

# Expectation of Impacts of High-Speed Railway along the Line Laem Chabang to Map Ta Phut

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**Abstract:** *With the Thailand 4.0 policy and the development of EEC (eastern economic corridor), the transportation needs of Thailand grow fast. when the high-speed railway Laem Chabang to Map Ta Phut now is been building, it is important to find out what are the impacts it does on the area that the train passing through, because the results will greatly help the government to better manage the human resources of the project and optimize the project effects, and for the investors to doing the optimal decision makings.*

*This research uses qualitative methodology to probe an expectation of all stakeholders towards the railway construction and operation. the researcher used Transit-oriented development theory to select the area for interviewing the stakeholders to estimate the contribution of the transport factor affecting the surrounding area in several aspects, the results of the research are that the transport factor here refers to the railway will have an influence on labor potential, industrial potential, social and infrastructural potential, market infrastructure potential, investment potential and finance and budget potential of its radiating surrounding area.*

*The results of this research show that the railway construction and operation have positive influence on regional industrial potential, market infrastructural potential, labor potential and investment potential.*

**Keywords:** High-Speed Railway Transport, Industrial Restructuring, Accessibility, Transportation Capacity, Human Resource Management

## Introduction

Thailand is a burgeoning industrialized country. Under the steady and solid economic growth, now Thai government has been implemented Thailand 4.0 to boost economic growth and to upgrade the economic structure. (Thailand board of investment, 2017) In recent decades, the Eastern Economic Corridor area (EEC) has been designated as a pilot project to attract more foreign investors to invest in Thailand; and surrounding areas consist of Rayong, Chonburi and Chachoengsao have been developing for decades ago and been the leaders of Thailand fast-growing industries. (Thailand board of investment, 2017). The development of Laem Chabang Port (Phase 3) in Chon Buri and Map Ta Phut Industrial Port (Phase 3) in Rayong will be planned to increase container handling capacity and both are expected to be completed in near future.

Under the rapid development of these three coastal provinces and ports and industrial estates, good traffic is vital to the region, so that the Thai government has launched the policy of construction of high-speed train and high-speed railway industrial estate-port in this area to provide physical infrastructures and to facilitate the economic development and industrial upgrading.

German pioneer Georg Friedrich Liszt considers transportation the social system as the driving force for production growth.(Jun, Gerybadze, & Kim, 2016) Perfect transportation facilities are the basis for rapid economic growth.(Rietveld & Bruinsma, 2012); J Du believes transportation and social and economic development always interact and develop together. (DU & LIU, 2009)

With the continuous expansion of the construction project, the demand for professional talents and labor began to grow substantially. In this new situation, to improve the level of human resource management, the core is to create a good labor environment and enhance the attractiveness of railway construction to talents and labor. Therefore, analyzing the existing problems in the human resource management of the current project and solving them in a targeted manner is an important part of the smooth development of the project. In modern project management, human resources have gradually become the resources that play a leading role in the project management resources, but according to the investigation of some problematic transportation infrastructure construction, it is found that unqualified staff was seen as a major reason for many of the issues faced by the transportation construction industry. (Al - Emadi & Marquardt, 2007)

Under the premise of paying attention to the importance of transportation infrastructure, the high-speed railway Laem Chabang to Map Ta Phut is taken as a sample area, the researcher tried to conclude an expectation that how the construction of railway boosts regional economic potential.

## **Objectives**

First: To study how the impacts of the railway will facilitate the labor potential over the surrounding area. Second: To study how the impacts of the railway will facilitate the industrial potential over the surrounding area. Third: To study how the impacts of the railway will facilitate the social and infrastructural potential over the surrounding area. Fourth: To study how the impacts of the railway will facilitate the market infrastructure potential over the surrounding area. Fifth: To study how the impacts of the railway will facilitate the investment potential over the surrounding area. Sixth: To study how the impacts of the railway will facilitate the budget and finance potential over the surrounding area.

## **Literature Review**

### **Previous research on construction project management**

The literature on management of construction projects is sufficient, tackling several issues including the management of stakeholders' relationships (Balser & McClusky, 2005; Meintjes & Grobler, 2014) and expectations(Huse & Rindova, 2001), the strategic design and implementation of projects, human resource management in construction project.(Loosemore, Dainty, & Lingard, 2003; Schwalbe, 2009; Storey, 2016)

### **Socio-Economic Potential**

There are many interpretations of the nature and purpose of assessment of the socio-economic potential of the region.

