



Strengthening Transport Linkage Capability for the “New Trade Lane” in the Mekong Region

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Abstract— This study emphasizes the analysis of strategies for strengthening transport linkages capability in order to accommodate an expansion of economic, trade and investment routes. The expansion of the route here can be referred to as the “new trade lane”. The key principle of this study, therefore, places special emphasis on the expansion of the route with efficiency on the corridor having new economic, trade, and investment potential among Thailand and countries close to Thailand in the Mekong Region, as well as among Thailand, China, and India. The focal point of the project is to study, to analyze and to develop the strategy of area development in the context of infrastructure linkage for multimodal transport by land, water and rail including connectivity for freight transport. The result of the study can be used as the Master Plan for the development of transport networks linking the new trade lane to the trading gateways of the country to support intraregional and interregional expansion of economy and trade.

Keywords— Transport linkages capability, the economic, trade and investment route, multimodal network.

1. INTRODUCTION

Globalization has made, at present and in the future, the Asian Region, the main area of trading and economic growth derived from the driving force from countries in the Region as China and India.

Thailand is in a position of geographical comparative advantage among Southeast Asian countries. This factor can lead to reducing international freight transport costs on some routes. This study emphasizes this strengthening advantage of Thailand and, together with the rapid economic growth of China and India, it will provide the opportunity for Thailand to benefit from its comparative advantage.

The development of transport network linkage to support the expansion of economic, trade, and investment corridor is to have Thailand as the transport and economic hub for the Region. The new trade lanes that Thailand should concentrate on as the first priority are the routes linking to China and India, the new economic areas of the world with rapid economic growth. The next two priority routes are to trading markets in the Greater Mekong Sub-region (GMS) that are expanding and access to the world energy sources in the Middle East. Such routes are the main supporting factors to promote Thailand with the opportunity for economic production and expansion of economic, trade, and investment corridors.

Therefore, the basic principle of this study emphasizes the analysis of strategies for strengthening transport linkages capability in order to accommodate an expansion of economic, trade and investment route. The

expansion of the route here can be referred to as the “new trade lane”. The key principle of this study, therefore, places special emphasis on the expansion of the route with efficiency on the corridor having new economic, trade, and investment potential among Thailand and other countries in the Mekong Region, as well as countries further afield such as China, and India.

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The essential condition (Section 3) for the expansion of the route is the manner of achieving efficiency. The conceptual framework of the study is defined as the efficient transport linkages necessary to increase the economic benefit to Thailand. Therefore, the study suggests the guidelines for strategic planning “new trade lane” (Sections 4 and 5) for the regional economic development of Thailand and for the transport network linking Thailand with the economic, trade, and investment areas of those countries with the most rapid growth in the world and particularly Mekong region countries, China and India.

2. STUDY’S FRAMEWORK

Since globalization has created changes to cope with developments in the economic system, trade, society and politics, this study, then, places emphasis on the strategic planning of the overall transport network development within the country and links to other important world markets. Moreover, dynamic strategic planning must be coincident with the long term targets and the main policies of the country so that the planned strategies are efficient in relation to changes in the world economic

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system, trade and investment as well as in relation to the national development plan. The strategic planning in this study, then, is based on two major principles:

1. The strategy must be compatible with the Master Plan for Transport and Traffic of the Ministry of Transport and the Strategy for the Logistics System Development of Thailand developed by the Office of the National Economic and Social Development Board (NESDB).

2. The strategy must support the policy of Thailand to be the regional hub for the economies, trade, investment and transport in Southeast Asia to enhance the marginal economic benefit of Thailand.

The conceptual frameworks are as follows:

- studying existing and expected demand for goods affecting development of the transport network on the new economic, trade, and investment corridor;
- studying guidelines for the development of cooperation in investment between Thailand-Mekong Region, Thailand-China and Thailand-India to increase the volume of trade between the countries developing and major world markets to the benefit of Thailand;
- studying guidelines for increasing production potential, competitive capability and goods processing in order to create added value and reduce logistics costs for Thailand; and
- studying freight transport within Thailand, linkages with Mekong Region, China and India, network capacity and establish suitable development guidelines to increase network capacity.

