Malaysia's BOT method implementation for highway development projects

by
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CONTENTS

CERTIFICATION

I certify that this is my own work and has not been submitted in any form for another degree or diploma at any university or other institute of tertiary education. This Master's thesis contains ideas and information derived from published and unpublished work of different authors which have been acknowledged in the text and list of references.

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ABSTRACT

Malaysia has embarked on highway privatization program starting from 1985 with the launch of its privatization policy. The privatization method of choice for highway development has been the Build-Operate-Transfer (BOT) method where the government of Malaysia allow the private sector to develop the highway and in return gives them toll charging rights. Based on this method, Malaysia has succeeded in building 30 highways forming a complete network of 1600 kilometres in length connecting almost all part of the Malaysian Peninsular. The number of projects implemented in Malaysia suggests that there is a particular way of method of implementation being applied in Malaysia which has made it successful in this endeavour. Further study shows that even though Malaysia is successful in developing its highway networks trough BOT implementation process, some of its particular implementation method is not positively contributing the overall success of the process. The selected traits of no specific BOT law in place, propensity towards unsolicited proposal and adoption of over protective measures for concession company are studied and compared with other

countries. The result shows that in the case of Malaysia, the success of highway development using BOT method is not comprehensive in all elements.

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LIST OF ABBREVIATION

3PU	Public Private Partnership Unit
ADB	Asian Development Bank
BOT	Build-Operate-Transfer
BOLT	Build-Operate-Lease-Transfer
BOO	Build-Operate-Own
EPF	Employee Provident Fund
EPU	Economic Planning Unit
GoM	Government of Malaysia
GoP	Guideline of Privatization
HNDP	Highway Network Development Plan
HPU	Highway Planning Unit, Ministry of Works
JIBC	Japan Bank for International Co-operation
MHA	Malaysia's Highway Authority
MOW	Ministry of Works
MOF	Ministry of Finance
NSE	North South Expressway
OECD	Organisation for Economic Co-operation and Development

PPP Public Private Partnership

ROT Rehabilitate-Operate-Transfer

UNCITRAL United Nations Commission on International Trade Law

UNECE United Nations Economic Commission for Europe

UNDP United Nations Development Programme

UNIDO United Nations Industrial development Organization

CHAPTER 1:INTRODUCTION

1.1 Background

A good, interconnected road network system is a requirement for any country in the world. Road networks will enable the movement of people and goods efficiently and this ability is crucial as it in turn enable economic activities such as trade. As a nation develops, so will its need for efficient road transportation. Increase in traffic and trade volume among others leads to the need for an increase in traffic efficiency. The roads need to be wider, with more lanes to cater for higher volume of traffic and in the same time longer to connect more places and ultimately shorten the travelling time. In order to fulfill these needs, a nation has to upgrade its road networks to highway networks. These supersized road networks will enable greater volume of human and material movement with higher efficiency across the land. Highways are the backbone of a country's transportation system (Maw, Nakamura and Okamura, 2007). Highways, together with other economic infrastructure like bridges, ports and airports, are considered part of the public capital. As such, the effects of public capital (including highway) towards economy have been the focus of several studies before. For example,

Aschauer (1989) in a study utilising a production-function approach for the US between 1949 and 1985 discovered that close to four percent increase in multifactor productivity is achievable with a ten percent increase in public capital stock while another study by Garcia-Mila and McGuire (1992) resulted with the finding that greater output of state economies is attainable with larger expenditures spent on highways.

Infrastructure provision (including highway) is a large scale endeavour which require a massive amount of budget, planning and administration. Agrawal, Gupta, & Gupta (2011) stated that " Infrastructure projects are complex, capital intensive, having long gestation period and involve multiple risks to the project participants"(p.52). Due to this, the task of providing infrastructure is traditionally that of the government as the government is able to utilize its planning and administrative capabilities in undertaking infrastructure development. According to Bonnafous and Jensen (2004) public authorities were generally in charge of financing and building new infrastructures. However, infrastructure development is also financially taxing to the government. That is why even when infrastructure development has a positive effect on the economy, no government can afford to concentrate all its resources towards the provision of infrastructure. Any government in the world will have to balance between the need for developing infrastructure such as road and highways with other requirement such as

providing healthcare and education. The economic rule of resource scarcity will limit its capability to do so. Government's income is usually derived from taxation and as such increasing taxation is usually the main way it can increase its' revenue. Levy (1996) stated that "Infrastructure development has been the responsibility of public agencies. And taxes collected by local and central government have provided the funds by which infrastructure projects have been built" (p. viii). However, raising taxes is not something that can be easily done. Levy (1996) further added "citizen resistance is increasing to the imposition of added taxes as a means of obtaining more money for a variety of government projects" (p.11). Many governments have come to realize that the tax base alone cannot fund the enormous needs for infrastructure (UNECE, 2008). Therefore, the government usually faces a financial shortcoming or a funding gap in infrastructure development.

The government or the public sector is socially and economically obligated to provide highways and other infrastructures in a nation. However, the private sector shares none of this obligation. The private sector is mainly concerned with the profit making aspect in any task it undertakes. Its source of revenue is not from taxation and thus it is not bound by limitation faced by the public sector. By creating a cooperative arrangement for the participation of the private sector in infrastructure provision,

something which has been traditionally the role of public sector, the public sector can tap into the resources of the private sector. This synergy between the public and private sector in infrastructure development will enable the public to utilize the resources of the private sector, in term of finance and efficiency, to overcome the problem of the funding gap. On the other hand, this cooperation will allow the private sector to enter into infrastructure development. This arrangement of public and private sector's cooperation is called Public Private Partnership or PPP.

The concept of partnership between public and private sector is a concept taking many forms of arrangement. Essentially, it is an arrangement by which private parties participate in, or provide support for the provision of infrastructure-base services (Ng & Loosemore, 2006). In many countries worldwide, the provision of public infrastructure and related services are carried out using a Public-Private Partnership (PPP) approach (Olson, Guthrie and Humphrey, 1998). PPP covers many forms of arrangement and BOT is one of them. Many developed and developing nations are now utilizing PPP arrangements such as BOT as a solution for the problem they face in the provision of infrastructure and services (Liu and Yamamoto, 2009).

As a country moving towards developed state, Malaysia has been embarking on the effort of building highway networks interconnecting all of its states, especially in

the Peninsular Malaysia. Malaysia is strategically located between Thailand in its North and Singapore in its South, therefore a complete network of highways traversing from the North to the South will allow it to fully capitalize on the economic potential of its geographical location. Like other nations, Malaysia too faced the problem of increasing deficit in the public sector, it jumped onto the privatization bandwagon with a national shift towards utilization of private sector's resources for development (Yaacob and Naidu, 1997). Through Built Operate Transfer (BOT) model, the Malaysian government has succeeded in building major highways interconnecting all parts of West Malaysia (Alfan, 2007). The model used is the appointed concession company will build the highway and will operate it along an agreed concession period. In return, the company will be allowed to collect toll from the highway users.

Malaysia's experience with BOT in highway development has been largely considered as a success (Handley, 1997). However, there are also contradicting views on Malaysia's BOT highway such as the preference for no competitive bidding which reflects the lack of transparency (Hensley and White, 1993) and public disagreement around the issue of toll charges and revisions (Aziz, 2002). This myriad of view on Malaysia's BOT highways shows Malaysia has both managed to successfully implement BOT arrangement for its highway development (considering the number and

length of operational highways) and at the same time, not being able to adapt certain aspect in its framework that causes criticisms of its implementation.

1.2 Research Questions

Malaysia has aggressively embraced the path of privatization since it launched the privatization program in 1985. Especially in the field of infrastructure provision, more specifically on highway development, Malaysia has adapted BOT procurement scheme for the development of all its highway projects since. The success of building 25 interstate and urban highways amounting to 1634 kilometers[1] length with several more in the pipeline shows that Malaysia has managed to fully utilize BOT for her highway needs. This feat is remarkable considering that Malaysia is a developing country and the privatization program has only started not more than three decades ago. Based on the success of Malaysia, this research is undertaken with the goal of answering these research questions :

I. How does Malaysia implement its highway development projects using BOT method and can this method be viewed as a process?

II. How does these aspects of Malaysian BOT highway development process (the

[1] Data from Malaysia Highway Authority

lack of specific PPP or BOT law, propensity of private sector to initiate project, handling of unsolicited proposals and government guarantee against concessionaire risks) differ from the process of BOT highway development of other countries in the world and?

To answer the first research question, the research will study the development of highway projects in Malaysia through the viewpoint of a process. The Merriam-Webster Dictionary (2010) in one of its definition of process defines it as "a series of actions or operations conducing to an end". According to BusinessDictionary.com (2011) process is a "Sequence of interdependent and linked procedures which, at every stage, consume one or more resources (employee time, energy, machines, and money) to convert inputs (data, material, parts, etc.) into outputs[2]. These outputs then serve as inputs for the next stage until a known goal or end result is reached". Therefore, to analyze the BOT highway development in Malaysia in a clear and logical manner, the BOT highway development is viewed as a process with the procedures (steps taken from the initiation, selection, award, construction and completion of the highway projects), resources (parties involved and their responsibilities), and inputs examined in detail. By utilizing the process viewpoint, the second research question can be answered in a precise

[2] http://www.businessdictionary.com/definition/process.html

manner whereas the process of highway development using BOT method in Malaysia can be compared with the similar process in other countries especially by focusing on selected procedures in the process which shows the most differences. Additionally, by examining and answering the two research questions, the research will also be able to understand what the reasons of the differences are and how these reasons affect the process of BOT highway development in Malaysia.

1.3 Objective of the Thesis

The BOT model used in Malaysia's highway projects has its own unique characteristics which differ from the accepted practice in some other countries. Even though Malaysia's BOT model has succeeded in building extensive highway networks, it is crucial to understand the differences between it and the other model used in other similar highway projects in other countries and how these differences have affected the BOT implementation itself in terms of cost, time and project delivery. Furthermore, available literatures suggested that the right framework and initiatives must be taken by both parties in BOT to ensure its success. Thus, this thesis is written with the ultimate objective of studying and comparing the implementation and the difference in implementation processes in BOT model in highway development projects between

Malaysia and other countries based on several selected aspect of Malaysia's BOT highway development.

1.4 Significance of the Research

Outcome of this research is hoped to reveal the differences between the implementation methods of BOT in Malaysia and other countries based on selected implementation aspect. By recognizing the differences, advantages on these differences that are beneficial in various aspects can be identified and applied towards the betterment of BOT implementation in Malaysia.

1.5 Research Methodology

This research is a qualitative research with the objectives of gathering available data and material pertaining to the implementation of BOT highway development in Malaysia and analyzing the characteristics of it. The research will be entirely based on existing facts and will be executed through the approach of an informational paper and will be conducted through qualitative method using comparative analysis. Ragin (2000) stated that using the set-theoretic character of comparative analysis, this method will derive from its own case-oriented nature, in this case by means of comparing selected aspects from the implementation process of BOT for highway development in Malaysia

(namely the lack of specific PPP or BOT law, propensity of private sector to initiate project, handling of unsolicited proposals and revenue guarantee to concessionaire) with practices of other countries based on available information. Information will be gathered from existing books, journals, articles, publications and other sources available both online and offline. For information pertaining to Malaysian BOT highway, interviews were conducted with officers from the Public Private Partnership Unit of The Prime Minister's Department of Malaysia and Ministry Of works Malaysia. Findings of these methods will later be studied and presented and conclusion will be derived from them.

1.6 Limitation of the research

To study in depth of the implementation method of BOT highway development in Malaysia is quite a challenge due to several factors. First being that the subject itself is immensely complex and involves many dimensions such as politic and administration. Some matters concerning tolled highway development in Malaysia are still considered as classified matter. This is further compounded by the fact that to get a thorough view on Malaysia's BOT highways, information must be gathered from both the public and private sector whereas the public sector itself consisted of several government agencies. Based on these conditions, it has been quite difficult for me to obtain the information needed for this dissertation. Additionally, for information on other countries' BOT

highway projects, I had to rely only on available resources online and offline. Thus, this research substantially depended on secondary sources in the form of books, journals, newspapers and internet. Admittedly, these constraints have made it especially difficult for the researcher to produce a meaningful research. Furthermore, this researcher is also constrained by his lack of experience in conducting such research. All of these factors have contributed to the researcher not being able to accomplish commendable standard for this study. However, despite all these limitations, it is hoped that this research will contribute to the body of knowledge available on the subject of Malaysia's BOT highway development.

1.7 Organization of Thesis

The structure of this thesis is it is organised into five chapters. Chapter one briefly introduce the privatization of highway through BOT scheme and its implementation in Malaysia. Chapter two reviews available past literatures on the concept of PPP and BOT and related aspect of its implementation in Malaysia's highway developments. Based on the assessed literatures, a framework of study is presented. In Chapter three, detailed analysis on how BOT highway project is undertaken in Malaysia is presented from start to finish with attention being given to certain characteristics. In Chapter four, certain traits of Malaysia's BOT highway project

implementation highlighted in chapter three will be analysed and compared with corresponding traits from various countries' BOT projects. Finally, in chapter five, conclusion of the thesis will be provided by discussing the findings of this thesis. The logic of arranging this thesis in this manner is to show the objective of this research, its background and the available literatures and knowledge around it, the reason for Malaysia's decision to engage in BOT highway development process in term of its history and development need, the process undertaken by Malaysia and how procedures in that process compares to other countries and lastly to analyse Malaysia's experience in that process.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

This chapter explains the main concept of Public Private Partnership (PPP) which encompasses the Build Operate Transfer (BOT) method, the crux of this research, through the compilation and review of various available literature resources. Furthermore, literatures on BOT implementation in highway development in Malaysia are also reviewed to get a clearer picture of what has already been studied about it and how this research can complement to the available body of knowledge on this topic. The importance of this chapter is that it defines the major concepts of the subject matter of this thesis and provides a conceptual background for the in depth discussion and analysis about BOT highway development in Malaysia in chapter 3 and 4.

2.2 Introduction of PPP Concept

Public Private Partnership (PPP) in infrastructure development has been viewed as an alternative solution towards the problem of public sector's shortage of fund and capacity to deliver infrastructure provision effectively. BOT method is one of the specific arrangements under the umbrella term of PPP. The increasing number of highway and other infrastructure projects using the BOT arrangement all over the world

has resulted in various literatures written about it. Some literatures were also written on various aspects of Malaysia's highway projects developed using BOT arrangement. As this research is aimed specifically at studying the method of implementation of BOT highway development in Malaysia, review on the literatures available both online and offline on PPP, BOT and BOT (and privatisation) of highway development in Malaysia is undertaken. Furthermore, summary and analysis on these literatures is conducted.

2. 3 Definition and concept of PPP

The concept if Public Private Partnership or PPP is fundamentally one which involve the public sector and private sector working together in various type of arrangements in delivering or provision of public infrastructure or services. However, in available literatures, it has been stated that giving specific definition of PPP that is suitable in all forms and aspects of its implementation is not an easy task. Supporting this argument, several literatures have expressed the difficulty of giving a definition to PPP. Weihe (2006) stated that PPP is a concept that is debatable and not well described. Weihe added that "often the definitions put forward are so open-ended and inclusive that they do not clarify much of the confusion that exists around the PPP concept" (Weihe, 2006: 3). According to Ziekow and Windoffer (as cited in Arnold and Kehl, 2010) the difficulty in defining PPP is among others, caused by the complicatedness and

versatility of the concept, usually involving various aspects of it. Breaking down the term PPP itself will show three main components which made up the whole concept. While public and private can easily be defined as the public sector (government) and the private sector, partnership is a concept that requires a better understanding. This is important as the essential concept of Public Private Partnership is that of a partnership. The World Bank (1998) defined partnership as "a collaborative relationship between entities to work toward shared objectives through a mutually agreed division of labour." One of the definitions of partnership according to The Merriam-Webster Dictionary (2010) is "a relationship resembling a legal partnership and usually involving close cooperation between parties having specified and joint rights and responsibilities". According to UNDP[3], "the term public-private partnership (PPP) is used to describe a spectrum of possible relationships between the government (the public sector) and other organisations that are not government (the private sector) to carry out a project or provide a service".