The comprehensive expression of the material base of the region should be considered as economic potential, which not only considers the quantity within a given geographical unit property, but also represents various quantitative indicators, but also

considers the qualitative characteristics that determine the potential of the region. (Litman, 2006) (Ray, 2000), development and effective use of resources in the region. In this case, the socio-economic potential of the region can be defined as “the ability of the region to utilize its entire resource complex, using the characteristics of existing and future economic structures, and the order of geographic location to improve the quality of life of the population” (Litman, 2006).

In this research, the research will use socio-economic potential theory as fundamental theory, which is most likely to fully assess the socio-economic potential of the region, as it highlights all the necessary conditions: availability resources and their use also reflect the region’s willingness to economic reform and development. (Bridge, 2009);

### **Transit-Oriented Development theory**

Transit-oriented development (TOD) is a mixed-use residential or commercial area designed to maximize access to public transportation. Such communities often consist of a center with a public transit station, surrounded by high-density development with gradually lower-density development spreading outward from the center. (Nasri & Zhang, 2014) TODs or transit zones are typically located within a radius of one-half mile from a transit station, as this is generally considered a reasonable walking distance for pedestrians. However, geographic proximity alone does not make development transit oriented. Indeed, many developments can be said to be transit adjacent (i.e. within close physical proximity to transit) but not necessarily designed to promote access and use. On the contrary, TOD creates a vibrant community centered on transit access and reduced automobile dependence. As such, a pedestrian-friendly environment is critical to TOD, but is not essential to transit adjacent development.(Holmes & van Hemert, 2008)

### **Human Resource Management in Construction Management**

Construction activities are extremely diverse, from simple housing development to highly complex infrastructure projects. However, all types of construction projects, regardless of scale, have some common characteristics, including: Their unique one-off nature; They tend to be rewarded in a short period of time (Cannon & Hillebrandt, 1990); Their dependence on temporary labor; Increasingly demanding customers; Male-dominated culture:(Arditi & Balci, 2009). These challenges require construction companies to strike a balance between project requirements and competitive organizational and individual employee expectations, priorities, and needs. If there is no scientific, reasonable and effective human resource management plan and sufficient and high-quality human resources to support, it is relatively impossible to deal with these challenges and achieve the smooth progress of the project.

### **Grounded theory**

The grounded theory approach is a logically consistent set of data collection and analysis procedures aimed at developing theories. The grounded theory approach consists of a set of inductive strategies for analyzing data. This means that you start with individual cases, events or experiences and gradually develop more abstract categories of concepts to synthesize, interpret and understand your data and identify the pattern relationships among them.

Grounded theoretical approaches link interpretive analysis with traditional positivist assumptions because they are used to discover the meaning of research participants; they assume an empirical firm and provide a set of procedures to follow.

(Bigus, 1994; Charmaz, 1990; Cooney, 2010; Corbin & Strauss, 1990; Henwood & Pidgeon, 1992; Kendall, 1999; Rennie, Phillips, & Quartaro, 1988; Strauss, 1987) These methods can be used for anything from highly explanatory to structured empirical analysis. Interpretative analysis attempts to describe, explain and understand the life experiences of a group of people. (Denzin, 1989; Rennie & Fergus, 2006)

## **Methodology**

### **Study area selection**

This research defined the scope of the problem as the surrounding areas of the railway line from Laem Chabang to Map Ta Phut. According to the Transit-Oriented Development theory applied to this research, based on the results of Lee, Choi & Leem's study of influence or catchment areas of stations of bus, metro rail, tram and train using theory of Martens, the result is the station can attract people within 4-5km (Lee, Choi, & Leem, 2016); Flamm & Rivasplata's study of influence areas of stations of Bus, light rail, heavy rail, ferry shows Average of 4500 m (2.8 mi) and 8700 m (5.4 mi) for Philadelphia and San Francisco, respectively. (Flamm & Rivasplata, 2014). The specified areas are chosen as the circles with stations as their centers and extending to a radius of 5 km. Depending on the accessibility of the area to the economic radiation range, the radiation range can be expanded because both Laem Chabang and Map Ta Phut are industrial areas. The railway passes through Pattaya, a large city, and U-Tapao Airport is a functional infrastructure. An expanded radiation range can contain enough respondents to satisfy the research.