3. BEING THE TRANSPORT AND ECONOMIC CENTER OF THE REGION

Globalization has impacted upon changes and linkages in the economy, trade, and investment in various regions of the world including economic development policy and economic, trade, and investment linkages between Thailand and foreign countries.

As the country with geographic comparative advantage of having transport network links trading with China and India through the relationship policy within various cooperation frameworks (Table 1), Thailand has the opportunity to create linkages for economy, trade, and investment with the two countries and the markets in other regions through joint operation in harmony with physical natural linkages.

The geographical location of Thailand enables the country to be the transport hub for economic and trade linkage to the new markets such as China and India. The characteristic of the country's location between the Indian Ocean and the Pacific Ocean also places it on the crude oil transport routes between the production countries in the Middle East and the important consumption countries such as China, Japan and South Korea. Therefore, the western seashore (Andaman) has high potential for being the new economic route between the production base and the major energy consumers.

Table 1: Potential of New Trade Country Linkage [5]

Country	BIMSTEC ¹	ASEAN	GMS ²	ACMECS ³
Thailand	✓	✓	✓	✓
Cambodia	x	✓	✓	✓
Laos	x	✓	✓	✓
Myanmar	✓	✓	✓	✓
Vietnam	x	✓	✓	✓
China	x	x	✓	x
India	✓	x	x	x

Note: ¹ Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation

² Greater Mekong Subregional Cooperation

³ Ayeyawady – Chao Phraya-Mekong Economic Cooperation Strategy

The expansion of trade markets and investment under the economic linkage within the GMS member countries creates new opportunities in trade for Thailand. GMS is the cooperation of regional development among 6 member countries comprising Thailand, China, Laos, Myanmar, Vietnam, and Cambodia. The cooperation framework was established in 1992 and is similar to the ASEAN framework. The agreement has progressed much further in transforming agreements into actions than for any other agreements that Thailand has made with other countries.

Under the GMS, road transport linkage is one factor creating the practical regional economic development and linkage among member countries, including enhancing of competitive capability of the member countries in the current globalization. The road transport network linkage is derived from the Transport Master Plan of 1995. The Master Plan defined the international transport linkage across the borders on each route according to the potential of economic growth of the member countries. Since 1998, the Master Plan has paid attention to the economic corridor concept. This concept emphasizes the investment in basic infrastructure such as linkage for roads, energy, telecommunications and tourism, especially transport with the same geographical area in order to create positive effects for the highest benefit. The economic corridors that have been defined are the North-South, the East-West, and the Southern Corridors as shown in Figure 1.

The new potential trade lanes under the GMS for Thailand are related to the growth of markets for producers and consumers in Southern China, Laos, Vietnam, and Cambodia. The major force for the establishment of the GMS Agreements is the transformation of economic activities from the Central Economy System to the Market Economy System within the four countries. Exchanges of trade in the free market economic system have created the economic linkages between Thailand and the four countries from the early 1970s (Figure 2).



Source: ADB, GMS Transport Strategy 2006-2015

Fig. 1. Main Economic Corridors under the GMS Agreements.

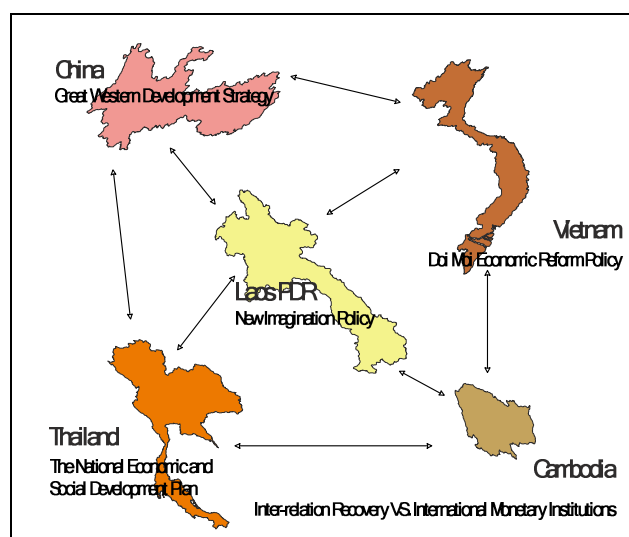


Fig. 2. International Economic Linkages [5].