In academic and scholarly literature, the definition of PPP varies between one literature to the other. Several points of view pertaining to the concept of relationship in PPP emerged; with three most eminent are that of PPP as a relationship of client-service

[3] http://pppue.undp.2margraf.com/en/index.htm

provider, PPP as a form of cooperation or collaboration between the two sectors and PPP as a contractual arrangement. The first conceptual definition of PPP is that **it is a relationship or client-supplier or seller-purchaser in which the private sector plays the role of service provider to the client (public sector)**. OECD supported this definition of PPP as follows:

> "… an agreement between the government and one or more private partners (which may include the operators and the financers) according to which the private partners deliver the service in such a manner that the service delivery objectives of the government are aligned with the profit objectives of the private partners and where the effectiveness of the alignment depends on a sufficient transfer of risk to the private partners (OECD, 2008, p. 17).

Ng and Loosemore (2006) described PPP as "essentially an arrangement by which private parties participate in, or provide support for the provision of infrastructure-base services". They asserted that basically, by this definition, as opposed to the traditional arrangement in which the public sector procure the infrastructure asset, the public sector in PPP is procuring a sequence of services (planning, design, construction etc) from the private sector; with the final objective of procuring infrastructure asset, and the stipulation of the services are ascertained in a mutually agreed service agreement.

Ter-Minassian (2006) stated that PPP is an "arrangements where the private sector supplies infrastructure assets and services that traditionally have been provided by the Government….stress long-term service delivery rather than asset creation; services can be provided to the government or directly to final consumers". Bashiri, Ebrahimi, Fazlali, Hosseini, Jamal, & Salehvand, (2010) in further support of this notion defined PPP as:

> "a service contract between a public authority and a private sector concessionaire, where the public authority pays the concessionaire to deliver infrastructure and related services, Typically, the concessionaire, who builds the infrastructure asset, is financially responsible for its condition and performance throughout the asset lifetime, or the duration of the agreement, or it describes a government service or private business venture which is funded and operated through a partnership of government and one or more private sector companies." (Bashiri, Ebrahimi, Fazlali, Hosseini, Jamal, & Salehvand, 2010:5)

The view of PPP as a relationship of client-service provider is further supported by Leidel & Alfen, (2009) which stated that in the definition of PPP, there is a broad spectrum of organization for which the public sector's obligations are contracted out to

private (commercial) partner and both parties jointly accept the risk involved with the objective of achieving the wanted results, especially in public policy sectors. Schmidt & Moisa (2004) offered a slightly different definiton, in which in PPP; private sector is taking the role of service provider for services normally associated with the public sector.

The second conceptual definition of PPP is that **it is a cooperation or collaboration between the two sectors**. There are several proponents of this definition, among them Liu and Yamamoto (2009) who defined PPP as a form of cooperation between public and private sector; a partnership model rather than a purchaser-seller relationship. In their word, PPP is "a form of collaboration between the public and private sectors for the purpose of providing public services which have been traditionally provided only by the public sector"(Liu and Yamamoto, 2009: 223). This view of a partnership concept of PPP is also embraced by The Agency for Public Private Partnership, Republic of Croatia[4] in its definition of PPP as follows:

> "Public-private partnerships are just what the name implies, partnership between private and public partners whereby the resources, risks and rewards of both the public partner and private company are combined to provide greater

[4] http://www.ajpp.hr/home-page/frequently-asked-questions.aspx

efficiency, better access to capital, and improved compliance with a range of government regulations regarding the environment and workplace".

The concept of PPP as a close cooperation with mutual objective is also shared by Grimsey and Lewis (2004) who defined PPP as "a risk-sharing relationship based on a shared aspiration between the public sector and one or more partners from the private and/or voluntary sectors to deliver a publicly agreed outcome and/or public service" (Grimsey and Lewis, 2004: x). This view of reciprocity or interdependency between public and private sector in PPP is supported by Kooiman (2003) which characterized PPP as a relationship of combined and collective administration, involving the participation of both parties : ''Such interactions between public and private, expressed in concrete forms of public-private collaboration or co-operation, are often referred to as PPPs'' (Kooiman, 2003: 102). The idea of cooperation and mutual governance in PPP arrangement is further supported by Klijn and Teisman (2002) in which in PPP, both the public and private sector work together as a cohesive unit in a collaborative relationship, rather than client-employer arrangement. In their own word, PPP is " a cooperation between public and private actors with a durable character in which actors develop mutual products and/or services and in which risk, costs, and benefits are shared" (Klijn and Teisman, 2004).

The Canadian Council for Public-Private Partnerships[5] supported the concept of cooperation in its definition of PPP as follows "A cooperative venture between the public and private sectors, built on the expertise of each partner, that best meets clearly defined public needs through the appropriate allocation of resources, risks and rewards". This definition is also mirrored by The Efficiency Unit of The Government of Hong Kong which expressed PPP as "arrangements where the public and private sectors both bring their complementary skills to a project, with varying levels of involvement and responsibility, for the purpose of providing public services or projects[6]". The German Federal Department of Transportation, Construction and Real Estate (BMVBW) in the "Federal Report on PPP in Public Real Estate, Part I: Guideline" published in 2003 (as cited in Alfen et al., 2009) gave the official definition of PPP as

> "The term PPP refers to a long-term, contractually regulated cooperation between the public and private sector for the efficient fulfillment of public tasks in combining the necessary resources (e.g. knowhow, operational funds, capital, personnel) of the partners and distributing existing project risks appropriately according to the risk management competence of the project partners." (Alfen et al., 2009: 4)

[5] http://www.pppcouncil.ca/resources/about-ppp/definitions.html

[6] http://www.eu.gov.hk/english/psi/psi_ppp/psi_ppp_over/psi_ppp_over.html

Mitchell-Weaver and Manning (1991) views PPP as a compendium of conceptional relations involving the private and public sector. Further support of the notion of cooperative relationship in PPP can be found in the writings of Kolzow (1994) which defines PPP as an organizational framework between the public and the private sector in which both have a mutual obligation towards achieving shared objectives which have been collectively decided and agreed upon. Skelcher (2005) also supported the idea of some form of mutually beneficial cooperation in PPP. In his word "PPPs combine the resources of governments with those of private agents (business or not for-profit bodies) in order to deliver societal goals" (Skelcher, 2005: 347). To Van Ham & Koppenjan (2001), the concept of PPP is that of a "cooperation of some sort of durability between public and private actors in which they jointly develop products and services and share risks, costs and resources which are connected with these products (Van Ham & Koppenjan, 2001:598).

The third concept that has been used to define PPP is that of **contractual relationship between the public and private sector**. The National Council for Public-Private Partnership's[7] definition of PPP supported this concept of contractual relationship. Its definition of PPP is as "a contractual agreement between a public

[7] http://ncppp.org/howpart/index.shtml

agency (federal, state or local) and a private sector entity. They added that through this agreement, the skills and assets of each sector (public and private) are shared in delivering a service or facility for the use of the general public. In addition to the sharing of resources, each party shares in the risks and rewards potential in the delivery of the service and/or facility". The Federal Highway Administration (FHWA) in defining PPP stated that "…are essentially contractual arrangements between the public and private sectors that allow a single private entity to assume significant control of, and risk for, multiple elements of a project, including design, construction, financing, operation and maintenance[8]". ADB (2006) defined PPP as " a contractual partnership between the public and private sector agencies, specifically targeted towards financing, designing, implementing and operating infrastructure facilities and services that are traditionally provided by the public sector"(p.15). This definition is also embraced by UNECE which defines PPP as:

> "innovative methods used by the public sector to contract with the private sector, who bring their capital and their ability to deliver projects on time and to budget, while the public sector retains the responsibility to provide these services to the public in a way that benefits the public and delivers economic

[8] http://www.fhwa.dot.gov/reports/pppwave/08.htm

development and an improvement in the quality of life". (UNECE, 2008:1)

Although there are many definitions of PPP, some literatures agreed that some characteristics can be attributed to PPP. For example, Fourie and Burger (2000) defined two main characteristics of PPP which are true partnership and the transfer of risk to the public sector. True partnership encompassed sharing of mutual goal albeit the distinct roles of the parties in the partnership. Therefore, they argued that mere outsourcing of government service to the private sector does not embody true partnership because in doing so, there may not be a mutually agreed goal. This is also true for cases where the private sector only plays the role of funder or financier of the service. The second main characteristic of PPP according to them is the assignment of risk to the public sector as it will be the impetus of effective commitment of the private sector. Arnold & Kehl (2010) listed down six inherent characteristics of PPP. First, PPP should be a mutual interdependancy between both public and private sector and the nature of this relationship must be cooperative. Second, this relationship should aim for lastingness and inclusiveness. Third, significant portion of the shared objective in the partnership must be executed by the private sector. Fourth, equal partake of the obligations in the partnership between both sectors. Fifth, both sides in the partnership should pursue the mutually agreed objectives even though they both have contradictory motive. The sixth

characteristic of PPP is that the stipulation for the objective to be achieved in the partnership (infrastructure development or service) must be output-oriented or in their word "the public authority only determines *what* the result should be instead of regulating *how* the performance is realised." (Arnold & Kehl ,2010:8). Continuing on the characteristics of PPP, Peters (1998) stated that "what we can do is to develop a set of characteristics that appear to be involevd in most partnership arrangements and also appear to ber necessary to their formation and maintenance" (p.12). He asserted that there are five important characteristics of PPP which are required to enable its formation and will decide on its success. First, the partnership in PPP should consist of two or more collaborators and public sector must be one of them. Second, each party in the partnership must be one with authority to negotiate and make decisions. Third, the colaboration in PPP should be continous and lasting. Fourth, each party contributes towards the significance of the relationship by adding value to it and lastly, there is a mutual obligation and commitment of the parties towards the end result of the partnership.

Based on the literatures and sources available, PPP encompasses a wide spectrum of activities in its "partnership". Thus, it is not easy to simply pin one definitive concept to it as PPP varies across geographical and project perimeter. The

essential part of PPP according to available literatures is involvement of public and private sector and some sort of partnership arrangement between them, whereas this partnership must be meaningful and more than just the transfer of obligation from the public sector to the private or simply private sector paying for infrastructure and service provision.

2.4 Rationale of PPP in Infrastructure Development

Although many literatures dicussed vaious rationale why PPP arrangements are used all over the world, this research will only look at two rationales for its implementation in infrastructure development (including highway) which are overcoming public sector's budget constraint and achieving greater efficiency.

The first rationale for implementing PPP as supported by many literatures available is to **overcome the problem of government's budget constraint in facing growing infrastructure need**. ADB (2006, 2007) acknowledged the challenges confronting governments in providing adequate funding for the provision and up keeping of the infrastructure required to sustain the growing needs of the population. The dependency of governments on public funds to satisfy these needs, in addition to the limitation and the size of government's budget often resulted in financial constraint.

These conditions create the inclination to bring the private sector's financial resources into infrastructure development. According to ADB, "PPP may be able to mobilize previously untapped resources from the local, regional, or international private sector which is seeking investment opportunities"(ADB, 2007:3) and "PPPs allow governments to overcome their budgetary and borrowing constraints and raise finance for high-priority public infrastructure projects. Essentially, governments are able to use private finance through PPPs to build infrastructure projects that would previously have been built by the public sector using public sector finance" (ADB, 2006: 22). Sarmento (2010) stated that the huge investment requirement of infrastructure projects is not something that can be afforded by many governments and because of this, PPP assists in sufficing this infrastructure funding gap. Similarly, McBrady (2009) mentioned that as the funding resource of PPP projects are partly from private capital, the government is able to provide and develop infrastructure and services at a lower initial cost. He added that "Particularly in the case of costly infrastructure projects, sharing financing burdens with private entities can significantly reduce budget constraints" (McBrady, 2009: 3) Another study by Shinohara (1998) which focused on the impact of PPP towards Japan's social infrastructure and public service suggested that PPP approach is a way to harness private sector's resources in funding, management and technology for the

efficient delivery of public service such as highway development projects. Thus, thus prominent notion of Public Private Partnership as an enabler to the government to overcome the problem of limited resource has been studied by a growing number of researches.

Higher efficiency in projects and service delivery has also been associated by several literatures as the rational of PPP. Several points of view have been associated with the idea of increased efficiency in PPP. First, the view that the participation of private sector player in PPP will bring with it the management and technical skills not available in the public sector, or in other word, PPP will be able to fully utilize the skills of private sector. One literature which supported this view is (Kumaraswamy & Zhang, 2001) who asserted that correctly planned and executed PPP will result in higher efficiency compared single handed implementation by either public or private sector themselves, as "The private sector, with its wide range of management, commercial and technical skills, spurred on by the profit motive and unencumbered by layers of bureaucracy, can reputedly perform certain tasks more efficiently than the government thereby offering potentially huge benefits to the public" (Zhang and Kumaraswamy, 2001:351). The next prominent view is that increased efficiency is achievable in PPP due to private sector's drive to maximize revenue in their

participation. The Hong Kong Institute of Surveyors (2009) breaks down the efficiency into three prominent advantages associated with PPP. The first being that in PPP, the provision of service or infrastructure happens at a faster pace compared to traditional public sector procurement as in PPP, the government is not burdened with providing large capital to initiate and complete the project, thus speeding up the delivery process. Secondly, private sector in the PPP is motivated to finish the project sooner, as their responsibilities have been clearly outlined and allotted to them and payment is often linked to the evaluation of the service they provided. This arrangement will greatly increase the private sector's drive to complete the project sooner. Third, projects implemented with PPP usually have lower whole life cost. This is because in PPP projects which comprise of operation and maintenance, the private sector will be inclined to reduce the overall life cost of the project in view of maximizing their revenue and this is something that could not be attainable in the conventional public sector procurement.

Efficiency of PPP is also associated with the concept of bundling or combining the tasks of funding, design, construction, operation and maintenance and assigning them to one single entity, the private sector partner (British Columbia Ministry of Municipal Affairs, 1999:15), (Grimsey and Lewis, 2007:177). With these tasks bundled,

the decision making process can be expedited and lesser bureaucracy will be involved. This in turn will lead to faster delivery of services and reduction in cost. In comparison, in conventional procurement arrangement, these tasks will have to be designated to different parties or unbundled thus leading to increased level of complexity, time and cost consumption.