### **Population and sample**

All stakeholders based on the Socio-Economic Potential of the Region theory deemed as the population of this research, include: 1. government officers, 2. business owners, 3. Inhabitants. For the size of the sample, (Morse 1994) suggests that participants be not less than 6 individuals; Charmaz (2006, p 114), specifies sample size should be 25 participants; Green and Thorogood (2009, p.120) specify the sample size to more than 20 participants;

Cresswell (1998, p.128) specifies that the participants amount to 20-30 individuals;

ATRAN, Medin and Ross (2005, p.753) specify 10 individuals. (Guest, 2006)

For business owners (companies), choose 30 companies based on the TOD theory mentioned in the literature review according to Charmaz's theory of sample size. Government officers include 6 respondents according to Morse's theory of sample size, inhabitants are represented by 12 respondents according to Medin and Ross's theory of sample size. All these respondents are chosen randomly in the radiation circles according to the TOD theory. Specifically, for inhabitants, the researcher chose several areas with a large flow of people near the train station, for instance, Harbor Mall located in Laemchabang area, 3.9KM from the Laemchabang station. The researcher investigated and asked each inhabitant selected as the respondent a screening question: "Do you live/work in an area within five kilometers from the train station?" to ensure that the interviewee is indeed an inhabitant living in the area and is suitable as a research respondent.

### **Research instruments**

As the researcher chose a semi-structured interview method, the conversation is free and varied under the basic framework and likely to change substantially between

participants. The basic framework and list of the questions are below: When interviewing owners of business, labor potential, industrial potential, market infrastructure and investment factors are questioned; When interviewing inhabitants, labor potential, social and infrastructural potential factors are questioned; When interviewing government officers, budget and finance potential factors are questioned.

### Data Collection

The interviews were conducted with 30 participants from companies, 6 respondents from government officers and 12 from inhabitants, and the communication was recorded as notes.

The researcher interviewed 30 respondents whose businesses are in many industrial fields including: Equipment supplier two respondents; Construction three respondents; Logistics 6 respondents; Automobile 2 respondents; Solar cells manufacture 2 respondents; Transport 1 respondent; Food industry 2 respondents; Tourism 3 respondents; Department store businesses 1 respondent; Petroleum 5 respondents; Latex manufacturing 1 respondent; Supermarket 1 respondent; Chemicals 1 respondent.

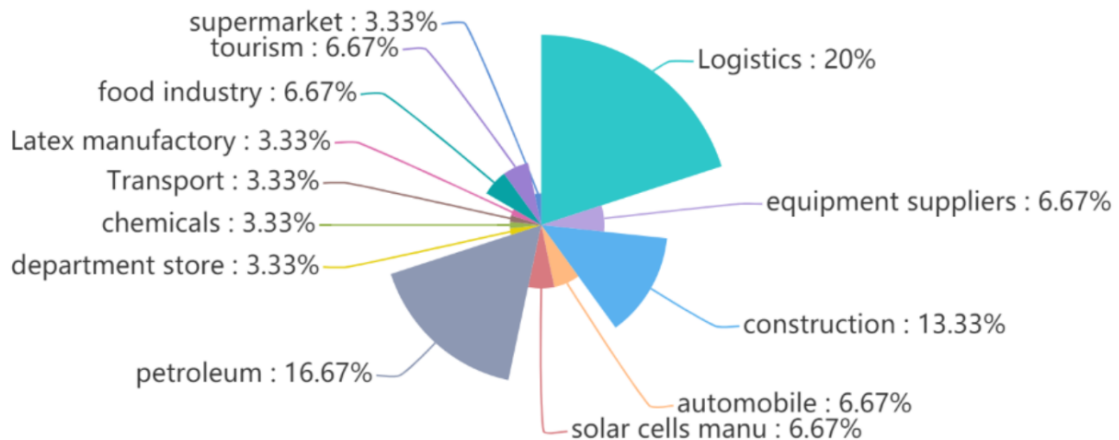


Figure 1 Industry Ratio for respondents: Business owners

There were six government officers who agreed to be interviewed. They came from different departments related to railway construction and operation, the Office of Transport and Traffic Policy and Planning, Tourism Authority of Thailand, Department of Business Development, Ministry of Natural Resource and Environment, Chonburi provincial Land office Banglamung Branch and City district office of Map Ta Phut.

The researcher asks for permission of respondents that may need to record the interview, and claims the information will not be disclosed absolutely, as it is for academic use only. If respondents do not allow recording, the researcher will take notes instead of recording the voice. An assistant may come with the researcher to keep records, to make sure the information is correctly collected. (Louise Barriball & While, 1994)

Before the interview, the researcher makes a brief introduction of the high-speed railway project, and also, some indispensable terms, explanations and examples, including labor potential, industrial potential, social and infrastructural potential, market infrastructure potential, regional competitiveness, income inequality and so on, and replenish further explanations anytime if needed by the interviewees.



The in-depth interview is semi-structured, which means the researcher does not lead the direction of communications, and some questions may be jumped if the participants disagree with opinions from literature and previous research, and some questions may be added to probe further information.