Changes in the economic system of the four countries have shown the new market potentials for Thailand in two groups. The first group consists of Laos, Vietnam, and Cambodia, that had been under the influence of the Soviet Union. The second group is Southern China that has been starting the regional economic development after the Central Government of China announcement under the Great Western Development Strategy.

3.1 Potentiality from Economic Transformation of Laos, Cambodia, and Vietnam

After the decline of influence of the Soviet Union by the end of 1980, and the withdrawal of Vietnamese military from Cambodia in 1989, a new era of economic and social development has emerged in this Region. The countries that had close relationships with the Soviet Union such as Laos, Cambodia, and Vietnam started to find their own development strategies. Economic development started to change to that of the market system following the model from neighboring countries, especially Thailand, with each country applying the model in its own way. In the 1970s, Laos, Cambodia, and Vietnam announced their intention to become members of the ASEAN. Vietnam was the first country from the Indochina Region to become the member of the ASEAN in 1995. Laos became the member of ASEAN in 1997, and Cambodia in 1999. After joining the ASEAN and after China adopted its own system of economic development, the countries of the Indochina Region have become a group of countries with high economic growth after the long period of stagnation under the Central Economy System.

The three countries changed their economic development planning from the Central Economy System to the Market Economy System. Vietnam has reformed the economic system by the announcement of the Doi Moi policy in 1989. Laos announced the economic reform according to the New Imagination Policy in 1993. Cambodia started its policy on the reconstructed relationship with the International Financial Institute in 1993. Linkage of economic and social infrastructure of the three countries resulted in changes in their economies supporting higher economic growth (Table 2). The basic economic and social infrastructures of these three countries have resulted in increasing of economic growth and a better standard of living for their citizens since the 1990s. Statistics show that the people have a better living standard after the changes that occurred early in the 12 years between 1992 and 2004, and the expansion of trade, investment, and

economic growth led to a higher average income per head of the people especially before the economic crisis in 1997. Countries with economic growth during that time were Thailand and Vietnam. Although the poverty problem has decreased in Laos, Cambodia, and Vietnam so that their people are better off economically, although poverty is still a serious problem in the region (Table 3).

Table 2. Growth Rate of Gross Domestic Products during 2003-2007 [1]

Country	2003	2004	2005	2006	2007
Laos	6.1	6.4	7.1	7.6	7.1
Cambodia	5.2	6.0	6.0	6.3	6.5
Vietnam	7.3	7.8	8.4	8.2	8.5
Thailand	7.1	6.2	4.5	5.1	4.8

Table 3. Poverty Index and Income Distribution for Indochina Countries [2]

Country	GDP Per Head (USD)		Per Cent of Poverty below Poverty Line of Country	
	1992	2004	1992/1993	Lastest Figure ^a
Cambodia	220	348	39.0 ^b	35.9
Laos	271	402	46.0	32.7
Thailand	1,945	2,544	23.2	9.8
Vietnam	144	500	58.1	24.1

Note: a: Cambodia (1999) Laos (2002) Thailand (2002) Vietnam (2004)
b: 1994

The change of policy in favor of building up economic infrastructure linkages with world society has a better socio-economic trend in the economic and social indices of the three countries. Data in Table 4 shows that Vietnam had on average the best status among the three countries since Vietnam had been actively reformed in the decade of 1990s and the human resource of Vietnam was greater than the other two countries. The reform of land and agricultural markets in Vietnam resulted in rapid growth of rice production during 1988-1995, but the similar reform has not happened in Laos and Cambodia so that people in the two countries are still poor and the human resource is still unskilled.

Table 4. Basic Economic and Social Indices of the Countries Studied, 2005 [3]

Country	Area (1,000 Sq.km)	Population (Million)	GDP Per Head (USD)	Export (Mill. USD)	Import (Mill. USD)	Trading Growth (Per Cent)
Laos	237	5,758	423	510	745	10
Cambodia	181	13,589	358	3,100	3,700	17
Vietnam	394	44,150	554	31,625	36,476	21
Thailand	513	64,470	2,537	110,110	118,191	16

3.2 Economic and Trading Potentiality of Southern China

The Chinese Central Government announced the Great Western Development Strategy starting from January 2000. The target areas are 12 regions away from the coast consisting of 6 regions of Gansu, Qinghai, Shaanxi, Sichuan, Guizhou, Yunnan; 5 self governed territories of Xinjiang, Ningxia, Xizang, Guangxi, Inner Mongolia; and 1 Metropolis Chongqing. The overall economy of the 12 regions was shown in Table 5 as data of the 12 regions comparing with the whole country.