2.5 BOT as one of the many PPP models/arrangements

Alfen et al.(2009) stated that the various PPP arrangements can be classified according to their privatization path. They outlined the three privatization paths as formal, material and functional privatization. The difference between material and functional privatization is mainly that in the former, the transfer of task and ownership of the infrastructure is permanent while in the latter it is on a specified, mutually agreed time period. Using this classification, they observed that there are numerous contractual arrangement of PPP implemented for infrastructure projects around the world (Alfen et al., 2009 (18) as shown in this table:

PPP (Functional)	PPP (Material)
BOT-Build Operate Transfer (Concession Model) BOOT-Build Operate Own Transfer DBFO-Design build Finance Operate DBLOT-Design Build Lease Operate Transfer DBROT- Design Build Rent Operate Transfer	BOO-Build Operate Own BDBOO-Buy Design Build Operate Own DBROO-Design Build Rent Operate Own

Table 2.1 : PPP contract model according to privatization path

Source : Adapted after Elfan et al. (2009)

Khanom (2010) discussed the notion that several explanations of The PPP concept emphasize on the financial relationships between the parties involved especially on the idea that PPP lessen the burden of government finance as it brings the financial resources of the private sector. The definitions of PPP methods which emphasize on financial relationship are mostly found on literatures focusing on infrastructure development and these PPP methods include BOT (Build-Operate-Transfer), BOOT (Build-Own-Operate-Transfer) and BOO (Build-Own-Operate), with the most common being BOT (Khanom, 2010: 152). With regard to BOT being one of the methods under PPP arrangement, Sadka (2007) added that there are some fundamental traits shared by

most PPP projects and there are various form of PPP arrangement available, with the most usual are variation of Design-Build-Finance-Operate (DBFO) model where the private sector or concessionaire in the partnership undertake the responsibilities of designing, constructing and financing infrastructure project or BOT model where the private sector's obligations are funding, constructing , operating and transferring to the government the infrastructure after the stipulated concession period has ended (Sadka, 2007:469). Ashuri, Kashani and Lu (2010) supported the view that BOT is one of the many arrangements of PPP and it is usually utilized in highway development projects.

PPP covers a broad spectrum of arrangements. As such, available literatures listed down the various PPP methods including BOT through several approaches. Thillai (2004) utilized the 'degree of privatization' approach in listing the project structures under PPP, starting from lowest degree (lease) to highest degree of privatization attainable (BOO).

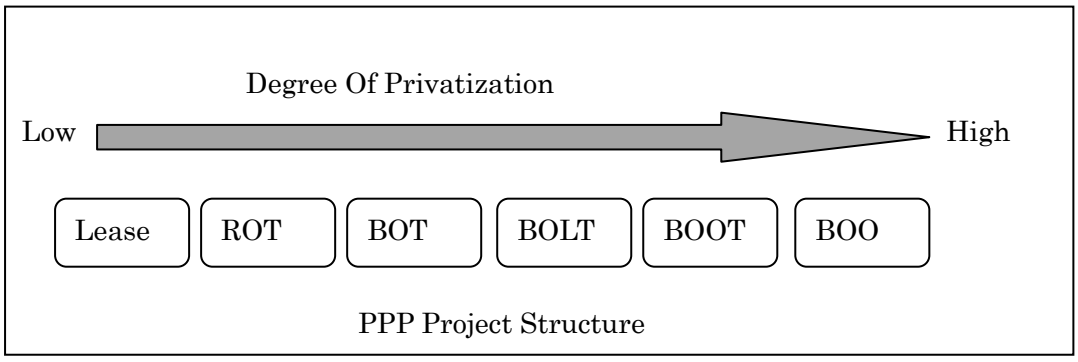

Figure 2.1: PPP methods and the degree of privatization achievable

Source : Adapted after Thillai (2004)

Another approach in listing down the wide array of arrangements under PPP is by measuring the magnitude of private sector's risk and involvement. By using this approach, combination of privatization degree and degree of risk allocated to the private sector for each PPP method can be clearly defined. This approach is used by The Canadian Council for Public-Private Partnerships as exemplified in this figure

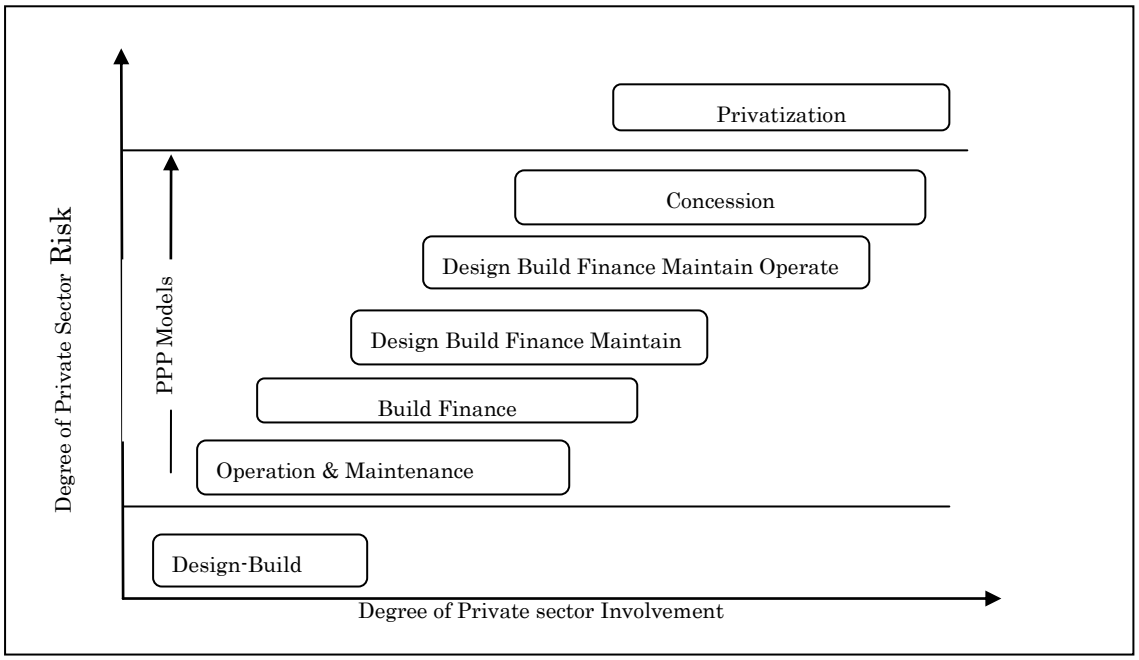

Figure 2.2 : Category of PPP arrangement according to degree of private sector's involvement and allocated risk

Source : The Canadian Council for Public-Private Partnerships

2.6 Definition and concept of BOT

The concept of BOT as an infrastructure procurement arrangement is said to have originated in Turkey in the 1980s and it was the idea of the Prime Minster of Turkey at that time to incorporate this alternative funding arrangement into Turkey's infrastructure privatization plan (Tiong, 1990), (McCarthy and Tiong,1991), (Kumaraswamy and Zhang, 1999) and (Kumaraswamy and Morris, 2002). As a part of PPP's various arrangement, many definitions of BOT method have emerged. For example, Schaufelberger and Wipadapisut (2003) defined BOT as an approach where the task of financing, designing, building and operating an infrastructure project throughout a mutually agreed operating period is undertaken by the private sector. They further added that the operation of the infrastructure project along the specified time also includes the right for the private sector to charge users of the project as a revenue source and generate profit for their investment. After the granted operation period has ended, the ownership of the infrastructure must be transferred to the government. Xenidis and Angelides (2005) defined BOT through several of its major characteristics which are a concession period where the private sector (or concessionaire) is allowed to operate an infrastructure project with the norm of being 30 to 40 years following the completion of the project, the project itself being financed, designed and constructed by the private sector, the concession period grants the private sector the right to collect

revenue from users of the project and the transfer of the project back without incurring any cost to the government after the concession period has ended. Several other literatures supported the idea that BOT as one of the arrangements under PPP should have these main concepts, namely the government appoints and awards a private sector partner (concessionaire), the private sector or concession company being responsible for the financing, design, construction, operation and maintenance of the infrastructure along the concession period, a concession period for the private sector to undertake all the responsibilities and utilize the infrastructure to generate revenue to cover their investment and the handing back of the infrastructure to the government after the concession period ended (Nassar, 1996) (Shalakany, 1996) (Esq, 1996) and (Tiong,1995). Parikh and Samson (1999) give further clarification to BOT through the way it "Provides private consortia with a concession to finance, build, operate, and maintain a facility/road. During the life of the concession, investors collect user fees to cover the costs of construction, debt servicing, and operations. At the end of the concession period, the facility reverts to the public authority in question" (p.5).

2.7 General literatures on BOT

Levy (1996) discussed about BOT and public procurement. As the popularity of BOT method of financing increases, it has become the preferred choice for many

countries around the world especially in the development of large scale infrastructure project such as highways. He added that this increased popularity is also driven by the compatibility of BOT with projects of such scale, which are characterized by huge investment and long gestation period. From his observation, Levy suggested that in order to incorporate BOT method into good government procurement practice, a comprehensive, working framework which can easily attuned both processes needs to be created. Available regulation by international bodies such as UNCITRAL, UNIDO and World Bank have been used as guiding principles towards achieving good governance in public procurement procedures. Therefore, the same set of regulation can be applied to a country's BOT scheme in order to create a sound framework for incorporating BOT into public procurement. He asserted that "a sound public procurement law promotes good government ideals by encouraging confidence that government will act responsibly in its purchases, by seeking optimum value for public funds in an atmosphere of accountability, and allowing fair competition through regulated, transparent practices" (Levy, 1996:97). The significance of public procurement is that it among others enhances infrastructure facilities and this in turn will promote business activities and contribute towards society's well being. Therefore, the important things for a sound government procurement framework are getting the

product and services at the most reasonable cost and at the same time promote confidence in government by ensuring that corruption can be restrained. As more and more government is turning to BOT as preferred procurement method, the need for incorporating good governance practices in its implementation becomes more eminent. Levy suggested adapting available international guidelines which promote competitive procurement procedures such as tendering. For BOT scheme to be successfully used as a public procurement method, it must incorporate tendering as tendering is described as "the method of procurement widely recognized as generally the most effective in promoting competition, economy and efficiency" (UNCITRAL). He further concurred that the correct direction for attaining good governance in BOT is through attaining the objectives of transparency and competition. Measures that must be taken to achieve the desired level of transparency should include the public disclosure of bid solicitation, bid selection and award of the contract. The importance of good governance framework for PPP arrangement such as BOT is due to the fact that it allows the public sector to obtain economic assets (infrastructure) without depleting public fund while simultaneously retaining control of the project. Additionally, for BOT project to be successful the public sector's prolonged scrutiny and control is detrimental while the private sector concurrently must be able to outline the long term viability of the project. With regard to

this, the current form of BOT being practiced could still be improved to increase transparency and competition. Levy concludes that a sound regulatory model which complies with good governance characteristics and clearly acknowledging tender as the best procurement method should be adapted for BOT projects.

The increasing popularity of BOT as the procurement method of choice for infrastructure projects is among others, driven by government's tendency to seek funding source from the private sector. Based on the successful implementation BOT projects in both developed and developing countries, McCarthy and Tiong (1991) elucidated in detail about the financial and contractual aspect of BOT projects, especially in infrastructure development. In BOT projects, the corporate structure is different from conventional infrastructure procurement. The number parties involved in BOT projects are bigger. Generally, they are the client (government or public sector), the constructor, the operator, off takers, suppliers, lenders and investors. With these parties as participants, the procurement procedure begins with the awarding of the project to the concession company who in turn will undertake the 'bundled' tasks of designing, constructing, financing, managing, operating and maintaining the infrastructure asset along the agreed concession period before transferring it to the government. In comparison, in conventional procurement of infrastructure asset, the

task undertaken by the contractor is usually limited to construction and commissioning (with the exception of design and build project). In this study, they also listed down several characteristics of the financial aspect of BOT projects. The first and most significant is that the financial instrument utilized for funding the project may differ according to the economic condition of the BOT implementing country. For developed country such as UK, financing of BOT project can be from investor in the domestic market whereas in developing countries, financing usually comes from debt instrument. To increase the success rate of BOT project undertaken, the host government should provide several assistance and incentives in the form as follows:

- Foreign-exchange guarantee – Host government should ensure that for project financed from oversea sources, remittance guarantee will be provided and project sponsors are secured of their ability to freely remit the revenues generated from the project
- Offshore escrow – Host government should assist the project sponsor in the matter of creating an offshore escrow account for all project revenue and foreign loans
- Off take agreement – To increase lenders' confidence that the concessionaire can generate the required amount of revenue to offset their loans, the host

government could assist by having a minimum guarantee of demand volume or operating income

- Supply agreement – In order to ensure the uninterrupted supply of raw materials needed for the BOT project, the host government could arrange for a guaranteed supply of such materials at competitive prices
- Allowing concession to operate existing facility – Host government can allow the concession company to operate another existing facility and charge users of that facility
- Retention of title – Host government is guaranteed ownership of the physical assets in case of project failure. Therefore, for lenders' benefit, in view of this provision, host government or project sponsors should provide other form of guarantee.

Regarding the contractual aspects of BOT projects, McCarthy and Tiong enumerated these prominent aspects:

- Concessions – It is important for BOT projects to have a regulatory, controlling guideline. Although it is sufficient for BOT concession to be regulated by contract or statute, there are some requirements in it which require intervention and enabling provision beyond what can be guaranteed by contract, such as

matters pertaining to private land acquisition or processing of planning application. Therefore, for forming concessions in BOT projects, it is better to have enabling legislation already in place either in the form of special law or act specific to BOT projects' needs as its regulatory framework.

- Operation and Maintenance – Operation and Maintenance in BOT projects can either be undertaken by the concessionaire company itself or contracted out.
- Construction – Procurement of construction service in BOT projects is commonly executed using turnkey fixed price contract. In this arrangement constructor's proposition is in the form of lump sum price in which all risks associated are borne by him. Another salient aspect in procurement of BOT project is time bonus and penalties associated to project and concessionaire's performance. In brief, concessionaire will be rewarded for early completion and punished for delay.
- Independent checker and project management company – Due to the large scale of BOT project and its complexity, sometimes independent checker or project management service provider is appointed to guarantee proper execution of the related works

For BOT project to be successful, support from the government side is

detrimental especially in the form of economic incentives and regulatory framework. All parties involved should understand the challenges they may face in its implementation. McCarthy and Tiong reaffirmed that "the BOT model is a challenging and increasingly popular method of procuring infrastructure assets…as governments, financiers and contractors become more aware of the concept, its use can only spread" (p.227).

A central topic to BOT scheme or agreement in infrastructure development is about the risk involved. Literatures available acknowledged that BOT infrastructure development is a complex large scale endeavour which is both resource intensive and requires intrinsic planning and management. BOT scheme, as well as other PPP arrangement, usually contains multiple dimensions, from economic to political. It is because of this complex arrangement that a sound framework with sufficient government intervention is required to ensure the success of it. Regarding government's duties in BOT infrastructure development, Kumaraswamy and Zhang (2001) chronicled the ways government must act to support the private partner and guaranteeing success. Their study was based on the example of successful BOT projects in Hong Kong (Cross Harbour Tunnel and four other subsequent tunnel projects) and failed BOT projects in Thailand (Bangkok Elevated Transport System) and Lao PDR (Tha Ngone Bridge Project). The main finding of their study is that the success or failure of BOT

infrastructure development is heavily dependent on the creation of suitable, conducive environment in all the applicable dimensions of the development itself. These dimensions are political, legal and economic and the host government in BOT must be able to nurture and strengthen that environment. As BOT projects are fraught with complexity, its implementation is accompanied by distinctive risks and uncertainties. Therefore, the successful implementation of BOT project cannot be guaranteed unless the required assistance is provided by the government, especially in setting up sufficient regulatory framework, establishing correct political and financial condition and arranging minimal guarantee needed to support a balanced risk-return structure (Kumaraswamy and Zhang, 2001). However, they also stated that if the entire prerequisites listed have been provided by the government, it is still not an assurance of the guaranteed success of BOT project as the government's involvement throughout the whole process of the project is imperative.