The researcher chooses three locations to find participants, which are Laemchabang station site, U-tapao Airport and surrounding area, and Map Ta Phut station site using TOD theory to choose the participants within a circle that centers at the station site, with a radius of 5km.

Researchers check the documents and notes after data collection is finished. If the information is not sufficient, researchers go back to the respondents and have additional communication or arrange additional respondents to fulfill the data. The time of data collection may be delayed if information and data are not sufficient.

After finishing recording, the researcher reads and examines the records again, and makes a consensus with the respondents of the records' correctness, validity, and authenticity.

### Data analysis

In this research, the researcher corrected the interview data for clarity and accuracy by the end of each interview to validate data before data analysis. (Rubin & Rubin, 2011)

The data is analyzed by the discourse analysis theory, including spoken language, sign language, and body language in context. (Wetherell, Taylor, & Yates, 2001)

This paper selects grounded theoretical research methods, collects raw data through in-depth interviews, and encodes layer by layer, refines related concepts and categories, and finds the relationship between categories, thereby establishing a model of the impact of railways to the surrounding area.

## Results

Table 1 Table summary of the results of analysis about Business owners' opinions

Objectives	No.	Industry that respondent works for Opinions.	Logistics						Equipment supply		Construction			
			R3	R4	R7	R14	R23	R30	R1	R28	R2	R5	R9	R15
labor potential	1	Increase of high skilled labor demand	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	2	Improving human resource management level	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	3	Improving accessibility	✓		✓			✓	✓	✓	✓		✓	
	4	Offering convenience and lower transport cost	✓				✓	✓	✓	✓	✓			✓
	5	Labor science education development	✓	✓	✓	✓	✓		✓	✓		✓	✓	
	6	Can attract more labor	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
	7	Improving labor quality(labor productivity is the key)	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓
	8	Motivating labor enthusiasm and satisfaction	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	
Industrial potential	9	The dissemination of information, resources and technology	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
	10	Providing good shipping method	✓	✓	✓		✓	✓		✓			✓	✓
	11	Create better environment of economy	✓	✓					✓		✓	✓		
	12	Promote the development of related industries	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓
	13	Increase aggregate demand in the region	✓	✓	✓		✓	✓		✓		✓	✓	✓
	14	Facilitate industrial restructuring	✓	✓	✓	✓	✓	✓		✓	✓	✓		✓
market infrastructure poten	15	Effective resources allocation	✓	✓	✓	✓	✓		✓	✓	✓		✓	✓
	16	Market demand of related industries	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
	17	Offering convenience and lower transport cost	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓
	18	Output increase	✓			✓				✓				
	19	Accelerating re-production	✓				✓					✓		
	20	It will promote the adjustment of industrial structure	✓				✓			✓		✓		
investment potential	21	Globalization and the government supports	✓			✓	✓			✓			✓	✓
	22	Railway facilitates the connections domestically and globally	✓			✓	✓		✓	✓		✓		
	23	Railway will become a factor for company siting	✓	✓	✓	✓	✓		✓	✓	✓			✓
	24	Relief of regional employee pressure	✓	✓	✓	✓	✓		✓	✓	✓			✓
	25	To Improve human well-being	✓			✓	✓			✓	✓			

Table 2 Table summary of the results of analysis about Business owners' opinions  
(continued)

No.	Business Owners				Petroleum					Departm	Chemic	Transp	Latex m	Food Industry	Tourism		Supermarket	Total	
	Automobile	Solar cells manu																	
	R6	R27	R8	R26	R16	R17	R20	R24	R29	R13	R22	R10	R19	R11	R25	R12	R18	R21	
1			✓	✓				✓		✓	✓		✓	✓	✓	✓		✓	18
2			✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓		✓	✓	24
3	✓	✓	✓					✓	✓	✓	✓		✓	✓	✓			✓	16
4					✓				✓	✓		✓	✓	✓		✓		✓	14
5	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	25
6		✓	✓	✓		✓	✓	✓		✓	✓		✓	✓	✓		✓	✓	23
7	✓								✓				✓	✓			✓		14
8	✓	✓		✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓		✓		24
9	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	24
10	✓	✓		✓	✓	✓		✓	✓		✓		✓		✓	✓	✓	✓	21
11	✓		✓		✓				✓				✓						9
12		✓		✓	✓	✓	✓	✓		✓	✓		✓	✓	✓				22
13		✓	✓	✓	✓		✓	✓		✓	✓		✓			✓		✓	18
14	✓	✓		✓	✓		✓	✓	✓	✓	✓		✓	✓	✓		✓	✓	24
15	✓		✓	✓			✓	✓		✓	✓	✓	✓	✓	✓			✓	22
16	✓	✓		✓	✓	✓		✓	✓		✓	✓	✓	✓	✓		✓	✓	22
17		✓	✓		✓	✓			✓	✓		✓	✓				✓		19
18	✓					✓					✓				✓		✓		8
19	✓			✓				✓					✓				✓		8
20	✓							✓					✓						7
21				✓	✓				✓	✓	✓		✓			✓	✓		14
22		✓						✓		✓	✓				✓				11
23	✓	✓	✓	✓			✓	✓		✓	✓	✓	✓	✓					19
24	✓	✓			✓		✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	21
25	✓				✓		✓	✓				✓							10