Of the mentioned 12 regions, only 3 regions (Figure 3) were considered to have the economic potential to induce trade and investment along the transport network on the North-South Corridor between South China – Northern Laos – Upper North of Thailand. The three regions are Yunnan, Chongqing, and Guangxi. Table 6 shows the comparative Data of the 3 regions of China and Thailand.

Table 5. Important Economic Indices of 12 Western Regions Comparing with National Indices, 2005 [4]

Economic Indices	Unit	China	12 Western Regions	Per Cent of Country
Area	(Million Sq.km.)	9.60	6.86	71.5
Population	(Million)	1,307.56	359.76	27.5
GDP	(Billion Baht)	89,728.03	16,414.73	18.3
Average Income per Year	(Baht)	68,808.64	45,764.60	-
Industry				
- Coal	(Hundred Million Tons)	22	8	36.6
- Crude Oil	(10,000 Tons)	18,135	4,502	24.8
- Electricity	(Hundred Million kwh.)	25,003	6,104	24.4
- Iron	(10,000 Tons)	35,324	4,555	12.9
Investment on Fixed Assets	(Billion Baht)	43,507.05	8,647.64	19.9
Retail Trade	(Billion Baht)	32,922.58	5,675.49	17.2
International Trade	(Hundred Million USD)	57,189.36	1,815.13	3.2
- Export	(Hundred Million USD)	30,645.71	1,036.07	3.4
- Import	(Hundred Million USD)	26,543.65	779.06	2.9
Transport				
- Length of Existing Railway	(kilometre)	75,437	27,594	36.6
- Highway	(kilometre)	1,930,543	780,339	40.4
- Expressway	(kilometre)	41,005	10,530	25.7

Table 6. Economic Indices of 3 Western Regions Categorized According to GDP, 2005 [5]

Thailand/ South China	GDP (Trillion Baht)	Average Income/ Year (Thousand Baht)	Population (Million)	Total Trade (Trillion Baht)	Export (Trillion Baht)	Import (Trillion Baht)	Actual FDI (Billion Baht)	Retail Trade (Trillion Baht)
Thailand	7	109.4	64.2	10.6	5.2	5.3	181	-
China	88.5	70	1,300	57.2	30.7	26.6	3,181.40	32.9
Yunnan	1.7 (23 rd in China)	38.1	44.5	0.2	0.1	0.1	7.6	0.5
Guangxi	2.0 (17 th in China)	42.8	46.6	0.2	0.1	0.1	15.2	0.7
Chongqing	1.5 (26 th in China)	53.5	28	0.2	0.1	0.1	20.1	0.6