In relation to the conducive environment that needs to be created for BOT projects to succeed, Kumaraswamy and Zhang listed down the actions required from the host government. First, the host government must uphold a win-win principle especially pertaining to foreign investment, with the aim to attract foreign fund into the project and ensure efficiency in it to a level that is acceptable to the public. The government must

also establish sufficient legislative and regulatory structure. Next, a stable and consistent political environment with a central authority acting as a regulator and controller of BOT project is needed. The host government moreover must be credible and capable of ensuring that the agreed stipulation of the BOT project undertaken is able to withstand the risk of government and administration change. They further asserted that having a developed domestic capital market will contribute positively towards the financial aspect of BOT project. The host government should encourage competitive bidding and tendering arrangement and propagate transparency in all stages of the project. Assisting in land acquisition matters and providing guarantees to assist in redressing financial risks are the two last steps suggested for the government to undertake. Although they propose the host government to take measures to foster this encouraging environment required to attract private sector participation, government must also ensures that the right balance is attained between providing assistance (in the form of guarantees etc) and imposing control and regulation on the project. Too much guarantee will lead to oversimplifying the risk sharing of the private sector partner, discourage competition and negate the efficiency benefit aspired. The right amount of involvement by the government is imperative and it should be in a proactive, dynamic role starting from the initiation till the completion of the project. Concluding their study

on governmental role in BOT infrastructure project, Kumaraswamy and Zhang further outlined three important processes that must needs to be emphasized by the government in the whole implementation process to ensure project quality and success. The three processes are "execution of feasibility study, selection of the most suitable BOT concessionaire and continuous assessment of project success" (Kumarasawamy and Zhang, 2001).

In another study, Tiong (1990) focused on the aspect of risks and securities of BOT infrastructure projects. He asserted that normally in BOT project, the government is aiming for the project to be financed by the private sector solely through the expected revenue and this revenue will act as security for the project, as opposed to offering straightforward absolute guarantee of the project debt. Like Kumaraswamy and Zhang (2001) and McCarthy and Tiong (1991), he emphasized that BOT infrastructure project contains various risks that needs to be carefully maneuvered. Active government participation is needed to lessen the effect of the risks and ensuring project success. He also suggested that in BOT infrastructure project, the amount if risk undertaken by the private partner is larger than the public sector counterpart. For example, the private sector has to arrange for financing and operation of the project after construction completes. Due to this, commercial and financial considerations are more likely to be

the determining factor for a successful BOT project proposal compared to technical elements. Focus should be given to the risks and securities of BOT schemes especially throughout construction and operation phases and what solution to apply for successful project implementation. Better comprehension of the BOT project stages and the roles assigned to the private sector partner at each stage will assist in understanding the risks involved and the securities against them. Tiong (1990) described BOT infrastructure project in similar vein to a major start-up business. This view is quite befitting in regard to BOT project normally creates new infrastructures, similar to start-up business starting something new. Therefore, undertaking the BOT project requires the project sponsor to find financial resources, construct the infrastructure, operate and maintain it and transfer it to the government at the end of the concession period. During this period from initiation to transfer, the main source of security for the project sponsor to offset the debts they took is from revenue generated by the project. He further divided the BOT project period into five phases which are pre-investment, implementation, construction, operation and transfer (Tiong 1991:) In each phase, he held that there are risks involved and the project sponsor have specific obligations accordingly. He also suggested that the risk factor in BOT project can also be spread out into two phases, in which each phase can be treated as a well defined project itself. The first phase is the construction phase

or the relatively high risk construction project. The second phase is the operation phase which corresponds to the relatively low risk utility project. The movement of risk along the two project phase is from construction to operation, where during construction risk factors rise acutely and reach the top during early operational years. This characteristic is because in construction phase, large fund is up front to accommodate the buying of materials, labour and equipments. Upon completion and operation, the project will start generating revenue and project sponsor can start repaying their debts and making profits. Thus, at this phase the risk gradually decrease along the period up to the transfer to the government. Concurring with Kumaraswamy and Zhang (2001) and McCarthy and Tiong (1991), Tiong (1992) explained that the risks involved in BOT infrastructure projects can be classified into three major categories, financial, political and technical. For each category, security in the form of either government incentives or private sector's contingency action is beneficial in mitigating and softening the effects of those risks. For financial risk, he outlined four form of assistance from the government which greatly help the project implementation, namely provision if foreign exchange guarantee, assistance in establishing offshore escrow account and creating off take and feedstock agreement. The basic idea of having these incentives offered by the government is that it will aid in attracting finance source to the project as it increases lenders' confidence to

invest in it. Political risk on the other hand encompasses a broad spectrum of risk and it is the most difficult risk element to manage. To face political risk, he suggested having a concession agreement for a clearly stipulated time period, entering into BOT project in the form of consortium, taking political risk insurance form international agencies such as OPIC and EGCD and having the host government to agree for financial undertaking in the occurrence of *force majeure* will serve as security guaranteeing continuation and success of the project. The last group of risk is technical risk which can be controlled by the project sponsor themselves. Among the technical risks and their mitigation steps are construction and completion delay which he suggested can be overcame with enforcing a lump sum turnkey contract for construction with experienced turnkey constructor utilizing proven technology and strictly following the stipulated time frame. For operation and maintenance risk, provision of sufficient warranty period and maintenance bonds will enable the contractor to improve any shortcoming in the construction. From his observation, Tiong reaffirmed that for BOT project to be successful, the project finance must be structured with "as little recourse as possible to the sponsors or government" and concurrently, acceptable guarantees and undertakings must be provided to ensure that "lenders will be satisfied with the credit risk" (pp.327).

2.8 Literatures on BOT implementation in Malaysia

Although there are a lot of literatures available pertaining to privatization and PPP implementation in Malaysia, very few of them focused on the use of BOT procurement arrangement for highway projects. With scarce literature focusing on the implementation of BOT scheme in highway development in Malaysia, the other literatures available serve as clarifying background on the aspect of privatization and BOT arrangement for infrastructure project in general. Hensley and White (1993) observed upon how Malaysia has succeeded in integrating BOT and Build-Operate-Own (BOO) schemes into her National Privatization Strategy. They observed that Malaysia's program is a national program that is "most ambitious" considering the fact that Malaysia is a developing country. Implementation of this nationwide, large scale privatization initiative is assisted by the establishment of privatization strategies aimed at reaching the highest level of efficiency and taking full advantage of the available financing source, management know how and new technology and using them as tools for nurturing economic growth. Malaysia's remarkable privatization drive is characterized by various unique traits and one of the most prominent traits is the successful increase in the number of ambitious infrastructures and services achieved by using BOT and BOO arrangements. This is in

line with Malaysia's aspiration to attain industrial country status within a decade from the start of the privatization program (1985). The focus of privatization in Malaysia is on "internationally competitive infrastructure" such as telecommunication, power and highways. Malaysia's rationales of launching a national privatization drive are in line with the rationales explained in other literatures. Among them are the growing demand for infrastructure and public service investment beyond the amount affordable by government's budget. Faced with the funding gap to implement infrastructure project, Malaysia went into full privatization program through the establishment of sequence of measures, among them issuing a "privatization guideline" clarifying Malaysia's privatization's rationales and objectives. The outlined objectives of Malaysia's privatization are to lessen the government's financial and administration burden, encourage competition and enhance efficiency, energize private entrepreneurship and investment with the aim of expediting economic growth, to aid in reducing the size of public sector, cutting down monopoly and bureaucracy and the special objective of contributing towards the goals of Malaysia's New Economic Policy. To lead the Malaysian privatization program, the government of Malaysia established a Privatization Committee responsible for all matters pertaining to privatization. Hensley and White (1993) also observed that the Malaysian privatization guideline contains the

selection procedure for prospective private sector partner. Although the fundamental idea where the government select the suitable private partner or concessionaire is encompassed in this guideline, the guideline also incorporate a peculiarity in the form that the private sector, local or foreign, is able to initiate the process of privatization by submitting proposal of privatization project to the government. This eccentricity is to the extent that the private sector is encouraged to suggest privatization project through submission of detailed proposal to the government and certain level of exclusivity will be given to the first party submitting detailed proposal. The guideline also allow for the private sector to propose privatization of either existing infrastructure or create new infrastructure project. Hensley and White described this promotion for private sector to kick start privatization projects as "the most innovative and exciting privatization development in Malaysia" (p.79). Malaysia's approach to BOT scheme for highway development is reflected by its first BOT highway project, the North South Highway. In this project, Malaysia's eagerness to promote BOT method is shown by its supportive financial assistance to the concessionaire in the form of support loan, traffic volume supplement and external risk supplement. This enthusiastic approach to BOT is a likely catalyst for expediting the privatization process. They concluded that Malaysia's privatization experience is best characterized by "the successful use of BOO and BOT

techniques to mobilize private sector resources in the risks, responsibilities, and reward of the country's crucial infrastructure base" (Hensley and White, 1993: 82)

The Malaysian experience in privatization also serves as the focal point of a study by Yaacob and Naidu (1997). From this study, several aspects regarding infrastructure privatization are clarified and these aspects are also applicable to BOT arrangement in Malaysia. They stated that privatization program in Malaysia was started in the mid 1980s in a national program of economic transformation aiming at changing the nation to an industrial country. With the program in place, Malaysia started to shift its infrastructure projects from being undertaken solely by the government towards increasing participation of the private sector. According to them, this participation was through various methods of privatization including BOT. Besides the objective of aiming to be an industrial nation, the push for privatization was also driven by increasing public sector deficit caused by huge government involvement in the economy which resulted in the government being unable to sufficiently provide for infrastructure development needs. By embracing this privatization initiative, Malaysia have gone through a reformation of the conditions of infrastructure provision from government's domain to heavy private sector involvement across wide array of infrastructure including highways. Private sector's entrance into infrastructure development in

Malaysia is safeguarded by the contractual arrangement with the government. The contracting for private sector's provision of infrastructure in Malaysia takes many forms such as leasing and concession, with concession being the most used. This is reflected by the use of concession contract through BOT method for the development of sixteen highway projects form the year 1985 to 1997 (Yaacob and Naidu: 45). On the certain peculiarity of Malaysia's privatization method, as also observed by Hensley and White (1993), Malaysia encouraged the public sector to propose projects for privatization through submission of unsolicited proposal. The unsolicited proposal will be studied by the Privatization Unit for its feasibility and viability and if it is found to be a good proposal, the proposer will be given a letter of intent and the permission to proceed to the next stage of contracting and the first party submitting such proposal is given the exclusivity in undertaking the project. Yaacob and Naidu (1997) also observed that in both case of solicited and unsolicited bidding, the final selection of the awarded concessionaire is usually on the discretion of Malaysia's top political leader and the selection criteria is not disclosed. They asserted that Malaysia's preference of single source negotiated contracting is due to three assumptions. The first one being that it allows for lower transaction cost compared to competitive bidding. Next, competitive bidding may complicate and obstruct the achievement of Malaysia's New Economic

Policy goals and lastly, competitive bidding may take longer time to be completed. They further reaffirmed that despite the eccentricity in its procedure, Malaysia's privatization program can be considered a success based on the number of projects implemented and amount of private fund invested. This success can be accredited to three main factors namely the government's meaningful and abundant commitment towards the privatization of infrastructure, government's true intention to ensure projects success and the genuine, direct institutional structure for infrastructure privatization assisting in the contract facilitation.

2.9 Assessment of past Literature

PPP has been viewed as the solution for countries facing funding gap for their infrastructure development needs. More and more countries are turning to PPP as the alternative procurement arrangement and this creates a shift of responsibilities and risk from the public to the private sectors. As the preference for PPP rises, so does the emergence of literatures on this topic. Based on the literatures reviewed, it has been made clear that it is not easy to give a definition of PPP that will suit all of its variation of implementations. However, by looking at the characteristics of PPP, some form of similarities can be derived. The motive or rationale for countries to shift to PPP for

provision of infrastructure and services is also being enlightened by scholars and among them are the views that PPP enable government to utilize private fund and PPP increases efficiency. Furthermore, scholars also threw light on the various arrangements available under PPP which clearly showed that BOT is one of them. Scholars also clarified the concept of BOT and how does it fit into infrastructure development.

Being the most used PPP arrangement for infrastructure developments, many scholars have studied about BOT model and aspects of its implementation. Various studies delved into the conceptual framework of BOT and its integration into public procurement program. Some other studies, among them McCarthy and Tiong (1991) focused on the financial and contractual aspects of BOT and elucidated that these aspects in BOT scheme are different than conventional procurement for infrastructure. Other scholars studied the risk aspects of BOT especially on how the risks are spread out between the parties involved. Kumaraswamy and Zhang (2001) and Tiong (1990) showed that in view of the risks faced by implementer of BOT, several steps can be taken to mitigate the risks. The three literatures also suggested the framework that must be established for successful implementation of BOT.

The BOT model implemented in Malaysia's highway development attracted several scholars to study about it. Hensley and White (1993) went into great details

about how Malaysia successfully incorporated BOT into one of its national policy to the extent that peculiarities can be observed on BOT implementation in Malaysia. Privatization of infrastructure in Malaysia including the use of BOT became the focus of Yaacob and Naidu (1997) and they attempted to shed some light on the policies that drove the decision making in Malaysia. From both literatures about BOT in Malaysia, some aspects of its implementation are clarified. Assessing the available literatures on BOT and BOT implementation in Malaysia, it can be deduced that these scholars: Levy (1996), McCarthy and Tiong (1991), Kumaraswamy and Zhang (2001), Tiong (1990), Hensley and White (1993) and Yaacob and Naidu (1997) although focused on the conceptual framework, risk factors and certain aspects of BOT and its implementation in Malaysia, all of them only touched the surface of the crux question of how Malaysia have managed to use BOT arrangement for all of her highway development projects. No scholar has explained in detail about BOT implementation in Malaysia including the policy behind it, the administration of it, how does a BOT scheme initiated, selected and awarded, the parties involved in its implementation, what measures does the Malaysian government took to ensure its success and all of its characteristics along the whole project process. Therefore, this research will try to show clearly how is BOT scheme implemented in Malaysia for highway developments with clear explanation of the

processes involved and by doing so, it is hoped that this research will be able to contribute to the growing literatures on BOT highways in Malaysia.

CHAPTER 3: BOT HIGHWAY DEVELOPMENT IN MALAYSIA

3.1 Introduction

This chapter of the research will examine the geographic, socio-economic and historical background of Malaysia's development in general and specifically on its road network development. By clarifying this background, it will be easier to comprehend the reason why Malaysia embarked on privatization of its highway development specifically through implementation of BOT method. Another importance of this chapter is that it explains the process of implementing BOT highway development in Malaysia with details on the parties, regulations and procedures involved through the review of selected case studies.

3.2 Malaysia's Background

Malaysia is a country in South East Asia. It is a nation consisting of two main regions, the West (peninsular) Malaysia and East Malaysia, which are separated by the South China Sea and with the total land area of 328,657 square kilometers. The terrain characteristic of Malaysia is coastal plains in the west and east coast of Peninsular Malaysia with mountainous forests in the center and the same characteristic is also shared by East Malaysia. The Peninsular Malaysia is located at the most South Eastern end of the Asian continent, bordering Thailand to the north and Singapore to the south

while the latter is located in the Island of Borneo bordering Indonesia and Brunei. Naidu (2007) stated that "bbecause there is no contiguity between Peninsular Malaysia and the two states of Sabah and Sarawak, from the perspective of infrastructure planning Malaysia does not constitute a single entity" (p.207). As such, infrastructure planning and development in Malaysia is not very simple as separate consideration has to be made for both regions. The geographical location of west Malaysia enables land transportation from Thailand to Singapore with the distance between the Southern Thailand/ North Malaysia border to the Malaysia/Singapore border at approximately 800 kilometers. The capital of Malaysia, Kuala Lumpur and the administrative center, Putrajaya are both located in the West Coast of Peninsular Malaysia. The main international airport (the Kuala Lumpur International Airport), four of Malaysia's main ports and six other places which have been granted city status (apart from the Capital Kuala Lumpur) are also located in the West Coast of Peninsular Malaysia. The East Coast region of Peninsular Malaysia and the East Malaysia region are not as developed as the West Coast of Peninsular Malaysia and the government of Malaysia is taking necessary measures to rectify this imbalance in development (KKLW, 2009).

