma oil and gas pipeline, the movement is the same with the movement of China-Burma railway section in the third Euro-Asia Continental Bridge, if Jiaopiao is chosen to be the crude oil port, then the two movements are almost completely overlapped. The construction of the third Euro-Asia Continental Bridge provides the way for economy and society developments of related parts, enhances the links and cooperation among them and provides strong protection for the construction of oil and gas pipeline and continued effective operation after its construction. The overlap of oil and gas pipeline and the third Euro-Asia Continental Bridge profoundly shows the 'interactive' relationship, gives the deeper meaning of the third Euro-Asia Continental Bridge from energy safety view and lifts the strategy position of the construction of the third Euro-Asia Continental Bridge.

According to the 'point-axis' theory for regional development, along with the rapid economic development of Trans-Asia, the eastward movement of the international trade, the third Euro-Asia Continental Bridge has more and more important strategic significance. The third Euro-Asia Continental Bridge will be not only a transport channel but also main axis of the regional economic development; the Bridge connects the Pacific Ocean to the eastward, so it will definitely attract the eyes from East Asia, Southeast Asia and the Pacific Rim countries, and connects with Central Asia, West Asia and Europe, being the channel of enhancing the Euro-Asia technical

and culture communications; plus the obvious complementary strength and optimize portfolio advantage in terms of resources and economic structure of the areas along the Bridge. Therefore, the countries along the Bridge will enhance the bi-direction radiation of Trans-Asia and Europe, at the same time sharing the result of the construction of the third Euro-Asia Continental Bridge.

4.3 India

4.3.1 The benefit to Indian economic development from the third Euro-Asia Continental Bridge

a. Regional advantage to Indian economic development

India locates on the only way from East Asia and Southeast Asia to Europe and will play the role of strategic hub after the completion of third Euro-Asia Continental Bridge. India will be the economic connection coordinates of East, Southeast and Europe, connecting the Indo-China railway network, the subcontinent of South Asia railway network, railway network in West Asia, Europe railway network and North Africa railway to the network groups. Along with the construction of third Euro-Asia Continental Bridge, the sea ports along the Bridge such as Shenzhen, Hong Kong, Chittagong and Calcutta will be connected and Indian good location on this channel will come out. The obvious strength of location and the joint transport of sea, air and land transports will help to form and develop the Indian trade center and industrial processing center.

b. Enlarge the degree of opening up of Indian economy

With the development of economic globalization, China's opening up policy has already proved that only opening up can promote the development. The opening up is like a steam machine in modern economic development. The construction of third

Euro-Asia Continental Bridge improves not only the link between India and neighboring countries but also the links of Southeast Asia countries, China and European countries. Along with that India becomes the strategic hub of third Euro-Asia Continental Bridge and the trade amount is increasing, India will definitely expand its opening up and meet the continued development of Indian economy.

c. Lower the cost, form the logistic system on land and extend the foreign trades of India

The construction of third Euro-Asia Continental Bridge, as to developing countries like China and India, to construct a brand-new traffic system of goods transporting by land and to implement under the standards and requirements of modern international logistics from whatever the hardware building or software designing is to meet the needs of expanding the local market in China and India and to be the result of domestic and international interaction of China and India. A logistic system on land will be formed communicating with China, Southeast Asia, South Asia and Europe, which not only lowers the transporting costs and increase the oversea competition of Indian goods but also provides the conditions of expanding Indian external trades and realizes the development of Indian economy.

d. Promote the Indian carry-on business of exports and formation of process base of imports and exports

After the construction of third Euro-Asia Continental Bridge and the formation of the logistic system on land, India will be the business logistics center linking the west and the east. Along with the expansion of the trades and the construction and consummation, the environment and conditions the India manufacturing facing to will get a sharp improvement. Under the pull of huge emerging markets long the Bridge and the drive of the channel construction, Indian can fully play its complementary strength with countries and districts along the Pacific Ocean and Mediterranean, positively meet the market needs, undertake the industrial transfer in developed areas along the Bridge and form an industrial group of processing trades and import and

export processing bases facing to South Asia, Southeast Asia, West Asia and Africa in central cities along the Bridge.