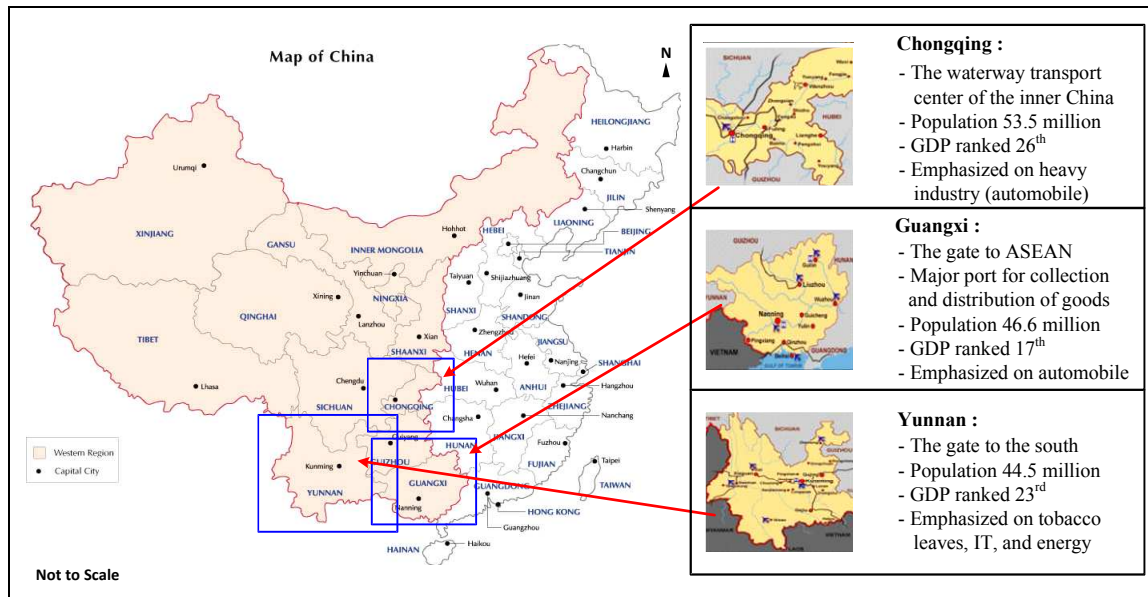


Fig. 3. Republic of China and 3 Western China.

These three regions of China have ample resources and have experienced an annual increase in economic growth. Continuous inflows of foreign investment have increased the potential of these 3 regions to play an important part in economic development in the future.

4. NEW TRADE LANE

What has been presented (Section 3) in relation to targets, conditions, and strategic issues has been used as the guidelines for study leading to the conclusion of Thailand as the new trade lanes place to be the transport and business hub of the region consisting of (1) Freight Transport Routes and International Trade; and (2) Transport Routes for Freight and Travelers.

4.1 Freight Transport Routes and International Trade

The freight transport routes and international trading routes especially between China and India and the major markets of the world passing through Thailand can save transport cost and time for both countries. The study defined the new freight transport as follows (Figure 4):

- (1) Routes linking Southern China to Northern Thailand by land passing Laos to Laem Chabang Port and coastal harbors on the Andaman Sea by the North-South Economic Corridor (N-S Economic Corridor No.1 and 2).
- (2) Routes linking from Da Nang Port passing Laos to Mukdahan and to deep sea ports on the Andaman coast (No.3) on the East-West Economic Corridor (E-W Economic Corridor). The routes in (1) and (2) provide links from Southern China and countries in the Pacific Group to the Middle East and Europe. The study assumed that there will be saving on cost and time through the linkage on the corridors that the freight transport can bypass the Melaka Chamber through the southern Thailand.

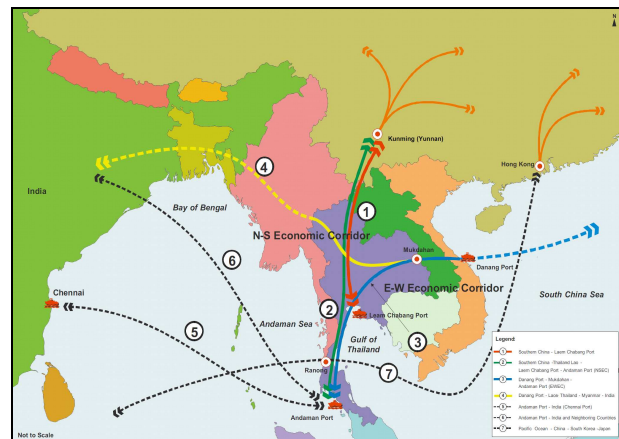


Fig. 4. New Trade Lane [5].

- (3) Routes linking from Da Nang Port passing Laos from the Northeastern to Northwestern parts of the country to Myanmar to India (No.4). This route will link India to the countries in the Pacific Group. The study assumed that the trade will be more efficient due to saving in cost and time since the freight transport can bypass the Melaka Chamber.
- (4) Routes linking by sea between the ports on the Thai Andaman coast and India and neighboring countries (No.5 and 6). The study assumed that Thailand can increase the efficiency of trade with countries in those groups since the freight transport can bypass Laem Chabang Port and the Melaka Chamber.
- (5) Routes linking energy sources (crude oil) with the industrial countries on the Pacific coast as China, South Korea, and Japan, through the coastal seaboard of the Southern Thailand (No.7).