The World Bank categorized Malaysia as a developing country with upper middle income level[9]. The GDP in current US$ and the total population count for the year 2010 is $237.8 billion and 28,401,017 respectively. The annual real GDP growth rates for Malaysia for the past five years are 5.9% (2006); 6.3% (2007); 4.6% (2008); -1.7% (2009); 7.2% (2010) and estimated by the Malaysian government to be 5% to 6% for the year 2011[10]. In term of available road, Malaysia has the total of 98,721 kilometers of roads, with 80,280 kilometers of it properly paved, including 1,821 kilometers of highways[11].

Historically, Malaysia has been under the control of several European forces like the Portuguese, the Dutch and the British and for three years during the Second World War, the Japanese. Between 1815 and 1941, there was a huge increase in world trade which was driven by the Industrial Revolution in the Western Countries. As a result, there was increasing demand for raw materials needed for the production of goods and Malaya (Malaysia's name prior 1963) was set to answer that demand with the favorable conditions it has such as large area of usable land for the farming of the corps demanded and its strategic location near trade routes (Drabble, n.d.). To capitalize on

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9 From The World Bank's website http://data.worldbank.org/country/malaysia

10 From the website of U.S. Department of State http://www.state.gov/r/pa/ei/bgn/2777.htm

11 From CIA The World Factbook
https://www.cia.gov/library/publications/the-world-factbook/geos/my.html

this situation, the British Colonial government built infrastructures such as road networks to support the increasing economic activities in Malaya. However, the emphasis on infrastructure development was only in areas involved in economic activities supported by the British government such as tin mining and rubber plantations (KKLW, 2009). The consequence of this act of the British government was that the infrastructure development in Malaysia was uneven and imbalance as most of it was only focused on certain regions (Naidu, 2007: p.208).

3.3 Road Network in Malaysia before Highway Development

The first highway developed in Malaysia using BOT method was the 8 kilometer long, two way four lanes 'North Klang Straits Bypass' in 1984 (Ministry of Works, 2009: p.15). Before the development of this highway, Malaysia already had a good network of roads especially in the Peninsular Malaysia. This is due to the road development undertaken by the British Colonial government while Malaysia was still under its rule. Prior to Malaysia's independence in 1957, the British government had developed road networks to establish political command and to enable access to the main towns (Leinbach, 1975). The decision of the British government to develop road networks in Malaya during the time of its administration, according to Leinbach, was driven by the realization that adequate and functioning communication system was

important for ensuring that prosperity can be maintained. Historical records showed that road networks progressed during the time of British administration with system of cart road in Malacca by 1867, road network connecting economic and settlement areas after 1897 and established trunk road network connecting Penang and Malacca by 1911 (Leinbach, 1975). By 1942, it was reported that Peninsular Malaysia had already well built, hard surfaced roads connecting most part of the region and this road connectivity played a major role during Japanese invasion of Peninsular Malaysia during the Second World War as "Japanese soldiers rode them down, as much as twenty hours a stretch"(Parfitt, 2006:para 20). The period of being a British colony has benefited Malaysia in term of road provision as the British administration has developed sufficient transportation infrastructure in its effort to consolidate the states in Peninsular Malaysia into a united political structure. In doing so, states were connected through trunk road networks and secondary development roads linking state capitals and other districts, especially in the major towns like Penang, Ipoh and Kuala Lumpur and areas surrounding them (Leinbach, 1975). By the time of its independence in 1957, Malaysia has been left behind "a reasonably well-developed set of infrastructure facilities" (Naidu, 2007: p204). In term of transportation network, the British administration has provided an excellent network made of railways and paved roads especially in Peninsular

Malaysia, while in East Malaysia, the road network was still at its early stages and remained second after river transportation (UNDP, 2005)..

After its independence, Malaysia continues to expand and upgrade the road networks it inherited from the British administration. Planning and budget allocation for infrastructure development is incorporated into the five year economic plan (the Malaysian Plan) which are reviewed at each halfway of its implementation. At yearly level, the development plan and budget allocation are further scrutinized to ensure the optimum implementation. Utilizing these planning and budgeting mechanisms, Malaysia broadens and improves its infrastructure provisions while simultaneously addresses the imbalance of infrastructure development between its regions. Based on the previous Malaysia Plans, the government's emphasis on infrastructure development can be clearly illustrated by the amount spent which on it. Infrastructure expenditure shows a significant increase between 1966 and 2005 with the amount spent in 2001 to 2005 (RM 64.12 Billion) increased by forty-six times the amount spent in 1966 to 1970 (RM 1.38 Billion) (Naidu, 2007). The expenditure for road development in Malaysia also increases in each five year Malaysia Plan from 1966 to 2005 as shown in figure

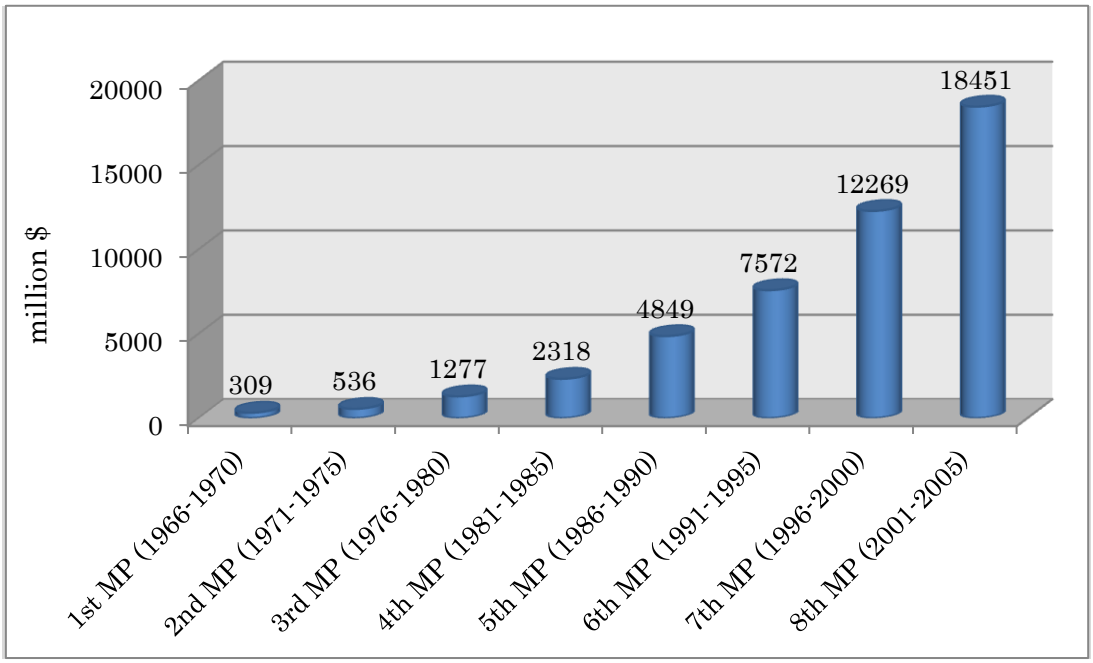

Figure 3.1: Malaysian Road Development Expenditure 1966 - 2005

Source : Economic Planning Unit of Malaysia

The effect of this emphasis on road development can be clearly illustrated by the increasing total road length in Malaysia during the same period of time, the total road length in 2005 (87,000 kilometers) grew almost six times the length in 1996 (15,000 kilometers).

Type of Road	Length in 1966 (km)	Length in 2006 (km)
Paved	12,464	67,851
Gravel	2,107	15,989
Earth	785	3,185
Total	**15,256**	**87,025**

Table 3. 1: Malaysia's Road Development Growth (1966-2005)

Source : Adapted from Naidu (2007)

In Malaysia, the road networks consisted of several classifications or types of road according to its location, builder and caretaker. The roads built and maintained by the federal government using federal fund are categorized as federal roads. At state level, state governments also undertook the task of building and maintaining some roads and at road provision also happens at local government or municipal level. The federal road network itself is made of several type of roads that has been gazetted with the main being the interstate and intrastate federal routes connecting all the states in Peninsular Malaysia and Sabah and Sarawak in East Malaysia. These main federal routes have been the backbone of Malaysia's transportation system and contributed to the economic activities and development. For example, the Federal Route number 1 is the main road connecting the northernmost part of peninsular Malaysia up to the border of Thailand to the southernmost part bordering Singapore. With the length of 826 kilometres, federal route number 1 enables movement of people and goods from Southern Thailand to Singapore while passing through all the states in the west coast of Peninsular Malaysia including the capital Kuala Lumpur. The 277 kilometre long Federal Route number 2 on the other hand linked the Malaysian capital Kuala Lumpur to the East Coast Port of Kuantan in Pahang thus effectively connecting the West Coast of Peninsular Malaysia to the East Coast. Further connectivity among the states in Peninsular Malaysia is

achieved by the Federal Route number 3 which links the east coast states of Kelantan, Terengganu and Pahang with the Southernmost state in Peninsular Malaysia, Johor through a 739 kilometre road. Besides this route, the main federal road networks also connect other parts of Malaysia and combined with the state and municipal road, it creates an intricate, comprehensive road network in Malaysia as shown in figure 3.2 below:

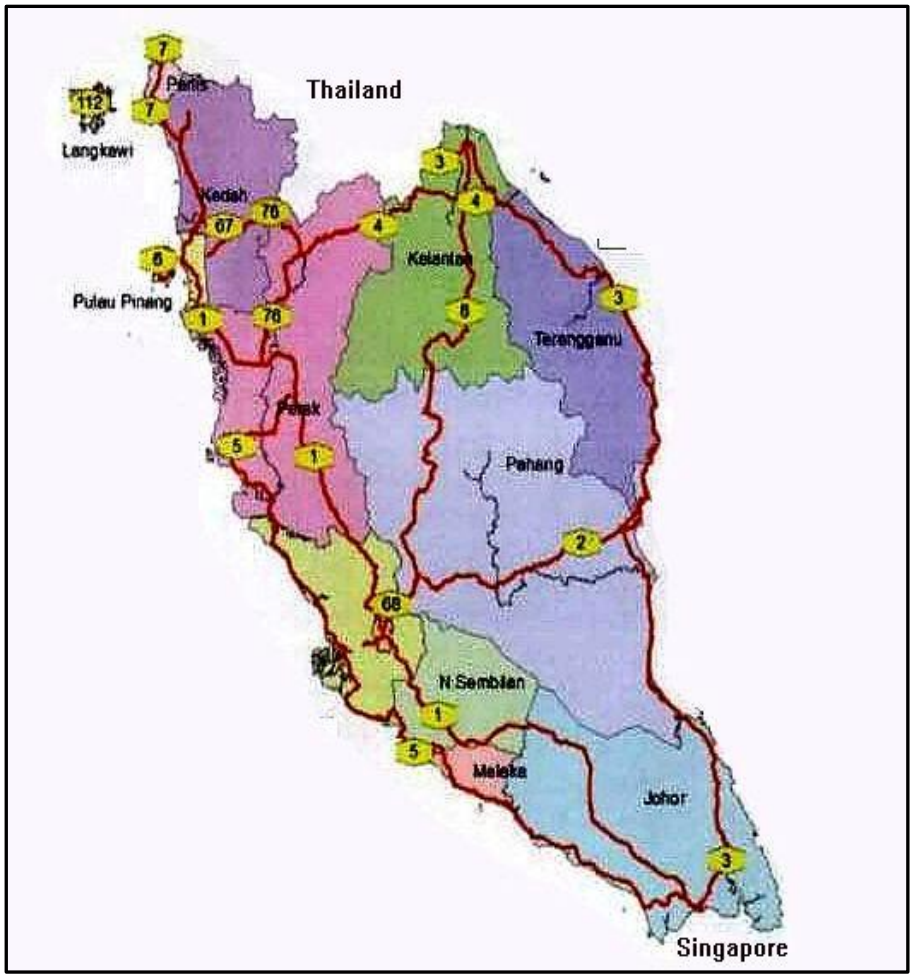

Figure 3.2 : Major Federal routes in Peninsular Malaysia

Source : Public Works Department of Malaysia

The main federal routes are interconnected and complemented by the other road networks. However, with growing economic and traffic volume, the need for a more competitive road networks system became more eminent. The interconnectivity of the existing road networks, even though created a complete road system, also contributed to the reduced efficiency of it. Factors such as high numbers of traffic lights and periphery junctions along the existing road networks caused prolonged travel time, traffic congestion and reduced its ability to effectively accommodate the increasing traffic volume.

3.4 Development of Highway before the Privatization

The definition of highway or expressway in Malaysia is "high speed routes with four lanes minimum, made up of two lanes in each direction with either limited or partial accessibility" (Bhattacharya, n.d.: p.2). Sahai (2003) stated that the toll road made its debut in the Asian region in Malaysia back in 1966. According to Hunt, Hamid and Mohamed (1989) the first toll road highway in Malaysia was the public funded, administered by the Malaysian Public Works department (PWD) 20 kilometer long Tanjung Malim-Slim River highway which started its toll collection in 1966. At the end of 1977, the Malaysian government decided to develop a tolled expressway form the north to the south of Peninsular Malaysia to better link the major towns and developing

areas in the West Coast of the Peninsular. The tolled North-South Expressway (NSE) will start at Bukit Kayu Hitam, a small town at the Thailand-Malaysia border and end at Johor Bahru, the state capital of Johor, the southernmost town in the Peninsular bordering Singapore (Malaysian Highway Authority, 2009). The proposed 823 kilometer highway was developed with the main objective of creating a complete and efficient inter town road system capable of accommodating the increasing number of vehicles. The increase in vehicle number and traffic volume in Malaysia was quite significant that it warranted an alternative to the Federal Route number 1 to be constructed. Between 1970 and 2007, the increase in number of vehicles registered for use in Malaysia is as shown in figure 3.3 below:

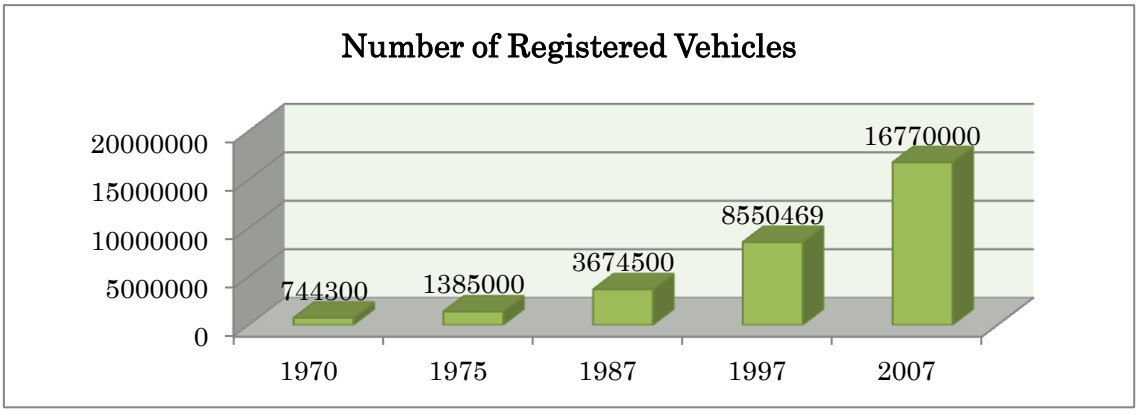

Figure 3.3 : Number of Registered Vehicles in Malaysia (1970-2007)

Source ; Department of Statistics Malaysia

Along with the development of the first highway in Malaysia, the Malaysian Highway Authority (MHA) was established in 1980 through the tabling of The Highway

Authority Malaysia (Incorporation) Act 1980 or Act 231. This act empowered the MHA "to supervise and execute the design, construction, regulation, operation and maintenance of inter-urban highways, to impose and collect tolls, to enter into contracts and to provide for matters connected therewith" (The Highway Authority Malaysia (Incorporation) Act 1980). The MHA was established as one of the agency under the power of the Ministry of Works Malaysia and its authority and role in the BOT highway implementation in Malaysia will be further discussed in this chapter. The physical development of the North South Expressway started in 1977 under the supervision of the PWD and from 1980 transferred to the MHA in accordance to its authority and function. At that point, the NSE was a public sector project funded solely by the government of Malaysia. The development of the NSE was done in phases and between 1980 and 1986, the MHA succeeded in constructing several phases of the project totaling 366 kilometer or 41% out of the proposed 823 kilometer highway. In term of cost, the amount of work completed as a public infrastructure project by the MHA was at RM 3.2 Billion. The works undertaken by the MHA in that period of time include the construction of new stretches of highway for example the Bukit Kayu Hitam-Jitra-Alor Setar stretch and taking over the operation of existing toll highway like the Tanjung Malim-Slim River highway (Santhiman, 2011).