e. promote the economic cooperation development between India and other countries

The third Euro-Asia Continental Bridge connects Asia, Europe and Africa, the area and population of them are over 50% and 80% separately, with bright future. The countries along the Bridge are rich in resources and are highly complementary with each other. A fast 'Bridge' between resources and markets can be made to optimize the resources distribution of India and other countries along the Bridge, which will promote the Indian cooperation economy and meet the win-win development. The third Euro-Asia Continental Bridge not only will be a great channel of Euro-Asia economy and trades on land but also bring tourism and science and technology to meet the development of Indian tour economy and cooperation communication of science and technology.

4.3.2 The future of Indian economic development under the driving of third Euro-Asia Continental Bridge

a. Indian economy steps forward to join the world

Along with the construction of the third Euro-Asia Continental Bridge, Indian economy in future will follow the new type of opening up strategy that is to win on both sea and land. The construction of the third Euro-Asia Continental Bridge will connect 'three Asia' (East Asia, South Asia and West Asia), communicate 'three oceans' (Pacific Ocean, Indian Ocean and Atlantic Ocean), run through 'three continents' (Asia, Europe and Africa). The realization of the thought of the third Euro-Asia Continental Bridge will bring India the unprecedented economic development opportunities and closer communications in economy, politics and culture between Indian and Southeast, China, West Asia and Europe. And along with the development of logistic system on land, the expand of the trading volume and the

meet of the cooperation economy, India will explore new markets, improve the general level of opening up and Indian economy will further join the world as well.

b. Indian economy remains the increasing trend

Since the Rao Government implemented reforms in India, Indian economy is keeping growing and becoming one of the developing countries that have fastest economy growth and biggest market potential. However, if the country's economy is meeting the continued development, we have to see if the foundation of the economic development is stable. The construction of the third Euro-Asia Continental Bridge will be a momentum of the Indian economic development. First, the construction of the third Euro-Asia Continental Bridge and the formation of the logistic system on land will bring the expansion of the trade volume and formation of the manufacturing centers, which will provide superior condition for further economic development. Second, the completion of the third Euro-Asia Continental Bridge is also a win-win bridge of corporate cooperation and development, will further broaden the operation idea of India, expand the development space, promote the development of Indian joint adventures and provide a strong impetus to economic development as well.

c. Indian regional economic cooperation is enhancing

Under background of the economic globalization, regional economic cooperation is developing fast. To enhance development of the regional cooperation can take advantage of the resources strength of neighboring countries and optimize the resource distribution; reduce the tariff barriers and promote the development of inner regional trades. Along the third Euro-Asia Continental Bridge, India joins the regional economic organizations such as "China-India-Burma-Bangladesh Cooperation Forum", "South Asian Association for Regional Cooperation" and "South Asian Free Trade Area" and so on. Along with the completion of the land channel, the cooperation among these organizations is getting closer and closer. And along with the continued development of Indian economy, the status of India in these organizations will be more obvious and Indian regional cooperation economy will be

further enhanced.

4.4 Final stop; Netherlands

Netherlands is China's the second biggest trade partners in Europe and Rotterdam port is one of the main ports in Netherlands, usually regarded as the bridge head of the European market by world's shipping logistics entrepreneurs. Rotterdam, as the stronghold of West European Sea and land transporting, is the distribution center for goods of Netherlands and European Union. The crude oil, oil products, corns, coals, ore and so on exporting to West Europe are carried through the port and then are transported to the destination by convenient boat, coastal ship, railway and roads etc.

At present, 14% of the Rotterdam throughput comes from China. Every year China exports a lot of consumer goods here and then the goods are transferred to the Euramerica market through Rotterdam port; a lot of goods like the paper and oil China importing are shipped through Rotterdam to China. If the construction of the third Euro-Asia Continental Bridge comes true, it will help the logistics and business development among China, Asia and Europe. Of course, Rotterdam port and Shenzhen port, two world-class ports, will have greater and brighter room for development cooperation.