Table 3 Table summary of the results of analysis about Inhabitants' opinions

Objectives	No.	Opinions.	Inhabitants														Total
			R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12			
labor potential	1	Increase of high skilled labor demand	✓	✓	✓	✓	✓	✓		✓	✓		✓	✓		✓	10
	2	Improving human resource management level	✓	✓	✓		✓	✓		✓	✓	✓	✓			✓	9
	3	Improving accessibility	✓	✓						✓				✓		✓	4
	4	Offering convenience and lower transport cost	✓		✓		✓	✓		✓	✓	✓					7
	5	Labor science education development	✓	✓	✓		✓	✓			✓	✓	✓		✓		9
	6	Can attract more labor	✓	✓	✓		✓	✓			✓	✓	✓			✓	8
	7	Improving labor quality		✓	✓					✓	✓	✓					4
	8	Motivating labor enthusiasm and satisfaction	✓	✓	✓		✓		✓	✓	✓					✓	8
Social and infrastructural potential	9	Improving accessibility	✓		✓		✓	✓								✓	5
	10	Increase of import and export			✓		✓	✓									3
	11	Leading job hopping	✓	✓	✓		✓		✓						✓		6
	12	Undermine social security and stability		✓	✓	✓	✓	✓	✓	✓	✓	✓					9
	13	living expense pressure	✓		✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	10
	14	To deteriorate the environment	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓		11

Table 4 Table summary of the results of analysis about Government officers' opinions

Objectives	No.	Opinions.	Government officers						Total
			R1	R2	R3	R4	R5	R6	
budget and finance potential	1	Win the competition between railway, air, sea shipping	✓	✓	✓		✓	✓	5
	2	Good regional output contributes to tax revenue	✓		✓	✓	✓		4
	3	Redistribution of wealth	✓		✓		✓		3
	4	Good implementations of policies are beneficial	✓	✓			✓	✓	4
	5	Income inequality burdens a government	✓		✓	✓	✓	✓	5
	6	Technologies will alleviate environmental problems	✓				✓	✓	3

This study uses grounded theory to analyze the data qualitatively, it advocates not presupposing assumptions and extracting concepts from the original data obtained through open coding, axial coding and selective coding, and constructing a theory to solve a certain phenomenon or problem. This article takes “the impact of high-speed railways on the surrounding areas” as the core category. Through the analysis of interviews with nearby residents, small and medium-sized enterprises and government officers in related institutions, generalized categories, relying on the theory of planned behavior, the

development of high-speed railways the theoretical framework of the influence mechanism in the surrounding area. Its “story line” is the impact of high-speed rail on the surrounding areas will be concentrated in the four aspects of Industrial potential (IndP), Labor potential (LPot), Market infrastructure potential (MIP), Investment potential (InvP).

Of which Industrial potential (IndP), the most significant impacts are Industrial restructuring, Promote the development of related industries, Good shipping method, Expand resource dissemination; Among Labor potential (LPot), the most significant impacts are Regional science and education, Demand for highly skilled labor, Human resources improvement; Labor attraction, Promote regional employment, Employee motivation; Among Market infrastructure potential (MIP), there are Effective resource allocation, Market demand of related industries, Convenient transportation logistics; And Investment potential (InvP) In one item, the most significant impacts are Promote field investment, Good shipping method, Relieve employment pressure. The four categories together affect the development potential of the region and have their own constituent dimensions.

But for social and infrastructural potential, through the analysis, the results are not significant (there are only 3/5/6 of total 12 respondents agreed the opinions respectively towards increase the import and export; improve accessibility; leading job hopping, and 9/10/11 of total 12 respondents gave negative opinions respectively towards undermine social security and stability; living expenses pressure; deteriorate the environment.)