3.5 Malaysia's Privatization Policy: The Beginning of Privatized Highways

In 1983, the government of Malaysia introduced the Privatization Policy. The Policy was introduced as a continuation of Malaysia's Incorporation Policy aimed at shifting selected government's authority, investment and holding in certain economic activities to the private sector. The ultimate objective of the policy is of achieving higher efficiency by allowing private sector's involvement and resources (Ministry of Works, 2008). The Guideline of Privatization (GoP) launched in 1983 became the main driving guideline for the national privatization initiative and it specifically defined five objectives of the initiative which are rrelieving the government's financial and administrative burden, promoting competition, rising efficiency and productivity, accelerating growth, reducing the size and presence of the public sector in the economies and meeting the objectives of national policy (the New Economic Policy) (EPU, 1985). Among the sector identified for privatization is the provision of infrastructure including highway. The national privatization policy was driven by many factors such as the increasing expenditure requirement for infrastructure development due to the increasing demand for infrastructure facilities. At the same time, the government was also facing increasing financial burden to satisfy this need while at the same time providing for other sector needs. As such, the GoM decided with the

introduction of the Privatization Policy to invite the participation of the private sector to design, finance, construct and operate infrastructure projects such as highways to ensure the continuation of the benefits that infrastructure projects bring. In return, the GoM agreed that the private sector will be repaid for its involvement through charging the users of the facilities throughout a mutually agreed period sufficient for it to recoup its investment and generate revenue while simultaneously ensuring that the users will not be burdened by the charge (Ministry of Works, 2008). This guideline basically is the principle of BOT arrangement and with it in place, Malaysia embarked on BOT highway development projects.

To further clarify its rationale and explain the projects undertaken under the privatization initiative, the GoM released another guideline called the Privatization Master Plan (PMP) in 1991. In this guideline, the process of privatizing highway development was made clear and the BOT arrangement was stated as the method of choice for the process. Thus, it can be said that the privatization policy launched in 1983 and the subsequent release of the two main privatization driving guidelines, the GoP in 1983 and the PMP in 1991 has been the starting point and enabling force for Malaysia's BOT highway development projects.

3.6 BOT Arrangement for Highway Development in Malaysia

The introduction of Malaysia's Privatization Policy in 1983 brought with it the transition of provision of transportation infrastructure from the public sector to the private sector. Highway development was one of the areas identified for privatization initiative and the mechanism of implementing the privatization of highway was through the BOT method. Highway development which was previously undertaken by the PWD and MHA started to be implemented by the private sector. In 1984, the concept of highway privatization in Malaysia came to light with the appointment of the first private entity as a concession company to build and operate Malaysia's first BOT highway project, the North Klang Straits Bypass (NKSB). The NKSB was an 8 kilometer, four lanes two way highway which connected the Klang Area to the Port of Klang, providing a shorter travelling time to and fro the port, a significant benefit especially for commercial vehicles and logistic business centered around the port. The agreed concession period was for 25 years and on the 21st December 2009, the highway was transferred back to the GoM. The development of Malaysian highway through BOT arrangement continued with the privatization of the NSE in 1986 when the GoM through the MOW announced that the remaining portion of the NSE will be completed by BOT method. Since then, other highways in Malaysia have been developed using

BOT arrangement.

3.7 Implementation of BOT Highway Development in Malaysia

Since 1984, 30 highways have been developed using BOT arrangement in Malaysia. Considering that Malaysia is a developing country which had only embarked on privatization program in 1983, that achievement can be considered remarkable. To understand how Malaysia could manage to successfully utilize BOT as the procurement method in providing highway infrastructures, details on the implementation process and all aspects around it need to be implored.

3.7.1 Regulatory Framework

The implementation of Malaysian highway networks privatization through BOT method is not governed by any specific PPP or BOT act. In contrast, public procurement of infrastructure and service in Malaysia is strictly governed by two acts of Parliament, Malaysian Treasury Instruction, Circular Letters and Federal Contract Circulars (Ministry of Finance Malaysia, 2010). Through these acts and circulars, the whole process of government's procurement of works (infrastructure), services or assets is clearly and comprehensively outlined in all stages of its implementation. By having a complete regulatory framework, government procurement can be implemented with the principles of public accountability, transparency, value for money, open and fair

competition and fair dealing as its basis (Ministry of Finance Malaysia, 2010). For highway development procured through BOT method, its implementation process is not comprehensively stated in any specific act of parliament or government circular. However, its implementation is enabled through the combination of these guidelines and acts:

- **Malaysia's Guideline on Privatization**

  The Malaysia's Guideline on Privatization released in 1985 by the Economic Planning Unit in The Prime Minister's Department of Malaysia among others outlined the specific objectives of Malaysia's privatization initiative which are to reduce the government's financial and administrative burden, promote competition, raise efficiency and productivity, accelerate growth, reduces government's involvement in the economy and to achieve the targets of the New Economic Policy (Economic Planning Unit, 1985). The enabling provision for BOT highway development is not literally stated in the guideline. It is however implied in one of the forms of privatization outlined in the guideline "Private Sector Participation in Activities and Provision of Services" which states:

  > "Privatization can also take the form of private sector involvement in the provision of certain services or activities, but without any change

in the organizational set up of the Government agency responsible for the services. This form of privatization essentially either **hives-off the responsibility for providing the existing services to a private firm or company, or a private firm or company can be invited to provide new services or facilities to the Government**[12]. The contracting-out of certain services, e.g. construction work, infrastructure services, maintenance work and stevedoring to the private sector, are some examples" (Economic Planning Unit, 1985 : p.5).

Furthermore, the Guideline on Privatization also outlined the structure of institutional machinery on privatization in Malaysia. The guideline iterated the formation of "an Inter-Departmental Committee on Privatization" and four technical committees made up of members from various government agencies. The former committee is designed to be the authority in charge of the formulation; supervision and evaluation of the privatization program while the latter on the technical aspects of the privatization. The two committees are involved directly in the process of highway privatization which will be described

[12] Emphasis is author's own

later in this chapter.

❖ **Malaysia's Privatization Master Plan**

Malaysia's Privatization Master Plan (PMP) was released in 1991 with the purpose of clarifying to the public about the government's privatization policy so that the public "can participate and understand the government's privatization approaches" (Economic Planning Unit, 1991). Provision for BOT as one of the privatization method for implementation was clearly stated in the PMP under the "forms of privatization" subheading. The PMP defined BOT as the suitable privatization method for infrastructure projects such as highway and water supply and expressed one definitive enabling provision for available and future BOT highway projects : the provision for the private sector to collect from the user or charge them for using the privatized highway along the concession period. The PMP also expressed under the 'project implementation approach' subheading the provision for privatization projects to be initiated by either the public or the private sector. In the instance of private sector proposed project, the party first proposing the privatization will be granted the priority status under a "first come, first serve" basis as a reward for their creativity and ingenuity and if

the proposal complies with the uniqueness and compatibility guidelines, the proposer will be awarded with exclusivity status allowing it to proceed to further stages of feasibility study, detailed proposal and further negotiation with the government and finally being awarded the concession (Economic Planning Unit, 1991).

- **Federal Roads (Private Management) Act 1984**

The Malaysian Federal Roads (Private Management) Act 1984 (also known as Act 306) is the act of parliament gazetted with the purpose of empowering the concession company in BOT highway development to "demand, collect and retain tolls in respect of a Federal road, bridge or ferry, and for matters connected therewith" . The provision of this act is granting the power to the Minister in charge of federal roads (The Minister of Works) to authorise any party (concession company) to charge users of the federal road they constructed, upgraded, repaired or maintained and keep the toll collected along a stipulated and agreed period as a return for the works they undertook in developing the road (Malaysian Federal Roads (Private Management) Act 1984). The other clauses in this act simply outline the characteristics of BOT arrangement such as the duty of the party authorised to collect toll (the concessionaire) to maintain

and upgrade the road along the concession period and clarified other matters pertaining to the toll collection such as the parties exempted from paying the toll and the penalty for user who do not pay the stipulated toll charges.

3.7.2 Agencies Involved in BOT Highway Development in Malaysia

Highway developed under BOT scheme is Malaysia is considered part of federal road networks. As such, the Minister of Works has the authority on several matters concerning the toll highways as stipulated in the The Malaysian Federal Roads (Private Management) Act 1984. The functions of the Minister of Works on matters pertaining to toll highways are delegated to the MOW and MHA accordingly. However, for matters related to the implementation of BOT scheme in highway development such as formulation of policy, evaluating BOT proposal and negotiating BOT implementation, the spearheading agency is the PPP Unit under the Prime Minister's Department of Malaysia. Furthermore, other agencies such as the Ministry of Finance and Attorney General's Chamber (AGC) of Malaysia are also involved, the former in matters relating to toll collection and government compensation to concessionaire companies while the latter in legal matters such as the drafting of concession agreement (CA). There is no dedicated BOT regulating or controlling agency undertaking all the functions related to

BOT implementation in Malaysia. As such, some degree of overlap could occur in the functions of the agencies involved in BOT highway implementation in Malaysia. The agencies in question are:

- **Public Private Partnership Unit, Prime Minister's Department**

  The Public Private Partnership Unit (3PU) under the Prime Minister's Department of Malaysia was previously the privatization section under the Economic Planning Unit. The Unit was established in 1983 after the launch of Malaysia's Privatization Policy as the secretariat for the Privatization Committee which comprises of members from various government agencies with the role of evaluating and recommending privatization proposals for the Cabinet's Approval. Pertaining to BOT scheme implementation for highway (and other PPP project) development, the 3PU's functions are as follows:-

  i. Legislating the policy and strategy for PPP (including BOT) implementation
  ii. Planning, implementing, coordinating, monitoring and evaluating BOT initiative
  iii. Review and evaluate technical and financial proposal of BOT initiative

with the assistance of relevant technical agency

iv. Prepare and improve the guideline and procedures of BOT implementation from time to time

v. Negotiate the terms and conditions of the concession agreement for BOT project with the assistance of the AGC of Malaysia.

❖ **Ministry Of Works**

The MOW plays several roles in BOT highway implementation in Malaysia. As highways are part of the federal road network, MOW is generally responsible for the planning and development of highway networks. Specifically, two sections under MOW, the Highway Planning Unit (HPU) and the Development and Privatization section have direct functions in highway development. The role played by the Development and Privatization section of MOW is more of a monitoring role and also the secretarial role between the Cabinet and Minister of Works in BOT highway matters. The outlined functions of this section are monitoring the MHA's obligation in determining toll rate and toll operation, monitoring the development of BOT highway projects and preparing cabinet paper and ministerial note on matters

related to highway development. The HPU's roles in BOT highway development on the other hand are more of planning and forecasting. Among its roles are planning the national highway and road networks policy, executing feasibility study to determine viability of proposed projects, monitor the development of new highway and creating traffic projection for new highway projects.

❖ **Malaysian Highway Authority**

At the time of its creation in 1980, MHA's role in highway development was of being the implementer or developer of highway projects. The outlined functions during its establishment were to supervise and implement the design, construction, control, operation and maintenance of highways, charge and collect tolls and to create regulations related to highways. However, with the launch of the Privatization Policy in 1983 and beginning of highway privatization, the role of MHA shifted from being the implementer to the monitoring agency. As such, in relation to highway development using BOT arrangement in Malaysia, MHA's roles are:

i. Monitoring the operation of highways and toll collection in Malaysia

ii. Planning and research to ensure the efficient usage of highways and other facilities along them

3.7.3 BOT highway Implementation Process

BOT highway project as well as other privatization initiative in Malaysia is regulated by the Malaysian Guideline of Privatization and Privatization Master Plan. Therefore, implementation process for BOT highway development is bound by the provisions of these guidelines. Prior to starting any privatization initiative, the GoP dictated that the agencies planning to privatize need to carefully undertake the task of identifying and choosing the "service or interest to be privatized" ((Economic Planning Unit, 1985 : p.6). The identification and selection process for any privatization initiative must be based on these outlined factors:

- ❖ Profitability and Privatization
- ❖ Social Objectives of Basic Services and Maximization of Profits
- ❖ Costs and Benefits of Privatization
- ❖ Structure and Performance of Industry
- ❖ Assessing Extent of Duplication and Need for Co-Ordination
- ❖ Feasibility of Fragmentation
- ❖ Special Characteristics of Services

Privatization initiative in Malaysia (including BOT highway projects) can be initiated by both the government and the public sector (Economic Planning Unit, 1991: Para 85). Yaacob and Naidu (1997) characterized this duality as a "unique aspect of Malaysian privatization policy" (p.46). Depending on the initiator of the privatization project, the process will have a different implementation path at the beginning before converging at negotiation and approval level. In determining which highway alignment or project to build, the GoM's decision can be based on the Highway Networks Development Plan (HNDP), prepared by the Highway Planning Unit under the MOW in 1993 with the cooperation of JICA (Highway Planning Unit, 2006). The HNDP outlined the policy, strategy, cost estimation for identified highway projects and implementation priority. Examples of highway projects developed based on the recommendation of this Plan are Phase 1 of East Coast Highway, Port Dickson-Seremban Expressway and South Klang Valley Expressway (Highway Planning Unit, 2006: p 26). After the identification, the GoM can either select or appoint a private entity to implement the project or instruct the EPU to either negotiate directly with a chosen private company or offer the project on a selective tender exercise (Yaacob and Naidu, 1997). The selected private company will then need to carry out on its own a feasibility study and comprehensive proposal. The submitted proposal will

then be evaluated by the two committees (financial and technical) under the National Privatization Committee who will later produce a recommendation to the Cabinet of Malaysia for approval. The cabinet will, upon consideration and advice from the National Privatization Committee approves or disapproves the proposal. For approved proposal, it will be negotiated thoroughly among the various government agencies involved and the private sector proposer to the point of a final proposal is achieved and resubmitted to the Cabinet for its approval. If the Cabinet accepts the proposal, a concession agreement will be put in place for the government and the private company to establish the legal, working agreement on the highway development.