Chapter 5 Forecasting and Suggestions

5.1 Regression Analysis Report

Because that the third Euro-Asia Continental Bridge is under programming, so in the part I will use the acture data of the second Euro-Asia Continental Bridge to do Regress to analyze the relationship between the no. of transit boxes and the total value of imports and exports of China that represents the countries along the third Euro-Asia Continental Bridge.

Table 5.1 The No. of transit boxes of China (1992-2007)

Year	Total	To West	To East
1992	50	50	
1993	0	0	
1994	61	61	
1995	257	78 (First train)	
1996	12118	9357	2761
1997	30016	15339	14677
1998	12194	6499	5695
1999	10514	4793	5721
2000	4893	3414	1479
2001	7526	4110	3416
2002	4175	2575	1600
2003	6150	5580	570
2004	8329	6873	1456
2005	29004	22498	6506
2006	43454	33741	9713
2007	57160	37452	19708

Table 5.2 Total Value of Imports and Exports of China

Data from Customs statistics.

Year	RMB 100 million			
	Total Imports & Exports	Total Exports	Total Imports	Balance
1992	9119.6	4676.3	4443.3	233.0
1993	11271.0	5284.8	5986.2	-701.4
1994	20381.9	10421.8	9960.1	461.7
1995	23499.9	12451.8	11048.1	1403.7
1996	24133.8	12576.4	11557.4	1019.0
1997	26967.2	15160.7	11806.5	3354.2
1998	26849.7	15223.6	11626.1	3597.5
1999	29896.2	16159.8	13736.4	2423.4
2000	39273.2	20634.4	18638.8	1995.6
2001	42183.6	22024.4	20159.2	1865.2
2002	51378.2	26947.9	24430.3	2517.6
2003	70483.5	36287.9	34195.6	2092.3
2004	95539.1	49103.3	46435.8	2667.5
2005	116921.8	62648.1	54273.7	8374.4
2006	140971.4	77594.6	63376.9	14217.7
2007	166740.2	93455.6	73284.6	20171.1

Sample No.: 16 (Year: 1992-2007) (Table 5.1)

Variables Entered: The number of transit boxes

Dependent Variable: Total Value of Imports and Exports (RMB)

Disturbing term: e

$$Y=aX+e$$

Use the software SPSS to do regression of linear equation, the result as follows:

Regression

Variables Entered/Removed ^b			
Model	Variables Entered	Variables Removed	Method
1	The number of transit boxes		. Enter
a. All requested variables entered.			
b. Dependent Variable: Total Value of Imports and Exports (RMB)			

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.818 ^a	.669	.645	28935.69172
a. Predictors: (Constant), The number of transit boxes				

ANOVA ^b						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.365E10	1	2.365E10	28.248	.000 ^a
	Residual	1.172E10	14	8.373E8		
	Total	3.537E10	15			
a. Predictors: (Constant), The number of transit boxes						
b. Dependent Variable: Total Value of Imports and Exports (RMB)						

Coefficients ^a					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		

1	(Constant)	22938.552	9537.715		2.405	.031
	The number of transit boxes	2.340	.440	.818	5.315	.000
a. Dependent Variable: Total Value of Imports and Exports (RMB)						

The R Square of the regression equation is 0.669, and the adjusted R Square is 0.645. That is to say the equation illustrates that the number of transit boxes can further the development of Total Value of Imports and Exports. And in the sample, the turnover size has 65% to be able to make an explanation from transiting coming box number.

The value of Sig is about 0.000, that is to say the parameters are significant statistically. The Coefficients no. is 2.34, and it indicates that the size of the volume of trade and transit has a direct proportion with the number of transit boxes. That is to say with the development of the no. of transit boxes the total value of imports and exports will grow too. So we can see that, if we increase the carrying capacity of transit or improve the no. of transit boxes, it will help to promote the development of trade volume.