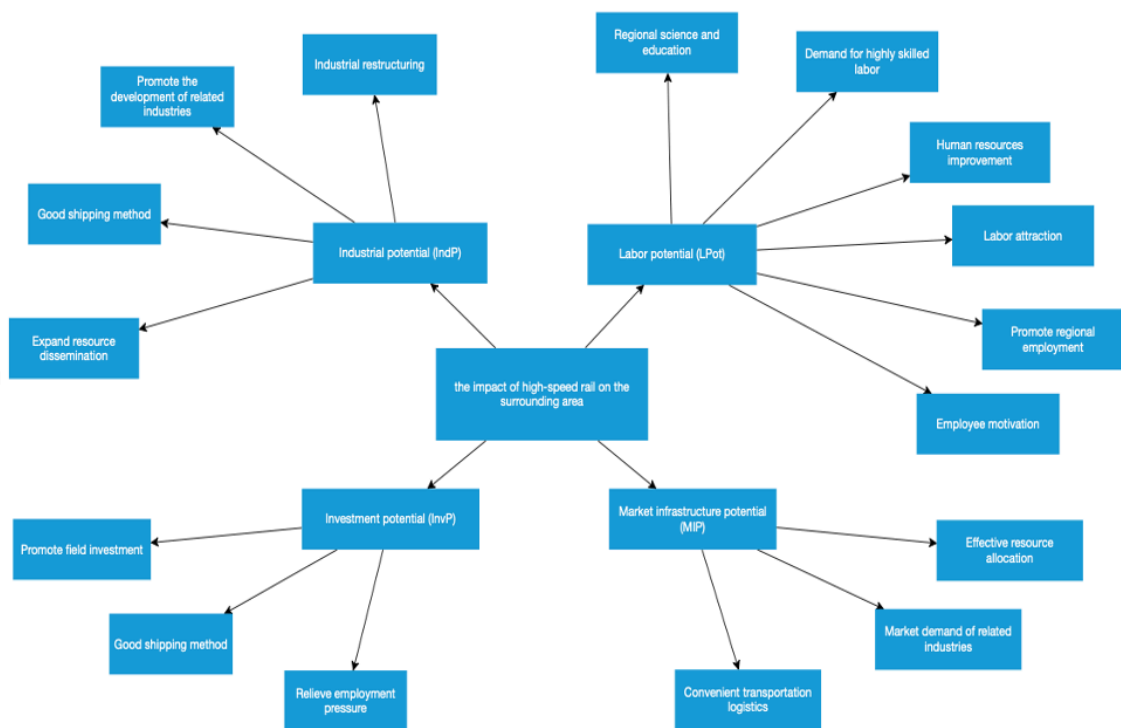


Figure 2 visualization of the impact of high-speed rail on the surrounding areas



## Conclusion

First, railway construction can drive the development of related industries and facilitates industrial restructuring, which facilitate regional industrial potential.

Second, after the completion of the railway construction, regional traffic conditions can be improved, also it provides another better shipping method option and a better resources allocation, with the convenience provided by railway, the market demand will significantly increase, then market infrastructural potential will become the point of the better serve.

Third, by improving transportation capacity, providing new modes of transportation, reducing transportation costs and alleviating employment pressure, railway construction has effectively increased the investment potential of the region

Fourth, with regard to the Human-Centered value, the acceleration of the modernization of railways promotes the safety and quality of life and people's lives and property, this will accelerate the labor potential of this region. However, most interviewees are worried that the project will cause environmental degradation. Most interviewees pointed out the air and water pollution generated during the construction of the project, as well as the potential impact on the biodiversity and vegetation coverage of the surrounding areas after the completion of the project. The situation, the proportion of cultivated land and other factors.

## Discussion

1. According to the research of Wilson, F. R., Stevens, A. M., & Holyoke, T. R. Railway, transportation infrastructure and freight rate subsidies can be expected to stimulate industrial development in a region. (Wilson, F. R., Stevens, A. M., & Holyoke, T. R. 1982) Construction can drive the development of related industries and facilitate industrial restructuring, this refers to labor potential and industrial potential factors, are positive. In addition, in the process of railway construction, jobs and demand for construction materials can be generated, which would help increase the employment rate, and facilitates the industries' development. After the railway is built, the upgrading of energy consumption, industries, and industrial chains can play a positive role in order to achieve more efficient and safer production.