For private sector initiated BOT highway development, the process starts with submission of unsolicited privatization proposal from the private company. While the government initiated proposal may be based on the HNDP, the private sector's proposals usually are not. These proposals are often not based on any road plan thus resulting in difficulty for the government to compare and ensure their justification and priority (ADB, 2000). Submitted proposal will go through a preliminary evaluation stage by the 3PU to determine its worthiness and upon the determination, the proposing company will receive a degree of exclusivity and a letter of intent declaring the government's approval for the company to follow through its proposal with detailed

proposal and feasibility study. A salient feature of this route of project proposal is that it is based on ‘first come, first serve’ principle and usually the proposing party is given the exclusive right to implement the project (Yaacob and Naidu, 1997). In Malaysia, unsolicited proposals are openly accepted by the government. As the government does not have an established system of allowing competitive bidding for unsolicited proposal such as ‘Swiss Challenge’ or bonus system, the proposal received are usually accepted, evaluated and the proposers are given the preferred status to proceed with the proposals. After the private company have follow up its first submission with a detailed, second submission and feasibility study, the process will follow the same flow of government initiated project where it will go through rounds of negotiation involving the private company and various government agencies resulting in a final proposal which will later be presented to the Cabinet to either accept or reject. For both government and private sector initiated BOT highway development, signing of concession agreement will occur after the Cabinet has approved the proposed project.

The next phase in the development process after the concession agreement is effective will be the actual physical development starting with land acquisition. The process of land acquisition in BOT highway development in Malaysia will be undertaken by the government through MHA with the costs incurred in land acquisition

exercise borne by the concession company. With access to the land on which the highway alignment is to be built granted, the next process will be the actual construction up to completion. The government through MHA will monitor the construction process and upon completion will issue a certificate called '*Sijil Kesempurnaan Pembinaan Lebuh Raya*' (Certificate of Perfect Highway Construction) in recognition of the completion and the construction quality of the highway[13]. The completed highway will then be gazetted as a federal, tolled highway before it can be open for use. The highway will then be operated and maintained by the concession company along the stipulated concession period before being transferred back to the government. The process form initiation until approval of the cabinet is illustrated in figure 3.4 below:

[13] http://www.llmnet.gov.my/serverpages/common/iso.aspx

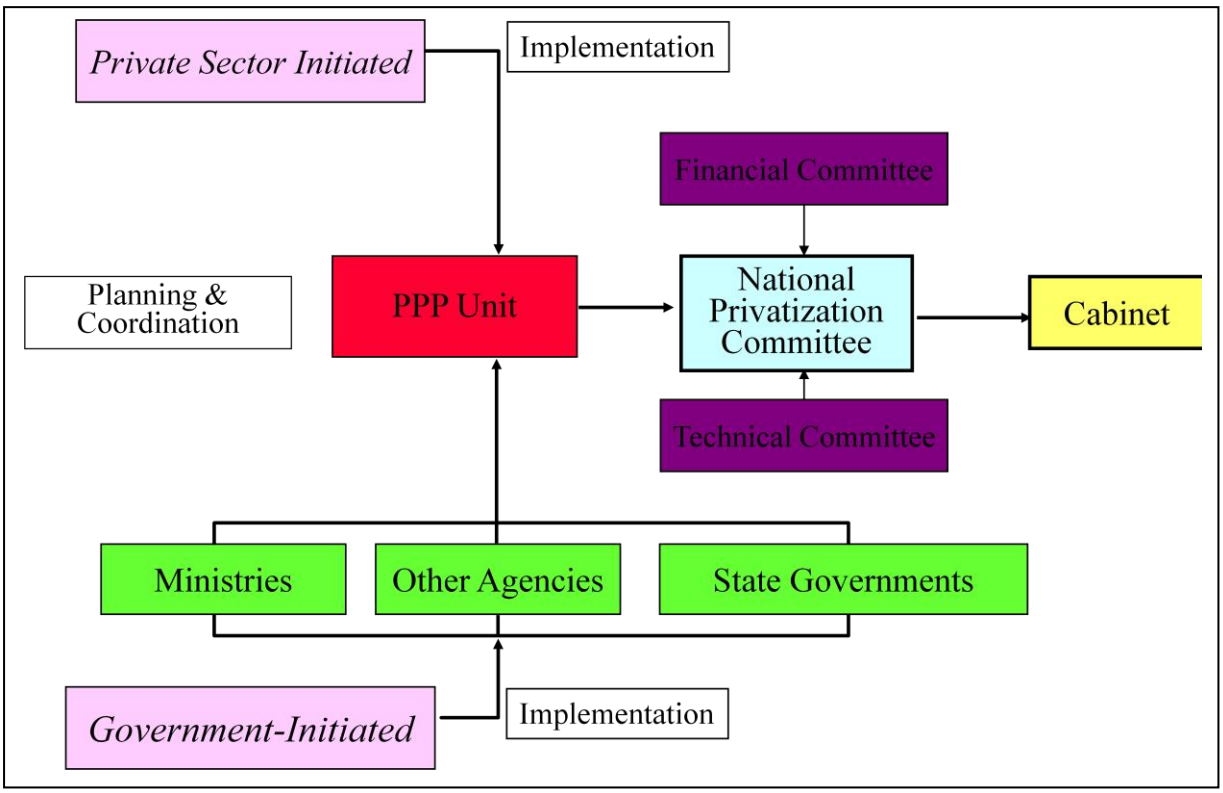

Figure 3.4 :BOT highway implementation process in Malaysia
Source : PPP Unit (3PU), Prime Minister's Department

3.7.4 Toll Rate Determination in Malaysia's BOT Highway Projects

The determination of toll rate in Malaysia's highway projects is the result of Concession Company's bid and negotiation with the government. The GoM has incorporated a number of elements in the toll rate determination exercise to support its policy of promoting social equality (ADB,2000: appendix 1, p.16). For example, to promote the use of public transportation service, the toll rates for buses are set lower than cars. In recognition of the large number of motorcycle users in Malaysia which

represented the lower and middle income group, no toll is charged on them while some highways have dedicated motorcycle lanes for their usage. Toll rate is different for different type of vehicle and the vehicle classification for toll rate determination in Malaysian highway is as follows; class 1 for vehicle with two axles with three or four wheels (cars and trucks excluding taxi), class 2 for vehicles with two axles with five or six wheel (excluding bus), class 3 for vehicles with 3 or more axles, class 4 for taxis and class 5 for buses. For toll rate calculation, it is stipulated that class 2 vehicles' rates will be twice the rate of class 1 vehicles, class 3 vehicles thrice the rate of class 1 vehicles while class 4 vehicles (taxis) are charged half the rate of class 1 vehicles (private car).

The toll rate in Malaysian BOT highway projects is one of the mechanisms in place to protect the projects' cash inflows against the risk of inflation. This has been observed in the first BOT highway project in Malaysia, the NSE (Kleimeier, 1996) and is still in effect in other subsequent highway projects. Klemeier (1996) explained this in the case of the NSE where the toll rate determination is based on price-indexation connected to inflation rate. As such, some form of protection for the concession company against domestic cost increment and exchange rate fluctuation exists in the toll rate determination (Fishfein & Babbar, 1996). In practice, the 3PU as the main regulating agency for BOT highway will consider the determination of the toll rate

based on its consideration of acceptable rate of return. Toll rate is calculated in per kilometer basis for each class of vehicle (ADB,2000: appendix 1, p.16).

A salient aspect of Malaysia's highway toll rate is its increased is allowed (subject to the government's approval) and guaranteed in the CA. The toll rate increase is set at five percent every three years for some highways and every five years for others (Low toll rates a great deal for rakyat, 2011). Malaysia's toll rate increase is allowed based on the CA on a determined interval. However, the government's approval for such raise is needed before it can be implemented. Toll rate calculation is incorporated in the CA based on the determined per kilometer rate. The toll rate at the start of its operating period is agreed upon and listed as toll rate schedule in the concession agreement while for the consecutive period, the toll rate will be determined through a process of concessionaire applying for new toll rate to the government, with detail calculation of its revenue collected for the previous operating period and an audited confirmation of such calculation six months before the new toll rates is to be imposed for the government to approve (Government of Malaysia, 2007: article 15.2). The toll rate per kilometer for private vehicles in some of Malaysia's highways ranges from 12 sen (East Coast Highway) to 14.96 sen (Kajang-Seremban Highway) (Ministry of Works, 2008).

3.8 Case Study 1: The North South Expressway (NSE)

To further clarify the implementation process of BOT highway development in Malaysia, this research will study the development of Malaysia's North South Expressway from its inception to now and all of its related issues and problems. As the biggest BOT highway development in Malaysia to date, the NSE has been viewed as the most profitable highway and a resounding success (ADB, 2000) and the most successful (Handley, 1997). To date, no other BOT highway development in Malaysia has been undertaken with the same project size as the NSE, which is shown in table 3.2 below:

Project Description	Construction of 500 kilometer of new alignment and rehabilitation of 370km of existing highway facilities (initially built by the government)
Construction Period	1986 – 1994 (overall completion)
Project Length/ Capacity	870 kilometer/ 4-6 lanes
Total Cost at construction (million USD)	3,192
Total Cost per kilometer at construction (million USD)	3.7 (inclusive of land acquisition cost for both privatized and government built portion and O&M cost for both portion)
Concession Period	48 years

Table 3.2 : Details of the NSE project
Source: Malaysian Highway Authority

In 1977, the GoM decided on the development of a new highway linking the North Border of Malaysia to the South Border to facilitate the growing traffic volume which can no longer be accommodated efficiently by the available Federal Route number 1. According to REAM (as cited in Ensor, 2004), the situation is verified by the HNDP undertaken in 1993 which showed that three corridors of the federal road networks were 'heavily trafficked', including the north-south federal route in the West Coast of Peninsular Malaysia. Three other locations along the route namely Penang, the Klang Valley and Johor Bahru were also experiencing large traffic convergence (Ensor, 2004). The NSE was initiated by the government in 1977 with physical work starting in 1980 under the supervision of the newly established MHA. Between 1980 and 1985, the MHA has managed to complete the construction of several phases of the project amounting to the total length of 366 kilometer or 41% out of the proposed 823 kilometer highway. In term of cost, the amount of work completed as a public infrastructure project by the MHA was at RM 3.2 Billion (Santhiman, 2011). In 1983, the GoM launched the Privatization Policy followed by the Guideline of Privatization in 1985. However, it was also in 1985 when Malaysia was badly affected by the international economic recession which resulted in negative economic growth for the country (Jomo and Syn, n.d.). Resulting from the economic recession, the public funded

NSE project was facing significant financial problems and the GoM was no longer capable of continuing the project and finishing it within the estimated period (Hensley and White, 1993). The economic situation could have possibly caused delay and deter the completion of the project (Klemeier, 1996). With the release of the GoP outlining the objectives and implementation methods of privatization compounded with the economic situation, the GoM decided to complete the remaining portion of the NSE through privatization, specifically utilizing BOT approach. Jomo and Syn (n.d.) stated that Malaysia's privatization approach for highway includes the 'enabling the imposition of tolls on roads previously built by the MHA' (p.11). In the case of NSE, the decision to complete the project through BOT approach included the authorization for the selected concession company to collect toll from the previously completed portion as revenue stream for the project (Kelimeier, 1996: p.189).

The identification and selection of what to be privatized in the case of the NSE was clearly undertaken by the government. Thus, the NSE was one of the BOT highway developments in Malaysia initiated by the public sector. The GoM through the MOW called for tender in February 1986 for the privatization of the NSE which included construction of the remaining unfinished portion and operating the finished section of the highway (Joe, 2009). Tender was offered to six pre-qualified companies but only

five submitted their proposals. The five companies were Pilecon Engineering Berhad, United Engineers Malaysia Sdn Bhd, Shahpadu Holding Sdn Bhd, Unico Holdings Sdn Bhd and Pembinaan Hasbuddin (M) Sdn Bhd. One out the five proposals received, only three proposals were considered for further evaluation (Joe, 2009: Para 9). To understand the selection process of the proposing companies in the NSE development, the characteristics of bid price, financial support required from the government, proposed toll rate per kilometer, proposed concession period, estimated toll collection total and company's experience in highway building need to be clearly shown. These characteristics for the three companies are illustrated in Table 3.3 below:

Bid Characteristics	Pilecon	Hashbudin	UEM
Bid Price	RM 3.372 Billion	RM 3 Billion	RM 3.5 Billion
Financial Support required from the government	RM 498 Million standby credit	None, only require government support for their commercial loans	RM 1.65 Billion support loan
Proposed toll rate per kilometer	7 sen	5 sen	7.5 sen
Proposed Concession period	25 years	22 years	25 years (extended to 30 years)
Estimated Toll Collection Total	RM 18-19 Billion	RM 17.9 Billion	RM 34 Billion

Experience in highway construction	Yes	Yes	No

Table 3.3: Characteristics of The Proposals Received For NSE Privatization Exercise

Source : Adapted from (Joe, 2009)

The GoM chose to award the project to UEM despite the fact that UEM's offer was the most expensive and requires the highest amount of government's financial support. The reason or criteria was never disclosed to the public (Fishfein and Babbar, 1996). The concession awarded to UEM was for a period of 30 years and it included the authorization to operate and charge toll from the users of the highway portion already completed by the MHA (Klemeier, 1996). Hensley and White(1993) observed that under the concession awarded, UEM's obligations are to finance, construct, maintain and operate the completed section of the highway and to complete the construction of the remaining portion in seven years The selection of UEM as the concession company for the NSE project invited some criticisms based on the fact that the company was not the strongest bidder if measured by its experience in building operating highway and its financial condition (Hensley and White, 199: p.81). UEM then proceeded with setting up a subsidiary company named PLUS (Projek Lebuhraya Utara Selatan or North South Expressway Project) to be the main concessionaire company for the project. The project was financed in its entirety by local funding. Klemeier (1996) gave the financing detail

of the NSE project which was RM 2.086 billion loan provided by 45 Malaysian local banks, RM 500 million in self provided equity and RM 1.65 Billion in the form of support loan from the GoM.

Based on the conditions leading to the awarding of concession to PLUS, several traits that later will be demonstrated in other BOT highway developments in Malaysia can be seen. The traits were the lack of transparency in selection of concession company, no regulatory framework for bidding and selection and heavy government involvement in from of support and assistance to the concession company to ensure project success. The NSE should be a project fraught with many risks considering it was the first, large scale BOT highway development implemented in Malaysia, the concession company selected was not the strongest of the bidder and the time of the inception was that of an international economic recession. However, to ensure the project success, Klemeier (1996) observed that these risks mitigation measures were taken during the project implementation:

- To complement the concession company's lack of experience in building highway, construction works were broken down into 44 packages and they appointed experienced and capable contractors such as Mitsui form Japan, Taylor Woodrow International from the United Kingdom and Dragagnes et

Travaux from France. Some works were also sub contracted to local contractors. Dividing works into smaller packages reduced the risk of total project failure as works were undertaken and completed in phases. To further ensure the subcontractor's performance, sub-contractors were given the option of payment in the form of cash and equity shares, which can be transformed into voting shares or sold in the local bourse. This strategy worked in ensuring sub-contactor's performance by providing them with the motivation to perform well as their performance will affect the project success and in turn the value of their shares.

- To counter the risk of output demand and price risk, toll structure which clearly differentiated the classes of vehicles using the highway and indexed to inflation rates was incorporated into the concession agreement. Output demand risk was softened by the availability of only one other parallel road network to the highway, the Federal Route number 1 which provided a less efficient alternative in term of travelling time compared to the NSE. With the increasing traffic volume projected, more users were expected to utilize the NSE and enable it to achieve the traffic projection. Nevertheless, the project also benefited from government's minimum revenue guarantee should there be traffic shortfall as

this clause was also incorporated into the concession agreement.

- Rate variability risks were countered through several special measures such as tying the toll rates to the fluctuation of price index which effectively guarded the project against inflation risk, establishing a financing structure made up totally of local currency to evade currency risk and having a government guarantee of limiting interest rate at 20 percent on loan as a solution to interest rate risk.
- The project was not so much facing much country risks which were made up of political risk and economic risk. In the former, Malaysia was politically stable during the construction period and the concession company was strongly connected to the ruling political party thus making it quite resistant towards political risks. The latter includes components such as economic stability, the risk was not so visible due to the favorable economic ranking of Malaysia in the Euromoney country risk ranking system at the time of construction (Klemeier, 1996: p. 193).