In the other hand, I use the actual data of China to be a model to explain the relationship between the no. of transit boxes of the second Euro-Asia Continental Bridge and the total value of imports and exports of China. From the above explanation we can infer that with the development of the third Euro-Asia Continental Bridge it will also help to accelerate the development of the total value of imports and exports of China. Further more, it will also help to accelerate the economic development of the other countries along the third Euro-Asia Continental Bridge.

5.2 Forecasting

Most of the Continental Bridge transports are the bulk transport of cross-border long-distance transportation, and its capacity has a close relationship with national resources, the level of economic development, in particular the volume of trade between countries. The methods we forecast the freight turnover volume of the third Continental Bridge through Asia, Europe and Africa as follows: to regional economic growth and international exchanges as the background, and based on international trade to do the total amount forecast of short-term and long-term.

The mainland bridge directly connect with Southeast Asia, South Asia, West Asia and some North Africa countries, although its economy has not yet developed currently, but most of the countries are developing countries, and the potential of economic growth of these countries is very strong, and the growth rate will be much higher than the world average level. These states maintain a more stable relation with China not only in political and diplomatic, but also in frequent economic and trade activities for many years. Besides, the mainland bridge will connect with the railway network of the European developed countries through the northern part of Istanbul, and it will bring more and more potential trade activities.

From the analysis of the multilateral trading situation, we can see that the eastbound cargo types are as follows: jade, wood, fertilizer, petroleum and its products, chemical raw materials, old ships, raisins, cotton, complete sets of equipment, machinery, equipment, various types of vehicles, metals, minerals, chemicals products, ore, cocoa and so on. And the westbound types of cargo are as follows: paper, stationery, sporting equipment, bicycles, textiles, hardware, metal products, steel products, pig iron, medicine, medical equipment, industry and agriculture equipment, rubber products, feed, machinery and equipment, chemical products, livestock, grain, oil, food, handicrafts, tea, rice and so on.

If we make a preliminary forecast of the freight transport volume through the continental bridge based on international trade between countries alongside the continental bridge, the results is that: By 2010, the westbound cargo will reach 11 million tons, and 13 million tons East acts.

In addition, with the opening of the continental bridge as well as the regional economic development and tourism development in northern Myanmar, northeast India and other countries it will attract more and more tourists and promote the passenger movement. The volume of passenger movement thorough the continental bridge will be in a considerable size. The size of railway development determines the demand of transport, but the railway construction is constrained by the natural and geographical conditions, and also the economic strength of objective conditions.

The existing railway network of the continental bridge in China and India has been widely developed and keep a good condition, and its total length is 62,600 kilometers, in which 33,000 kilometers quasi-gauge, 25,000 kilometers meter track, and about 4,600 kilometers narrow gauge. The orbit of continental bridge in India is quasi-gauge, so is West Asia. Further more about 335 kilometers railway in Lebanon which has been abandoned, and this part needs to be returned to work capacity. From the integrated part of domestic and international transport capacity of the continental bridge and compared with the potential traffic demand in comparison, it is easy to see that the existing railway supply of transport capacity is less than the potential future traffic demand. That is to say the transport capacity can not meet the requirements of traffic. So to intensify the construction of the third Euro-Asia Continental Bridge is imperative.

5.3 Questions and Suggestions

5.3.1 Increase research efforts and Focus on key issues

For the purpose of building the third Euro-Asia Continental Bridge as soon as possible, we need to pay more attention to the following three questions: firstly, we need to get a better relationship with the countries that around China, and it is the guarantee for the future construction being finished successfully. Secondly, we have to know that after the third Euro-Asia Continental Bridge having being finished building it doesnot mean that it is opening to the public, and we need to pay more attention to the potential questions that may happen anytime anywhere in the light of the experiences of the second Euro-Asia Continental Bridge. The last key point is that opening is not meaning the development of the aside areas, and these areas need to develop their industries with the step of the development of the third Euro-Asia Continental Bridge.