2. Transportation factor plays a significant role in the economic growth process. Respondents agreed that the railway will increase transportation capacity, and also provided reasons that it could influence investment potential, such as railway helps the dissemination of information and allocation of materials and labor force. Respondents indicated that investors highly attach importance to these factors as the dominant indicators; based on the works of literatures referred to earlier, infrastructure is conceived as a foundation for economic growth, and also it emphasized that transportation infrastructure is of great significance to economic development. (Khadaroo, 2008) Transport infrastructure can change the industrial layout, promote economic development, promote the flow of production factors such as human resources and natural resources in different regions, and then optimize resource allocation. The flow of regional resources will create spatial spillover effects and promote economic development. (Pojani & Stead, 2015)

3. For investment potential, according to Kolikias and Blundell, infrastructure have taken on an increased role in investment portfolios (Kolikias, 2004; Blundell, 2006).

Some further improvements such as equipping or re-equipping the regional markets, institutional restructuring such as restructure to unregulated and overregulated markets, also reducing or reallocating the staff, creating a system for the management of market and market facilities and information, providing trainings for market staff and for farmers' groups; introducing quality control standards; also better labor and resources allocation could help improve the regional attraction of investment, all these improvements will help boost investor confidence in the region and strengthen the investment potential of the region.

4. With regard to the Human-Centered value, the acceleration of the modernization of railways promotes the safety and quality of life and people's lives and property seems theoretically correct. After the completion of the railway construction, there will be some contributions to solving the problem of traffic congestion in this area, and also accessibility concept was mentioned to explain that how railway will promote economic development. We define accessibility as the cost to access a specific set of services, public or commercial, which is railway station in the case, (Dahlgren, 2008), better accessibility refers to the convenience that can make it more convenient for people to reach a particular place, and this convenience can be measured in time or space, then this accessibility usually refers to a relatively long distant travel, for instance, cross-station travel, under this circumstance, the railway could improve accessibility for inhabitants, hence alleviate regional traffic congestion while improving the population mobility, this will accelerate labor potential of this region by promoting quality of life. For the environmental degradation that most interviewees worry about, some suggestions and recommendations will be given in the next section.

## **Recommendation**

### **Recommendation for the government**

To facilitate regional industrial potential, there are already some policies being implemented. For example, in the EEC region, the government has established BOI to promulgate a series of policies that are conducive to regional economic development, such as duty exception/reduction, Deductions for qualifying infrastructure costs, Land ownership rights, 100% foreign ownership property, No restriction on foreign currency. (Thailand Board of Investment, 2017)

To facilitate industrial potential, the researcher suggests that government departments should specify policies and try to avoid frequent policy changes. This is because the implementation of policies and individual policy feedback are often hysteretic. The government needs to ensure long-term policies are effectively implemented, do not go backwards and forwards or play fast and loose.

Promote the development of related industries by encouraging increased R&D investment. Make good use of the new transportation options and lower costs brought by railways to improve the level of import and export of enterprises;

International economic integration has expanded the scope of the market from domestic and regional to global. To intensify competition, companies need to reconsider their own scale and market share in a larger market. It is an inevitable choice to achieve larger-scale operations through restructuring, and the government should provide corresponding policy support for this.

When the government intervenes in the operation of industrial restructuring, it must follow market principles and economic laws, regulate the behavior of government entities in a market-oriented operation, improve the methods, technologies, and means of industrial reorganization, and improve the supply of systems to improve the key The efficiency and level of industrial reorganization and strategic industrial reorganization.

The respondents' answers show that under the influence of railways, the allocation of resources in the region will be improved, the railways provide more convenient means of transportation and transportation and bring greater market needs and more productivity development. This process passively stimulated the development of market infrastructure potential.

To facilitate market infrastructural potential, the researcher suggests the government provide comprehensive support to local business owners by simplifying work procedures, optimizing work processes, reducing work links, and improving work efficiency. For example, establish an open local economic development forum in each district to design, coordinate, promote and supervise development strategies and actions through local public-private sector dialogues and implement them. Give local stakeholders the right to determine the implementation of regional competitiveness development in accordance with local regulations and value orientations, so as to achieve dialogue between the government and the private sector and effective partnerships.

Especially when it comes to the issue of corporate credit, various government functional departments could help enterprises restore their credit, reduce the impact of enterprises on the market image caused by credit issues, and effectively create a good market environment to create the best conditions for business owners to tide over the difficulties especially in the pandemic era.