4.2 Transport Routes for Freight and Travelers

Thailand has Suvarnabhumi Airport as the open gateway linking the Indochina Region to world markets. Suvarnabhumi Airport provides Thailand with a comparative advantage on aviation flights linking the Indochina Region with other regions of the world, compared to other airports in this Region as Changi Airport in Singapore. Consideration of corridors for trade, investment, and linkage of transport for travelers and air cargoes, emphasis will be on travel and transport from Suvarnabhumi Airport and potential new services that can be linked with the GMS, China, and India in three routes as:

- (1) Airways: The development of Suvarnabhumi Airport and the reuse of Don Muang Airport are the main routes of Bangkok as being the traveling center of the Region and the Airport as the hub of Asia.
- (2) Waterways: Water transport along the Mekong River from China to Chiang Rai (Chiang Saen) and Chiang Khong to Laos heading to Luang Prabang should be the new route for future tourism having Chiang Saen Port as the hub.
- (3) New Roads: The new roads are the East-West corridor from the center of Da Nang to Mukdahan to Indochina Intersection at Phitsanulok and going to Myanmar at Mae Sot. The traffic volume is still low on the route and, currently, there are some problems, politically, on the way passing Myanmar.

4.3 Potentiality of the New Trade Lanes

The main factors that were considered in this study defining the recommended potential new trade lanes having Thailand as the transport center of the Region providing economic benefits to the country are (Figure 5):

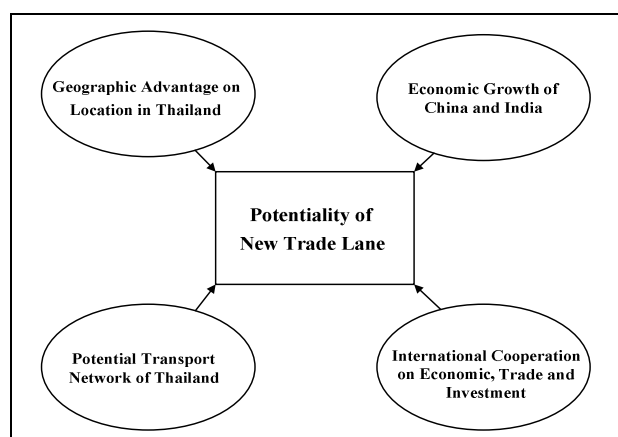


Fig. 5. Potentiality of New Trade Lanes [5].

- (1) Southern China and India are the countries with high economic growth and expansion. The geographical location of Thailand is of comparative advantage in terms of cost saving in freight transport on the

recommended routes for the international trade of the two countries and the world markets providing freight transport through Thailand, or through cooperation in trade and investment. The two countries have substantial populations and high purchasing power. Thailand will be benefit through trade and investment providing linkage with the two countries in the future.

- (2) Political changes in the world especially the decline of the Soviet Union (Russia) led to expansion of international trade. The competition is tougher while agreements by trading and investing groups in the same regions increased. The conceptual framework for cooperation in economy, trade and investment of Thailand and the neighboring countries, therefore, emphasizes the development of common markets. The driving forces from international development bodies such as the UNESCAP and the ADB have resulted in the development of countries in the same region and the development of common markets modeled on the European Union (EU). The main concept is to encourage economic development among the concerned countries.
- (3) Development of road network and rail network on the potential economic, trade, and investment routes of Thailand.
- (4) Geographical comparative advantage of location on the Southern coast of Thailand will enable transport linkage with saving on cost and time between the crude oil sources and the industrial countries consumers.
- (5) Thailand has efficient domestic transport networks and can increase the efficiency in transport linkage to support the expansion of economic, trade, and investment corridor.

5. DEVELOPMENT OF TRANSPORT NETWORK LINKAGE STRATEGY

Analysis of current situations (Sections 3 and 4) in network linkage enables the setting out of the framework for strategic planning of development of the transport network. The major strategy is to enhance efficiency in the freight transport process and to reduce the cost for the operators and users in order to increase the potentiality of Thailand in competing for being the transport hub for the Indochina Region. The study defined that the main network consists of the North-South Corridor of Thailand with the potential to accommodate high volume of freight transport compared to the networks of the neighboring countries. Transport from the Chiang Khong custom house, Chiang Rai Province, to the Laem Chabang Port or the Andaman Seacoast port, has the transfer point at Sila-Asana. For the East-West network, transport from Mukdahan to the Laem Chabang Port has a transfer point at Thapra Station, Khon Kaen Province.