5.3.2 Phased implementation and Steady progress

It is possible for us to building the third Euro-Asia Continental Bridge step by step, and one of the most important current situations is to get well built of the railway construction in Yunnan China. Besides, for the building contruction outside China one of the real situations is to get the way to India Ocean open. For the key area of the third Euro-Asia Continental Bridge one of the most urgent things to do is to accelerate the communication contruction from China to Myanmar and India. We suggest that our country should invest more and pay more attention on the cooperation with the border countries in order to accelerate the development process of the communication constructions connecting China with the border countries. Only that it could be beneficial after it had been opened to public.

5.3.3 Strengthen international cooperation

Generally speaking, the third Euro-Asia Continental Bridge is a railway network that

mainly recovers the South East Asia, South Asia, West Asia, Africa and Europe. At present it is a pease time for China and South Asia for their furture cooperation and development, and to plan to build the third Euro-Asia Continental Bridge is help them to be strategical cooperation parters. That we suggest founding the cooperation party in Kunming is good for fasten the construction process of the third Euro-Asia Continental Bridge by multilateral cooperation parties.

5.3.4 Strengthen China's foreign direct investment and the economic analysis of investment projects

According to general situation of China; high deposit, high investment and the reality that financial capital is the main part of the export capital of China; it is good for our country to take the form of direct investment to furture construction. And from the point of investment it is not a difficult problem for the domestic capital investment. For the outward problems the key point is the railway construction from Kunming to Jida Port. And it is estimated to cost more than ten billion RMB that we suggest the part of capital could be collected by direct investment from foreign countries. On basis of equality and mutual benefit it is good for both sides to build traffic networks. Besides, we should also intensify the feasibility study of this program, and work out a reasonable plan for collecting and investing capital.

5.3.5 Develop Yunnan to be the cutting-edge opening to the outside world

To build the third Euro-Asia Continental Bridge need to the good cooperation of the aside countries, and it also provides a good opportunity for Yunnan. In the past we always seeked the way to foreign countries for the southwest areas, but the backup transportation cost and the investment environment always become the key restrict facts. And now when the third Euro-Asia Continental Bridge is opened, Yunnan will be the nearest place to foreign countries in southwest area. So it is good opportunity for the development of Yunnan.

5.3.6 To accelerate the construction of infrastructure and to put Yunnan in the place of

economic centre and communication centre, it is a simple question to solve the problem of railway but also the whole integration of railway, road, ports and the facilities of telecommunication. And we should recognize that to program the construction of the third Euro-Asia Continental Bridge is an important measure to promote the development of the industries alongside and the area economic.

5.3.7 Based on the experience of building the previous two continent bridges we should avoid the existing and potential problems as possible as we can. For example, the choice of the route, cost control and the application of information technology and so on. On the process of the construction of the third Euro-Asia Continental Bridge we should pay more attention to these aspects.

Chapter 6 Conclusion

In the future the new open strategy of China will be the combination of seaway and road transportation and East-West interaction. The programming of the third Euro-Asia Continental Bridge is a bold and actual idea. And it will also bring lots of opportunities that never happen before to China, besides it also helps China close the relationship with the South-East Asia, South and West Asia countries in economic, political and cultural exchanges, and raise the overall level of China's opening to the outside world.

Construction of the third Euro-Asia Continental Bridge will be the connection of "Sanya" (East Asia, South Asia and West Asia), the communication of "three oceans" (Pacific, Indian Ocean and Atlantic Ocean) and the Trans of "three continents" (Asia, Europe and Africa). It will also become the win-win bridge for the cooperation and development of the enterprises. Further more, it will further expand our business ideas, expand the development space and provide new services for our customers.

The third Euro-Asia Continental Bridge will become a bridge of opening and cooperation, and a bridge of peace and development, and also stands for win-win situation and friendship for Asia, Europe and Africa, let us look forward to.

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