To facilitate labor potential, the researcher suggests the government improve the human resource management level of the project, recruit employees through multiple channels, and ensure that the structure of project practitioners is reasonable: open recruitment can not only introduce outstanding talents for the project but also establish a good public image for the project. It is necessary to strengthen the training of enterprise employees and strive to improve their skill level: on the basis of job analysis, different training methods and technical means should be adopted for employees of different positions and different levels. For technical personnel, it is necessary to focus on the technical aspects, focusing on the development and learning of high-tech; for operation and maintenance personnel, in addition to a certain level of technology, they must also have a very high spirit of service, and cultivate employee communication. Coordination ability; for managers, we must pay attention to learning modern business management knowledge and skills, etc. To establish a practical employee incentive mechanism, an effective employee incentive mechanism is one of the motivations for employees to work hard: different incentives can be adopted for different types of employees. For example, for unqualified persons, first, communicate their performance with them, discuss and determine short-term curative performance goals; then provide short-term training to help them acquire the basic skills that meet the needs of the job; for hardworking workers, they can be retained in their current positions and passed Salary increases provide incentives; for outstanding talents, the project should retain, invest and develop them, and provide them with opportunities for promotion, training and development, so that they can give full play to

their talents in more challenging jobs.

The researcher suggests formulate a series of preferential policies for the labor community, the government should provide some training courses and literacy study to the labor community to upgrade labor skills and improve local labor market information channels, in order to get labor to participate in the social dialogue and obtain productive work.

Through the above recommendations, the level of government policy support in the region has improved, the level of human resource allocation has improved, the industrial potential and development path have become clearer, industrial restructuring has also been put on the process, transportation and transportation methods have become more reasonable, the government's public image has improved, and the environment has improved. Concerns about the problem are dispelled, and researchers believe that these improvements can significantly increase the investment potential of the region and boost investor confidence. It can also provide some thoughts for the next operation of the railway.

### **Resolution of environment problems**

Environmental problems that railway construction may cause based on the review of interviews records are farmland destruction and animal habitat destruction and biodiversity loss problems and traffic growth. (Atash, 2002)

To address these environmental problems, the government should focus on pollution monitoring, discharge and recycling facilities to not exceed the environmental capacity. (Upham, Thomas, Gillingwater, & Raper, 2003) The government could strengthen soil pollution control and restoration, strengthen the prevention and control of agricultural pollution, and carry out actions to remediate the rural human settlement environment. It is necessary to implement classified and hierarchical control of soil pollution, strengthening detection and control.

Comprehensively rectify agricultural non-point source pollution, promote clean agricultural production, intensify the reduction of chemical fertilizers and pesticides, increase the comprehensive utilization of livestock and poultry breeding wastes and crop straws; carry out comprehensive rectification of the rural environment, and promote the treatment of rural domestic garbage and sewage in accordance with local conditions. Promote the improvement of rural households' water and toilets, and continuously improve the rural living environment.

Furthermore, strengthen solid waste and garbage disposal. Comprehensively promote the centralized treatment and resource utilization of typical urban waste; take the lead in establishing a mandatory garbage classification system in national ecological civilization experimental areas. Strengthen the protection of the environmental governance system. Raise pollution discharge standards, strengthen the responsibility of polluters, improve systems for environmental credit evaluation, with mandatory information disclosure, severe punishments, and heavy penalties; build an environmental governance system led by the government, with enterprises as the main body, and participation by social organizations and the public. And the government should balance the work/housing land use to reduce commuting time and cost. (Establishing satellite cities may differentiate traffic growth in the core city).

### **Recommendations the business owners**

The researcher suggests that business owners understand the policy, notice the relevance of the policy and the enterprises, calmly face the policy changes, analyze the government's policy orientation, and use appropriate policies to lead the development of the enterprises.

Business owners must correctly handle their relationship with the government. Therefore, corporate public relations departments must do their best to pay close attention to the news media trends and collect various orders and documents issued by government departments at any time. The business's policies and activities may be adjusted according to changes in policies and regulations.

Encourage actively cooperating with the government and policies and increasing feedback to the government, if it is found that there are deviations in the implementation of policies and regulations by the government, the enterprise is responsible for submitting amendments to the relevant government departments.

### **Recommendation for local residents**

For residents in the area, the researchers' recommendations are

When interviewing residents as participants, the researcher found that many are not really interested in government policies and moves, so the first recommendation is to strengthen their understanding of policies. If inhabitants want to start a business, they must pay attention to national policies. Because the market economy is largely affected by policies, such as the stock market, when the country's policies are introduced, the stock prices of related industries may face a great change. Through the understanding of policies, inhabitants can clearly see what the country wants to do in this field, and what policies might come out in the future. If they can combine these policies to their entrepreneurship, or cooperate with the government, those entrepreneurs are more hopeful of the government's support and help.

Actively participate in government-led training, improve their capabilities to serve industrial development, and make rational choices when selecting jobs. Inhabitants must increase their sense of responsibility and rationality when working, and comply with the company's missions and values.

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