For the short term development, the Laem Chabang Port

is set as the main gateway of the country. In the future, if the Laem Chabang Port is used to its full efficiency and the volume of goods is high enough for exporting to the Western countries, there must be development of ports on the Andaman Seacoast to help cater for the volume of goods, and to be the gateway to the European Union, countries under the BIMSTEC, and countries in the Middle East. The Laem Chabang Port can still be the gateway to the U.S.A., East Asia, and Australia. Thailand can use these networks to promote the value added services to the Thai economic system through the mechanism of collection and distribution of goods and raw materials from China, including linkage to the industrial estates for processing products for export.

The reason that the Laem Chabang Port should be the main gateway of freight transport linkages with other regions is based on the fact that, currently, it is the port with the highest potential in infrastructure, service quality, and capacity to accommodate the volume of goods passing through. The management emphasizes that the inflow-outflow of goods from China should pass through the Laem Chabang Port as the gateway to other regions. The high traffic of goods transported at the Port will attract the shipments to stop for loading-unloading of goods that will reduce the time and expenses of transferring of goods to feeders at Singapore or Malaysia for further shipment to Thailand in the case that the Laem Chabang Port does not have enough volume of goods.

To use the Laem Chabang Port as the gateway for freight transport between China and other regions to help balancing the volume of import and export containers, Thailand as the exporter, still faces the problem of inadequate containers for exporting. To carry empty containers to load goods for export results in a higher cost of freight transport. However, if the management can bring in more imports, the requirement for import of empty containers will be reduced as well as the cost of transport, thus increasing the potentiality of the Laem Chabang Port. This strategy has been used by Malaysia in attempting to develop Port Klang to be a high potential port that is able to compete with Singapore.

This strategy is for enhancing the potential of the transport network to accommodate the expansion of the economic, trade, and investment route defined the transport network on the North-South Corridor linking to the Southern China and Laem Chabang Port as the Backbone Network to support Thailand to become the transport hub of the Indochina Region.

The network on the East-West Corridor has lower potential than that of the North-South since the economies of the neighboring countries of Myanmar, Laos, Cambodia, and Vietnam are small and having low development potential for the development of an efficient network. The strategy of network development should be for the collection and distribution of goods and raw materials from the neighboring countries having Thailand as the center to help strengthening the potentiality of the main network and to make the East-West Corridor as the secondary network.

6. CONCLUSIONS

This paper has developed the strategic planning that strengthening transport linkage capability for full efficient usage of the multimodal networks (road, rail, air and water) within the Mekong Region by linking with network development on suitable routes with the potential for future strategic development in terms of economy, trade, investment, and tourism.

Conclusions can be made for development of each network as follows (Figures 6 and 7):

(1) Roads

- Development and improvement of missing links
- Improvement/Expansion of the route on some parts with heavy traffic
- Expansion of truck routes that have heavy traffic
- Improvement of the roads on parts having effects on traffic at high steep or sharp curve points.

(2) Rail

- Improvement of the efficiency of freight trains
- Improvement or expansion of the single track to double track
- Push for the actual rail restructuring process

(3) Waterways

- Strengthening the efficiency of waterway transport through multimodal transport linkage.

(4) Aviation

- Strengthening the efficiency of aviation transport through multimodal transport linkage.

Therefore, the transport networks of Thailand on the North-South and East-West Corridors can be linked among the regions to China, Laos, Vietnam, and Cambodia, having Laem Chabang Port as the gateway for trade. The important program is development of the road network to accommodate freight transport on the corridor consisting of the construction of a bridge crossing the Mekong River at Chiang Khong linking to Highway R3 and increasing the capacity of the route on the parts having high traffic to provide convenience and to increase safely the speed of travel on the transport route.

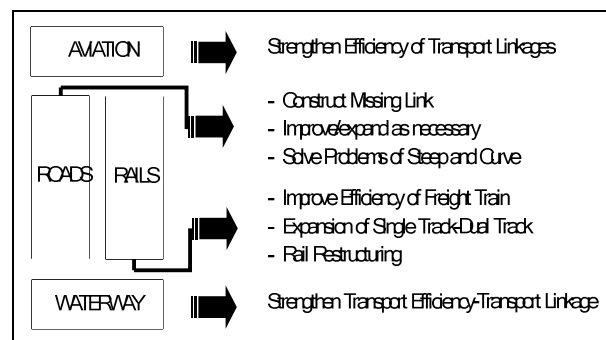


Fig. 6. Issues for Development of Transport Network Linkage [5].

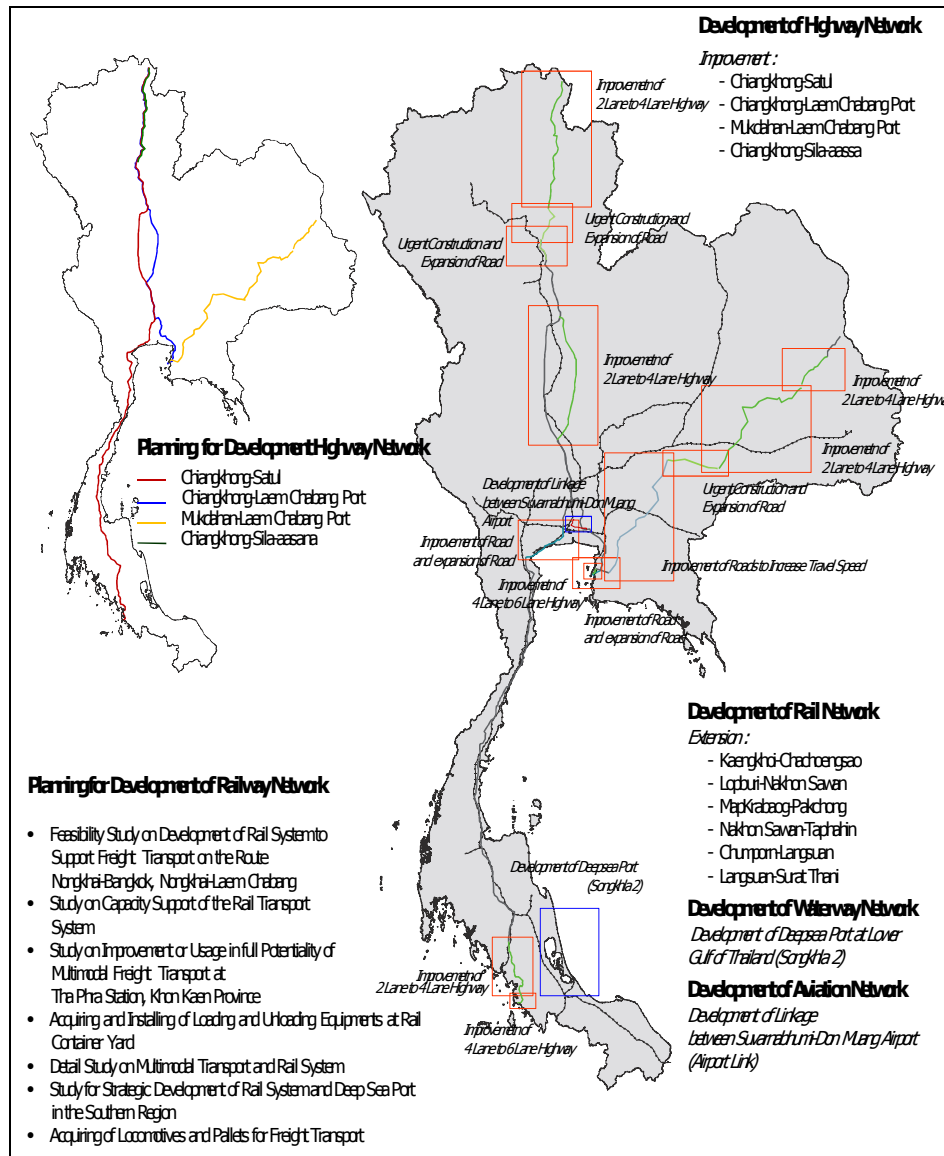


Fig. 7. Development of Transport Network Linkages [5].

Other programs to accommodate transport by different modes are development of the rail network to improve the efficiency of commodity transit through the improvement or expansion of single track to dual track in bottle neck areas. Improvement of the rail line is expected to create more transport by the rail system.

The development of waterway network and the aviation network are for more efficient use of the network both the deep sea port and the linkage between the Suvarnabhumi and Don Muang Airports.

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