Despite all the risk mitigation measures put in place during the construction phase of the NSE, the actual performance of the project was not entirely glitch free as it should have been. The project incurred cost overrun up to 70 percent (Fishfein & Babbar, 1996) above the projected cost. In term of political risk, the project faced strong

objection from the opposition political party who claimed that the lack of transparency in the selection process was an act of corruption of the government (Joe, 2009). The project however was successfully completed in 1993 in spite of all the problems.

The completion of the NSE and start of its operation brought with it many benefits such as "positive impact on the economic and social geography of Malaysia and has attracted a huge, growing traffic" (ADB,2000: appendix 1, p.13). In summary the NSE was enjoying the assistance of the GoM in the form of support loan amounting to RM1.65 Billion for a 10 year period, minimum revenue guarantee in the form of traffic volume supplement along the first 17 years of the concession period and additional risk supplement for unfavorable exchange rate or interest rate fluctuation also during the first 17 years of concession (Hensley and White,1993). However, opinions varies on whether the NSE is indeed a successful BOT highway project or otherwise. ADB (2000) described it as a successful project only because of the utilization of the government assets in the form of the completed highway portion which provided PLUS with a revenue stream. Hensley and White (1993) labeled it a success in term of achieving the outlined Malaysia's privatization objectives of reducing government financial commitment in infrastructure provision, shifting public sector's responsibilities to the private sector and using a new innovative approach towards

project realization. Handley (1997) argued that the success of the NSE project must be measured against the facts that it's selection and award process was shrouded in secrecy and non-disclosure, with no competitive methods which heavily prioritized firm with connection to the ruling political power and the amount of public sector financial assistance does not reflect well on the achievement of basic privatization objectives of reducing public sector's involvement and expenditure in infrastructure development.

In term of relative efficiency/inefficiency between the implemented BOT system and the public procurement approach used in the development of the NSE project, the comparison is as follows:-

	Publicly procured portion (by MHA)	BOT portion (by UEM)
Constructed Length	370 Kilometer	500 Kilometer
Land Acquisition Cost	Not Available (Fully Borne by the Government)	Not Available (Fully Borne by the Government)
Construction Cost	RM 3.32 Billion	RM 3.5 Billion at award, increased to almost RM 6 Billion at completion
Construction Period	5 years	7 years (5 years at award)
Project Scope	Construction and O&M	Construction and O&M

Table 3.4 : Comparison between publicly procured portion and BOT portion of the NSE
Source : Malaysian Highway Authority and Joe (2009)

Based on the comparison between the construction cost of the publicly procured part and the BOT part of the NSE project, it can be seen that the desired efficiency of privatizing the NSE project was not effectively achieved. Due to risks effecting the project and compounded with the selection of relatively inexperienced and financially not strong concession company, the BOT portion of the expressway was only completed after 7 years of award and it experienced cost increase up to RM 6 Billion from the awarded amount of RM 3.5 Billion.

One of the ongoing issues with the implementation process of the NSE is the problem of toll charges. In the case of the NSE, the government had overprotected the private sector from risk by guaranteeing its profitability through loans, exchange rate and minimum revenue guarantee which resulted in the less successful risk transfer from the public to the private sector (Naidu, 1995). The incorporation of toll increase entitlement clause in the concession agreement has caused ongoing problem to the government as it allows for upward revision of toll rates, something the public does not approve of (Aziz, 2002). The objective for the incorporation of toll rate increase entitlement clause was to allow PLUS to better absorb the financing costs and growing maintenance and service charges. Aziz (2002) stated that the toll rate increment proposed by PLUS to the government was at 33% in 1996 and subsequently another 6%

annually for the following two years. The proposal was met with negative reaction by the people and this caused the GoM to renegotiate with PLUS on the increase and the result was PLUS agreeing to revise the increase the proposed hike and the GoM ended up paying compensation to PLUS on its revenue loss the amount of RM 100 million (Aziz, 2002: p.2).

In 2011, the Malaysian Employee Provident Fund (EPF) which is the country's main pension fund and UEM Berhad completed the buying of all assets and liabilities of PLUS Expressway Berhad (the concessionaire for NSE) (Eu, 2011). This move has effectively gives the government more control of the NSE and its operation (Low Toll Rates a great deal for rakyat, 2011).

3.9 Case Study 2 : The Kuala Lumpur-Kuala Selangor Highway

The Kuala Lumpur-Kuala Selangor Highway (LATAR) is the newest highway in operation in Malaysia. The concession was awarded to Kuala Lumpur-Kuala Selangor Expressway Berhad (KLKSEB) in 1997 through BOT scheme arrangement but due to the Asian Financial Crisis in 1997, the project did not took off until it was revived in 2008 with a new supplemental agreement signed with the government (Arulampalam, 2011). Construction of the highway started in 2008 and it was

completed and opened to public on 23rd of June 2011. Toll collection for the highway officially started on 1st September 2011 after being toll free right after it opened. The 33 kilometer highway is linking Kuala Lumpur and Kuala Selangor district and its development was aimed as an alternative and to reduce traffic congestion on federal route number 54 with the concession period of 40 years[14]. The highway is a green field project of developing dual lane, at grade expressway and its development was initiated by the concession company (unsolicited proposal).

The highway was built at the cost of RM 958 Million. The highway development was financed by domestic and foreign funding in the form of RM 1.04 Billion total loan secured from Malaysian Development Bank and Islamic Development Bank (Arulampalam, 2011). The traffic volume projection for the highway for the year 2011 was 60,000 vehicles daily (Jayaraj, 2011). However, after the commencement of toll collection, the actual traffic volume was 30,000 vehicles daily (Idris, 2011).

The concession agreement (CA) for this highway dictated that the land acquisition will be undertaken by the government while any cost involved with land acquisition shall be borne by the concession company. However, the government provided RM 65 Million to the concession company for 'Reimbursable Land Cost' in

[14] From LATAR's website http://www.latar.com.my/FAQs.htm

connection to land acquisition which must be repaid by the company in ten installments spanning a ten year repayment period. Another form of government's assistance includes the granting for the concession company to apply for financial assistance from the GoM's investment arm. The toll rate for the highway was already determined before the construction start and the toll rate is scheduled to increase very five years. In the case of non approved increase, the government will compensate the concession company for any reduction in the toll collection. The CA also clearly stated that government's compensation to the concession company will be considered its revenue.

For the purpose of measuring the relative efficiency/inefficiency of this BOT highway project, this research will make a comparative analysis between this project (The Kuala Lumpur-Kuala Selangor Highway) and another highway project which is developed using public procurement system which the East Coast Expressway phase 2. The latter which started constructed about the same time as the case study is a part of the East Coast Expressway phase 2 project which has been divided into two portions, one being developed using public procurement while the other using BOT system. The comparison between both projects is as follows:-

	Kuala Lumpur-Kuala Selangor Highway (BOT)	East Coast Expressway phase 2 (Public Procurement)
Project Length (Kilometer)	33	120
Contract/ Package	Single	Divided into 16 smaller contracts/ packages
Land Acquisition Cost	RM 65 Million (borne by the government, to be repaid by the concessionaire)	RM 97 Million (borne by the government)
Project Cost	RM 958 Million	RM 1.44 Billion
Project Length	3 Years (2008-2011)	8 Years (2006-2014)
Project Scope	Design, Construction and O&M	Construction only

Table 3.5 : Comparison between KL-KS highway (BOT) and East Coast expressway Phase 2 (publicly procured)

Source : Malaysian Highway Authority and Public Works Department Malaysia

Based on the comparison in Table 3.5 above, the Kuala Lumpur-Kuala Selangor highway project displayed a high degree of efficiency particularly in term of cost and construction period. Being the newest BOT highway in operation in Malaysia and with the relatively small project size (compared to the NSE project), this project in some

ways have successfully achieved the desired efficiency. It is also worth noting that the concession company for this highway project, KLSEB is backed by Bina Puri Holdings Berhad which holds 60% of its stake[15] whereas Bina Puri Holdings Berhad is a relatively experienced construction company with sound financial capability and has been awarded several times by the Construction Industry Development Board of Malaysia (CIDB) for its successful achievements[16]. In this particular case (the Kuala Lumpur-Kuala Selangor highway), the selection of right concession company could have in influenced the efficiency and the success rate of the BOT project.

[15] http://www.latar.com.my/corp_info.htm

[16] http://www.binapuri.com.my/AU01_Intro.html

CHAPTER 4 : ANALYSIS OF THE IMPLEMENTATION OF BOT METHOD IN HIGHWAY DEVELOPMENT IN MALAYSIA

4.1 Introduction

This chapter will analyze the how Malaysia implement BOT method in developing its highways based on the process described and case studies reviewed in the previous chapter. Firstly, as the research question implied, the analysis will be on how the implementation of BOT method in Malaysia's highway development fares as a process by using a business process framework analysis. The second purpose of the analysis is to examine how the BOT implementation in Malaysia fits into suggested good implementation framework as suggested by several literatures available on BOT implementation. The analysis will also attempt to illustrate how certain prominent traits in the Malaysian implementation process differ from what is practiced in other countries and how the differences affect it.

4.2 Analysis of Malaysia's BOT Highway Development as a Process

The Malaysian BOT highway development as it is implemented in shows that it follows certain procedures and guided by guidelines and regulations. Although based on

the case studies discussed in the previous chapter there seems to be certain shortcomings to the procedures which resulted in questionable practices and relatively inefficient outcomes, nevertheless, some form of systematic sequence of procedures are indeed apparent in the implementation. This research therefore intends to analyze the implementation of BOT highway development in Malaysia in the viewpoint of a process. According to Davis (2009), a simple definition of process is "definition of the tasks and the sequence of those tasks necessary to fulfill an objective". Further definition of process as sequences of actions or procedures with the objective of producing something of value, be it a product or service, to party or organization external to the procedures while simultaneously benefiting the entity or organization undertaking the procedures itself (Davis, 2009: p.1). By this definition, the BOT highway implementation in Malaysia fits it perfectly as the sequence of activities as discussed in chapter 3 are undertaken by the concession company and the government (both being internal parties in the process) with the goal of providing working highway infrastructure benefiting the government and end users (external parties) while at the same time bringing value to the organizations undertaking the process (the concession company and the government). Davis suggested that a process can be elucidated in a model which cleary outlines the definition and flow of tasks, the resource requirements,

operating environment and the goals they attain. By using this process model analysis as suggested by Davis (2009) to analyse the implementation of BOT method in highway developments in Malaysia, it is clear that the implementation does fit for a systematic and organized process, as represented in figure 4.1 below:

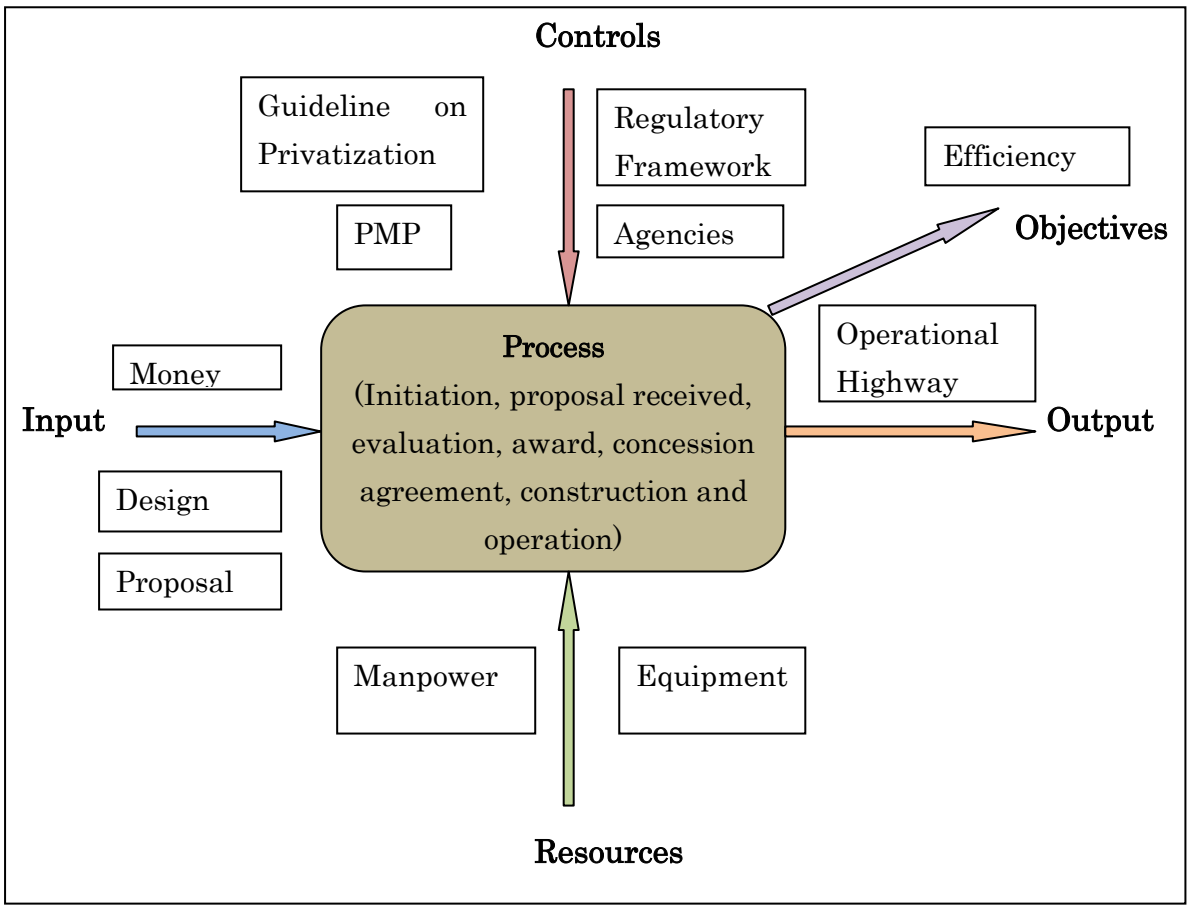

Figure 4.1 : Analysis of Malaysia's BOT Highway Implementation Using Good Process Model

Source : Adapted after Davis (2009)

Further suggested by Davis on a good process model is that it should be effective, efficient, relevant, valid, usable, used, reused, managed and measured (p.2). Analyzing the implementation process of BOT highway development in Malaysia using the suggested criteria shows how the process fares against the criteria as follows:-

Criteria	**The Malaysian BOT Highway Development Process**
Effective	The highway development process using BOT method in Malaysia has been relatively effective in attaining the objective of providing highway infrastructure through the participation of private sector. The success of developing 30 highway networks amounting to 1600 kilometers of operational highway can be a measure of its effectiveness.
Efficient	The efficiency of BOT highway development process in Malaysia is questionable as some highways have shown that the desired efficiency has not been fully achieved. However, the hit and miss situation is the result of questionable practice and incorporation of national policy in its implementation.
Relevant	The relevancy of the process in the context of highway development using BOT system is proven by its effectiveness.
Valid	The process have been validated and verified with the government's objective and the private sector's need.
Usable	The process has indeed been usable for obtaining highway infrastructure through BOT method.
Reusable	The same process have been used for all the BOT highway development

	projects in Malaysia in the 25 years time span albeit some weaknesses in its implementation, thus proving its repeatability.
Managed	The process of highway development using BOT system in Malaysia is managed by several government agencies undertaking various aspects of it with the guideline of the regulations in place.
Measured	The relevant agencies in charge of BOT highway development process in Malaysia have been measuring the process through respective KPI. For the private sector, business measure such as the toll collection revenue and traffic volume growth has been implemented.

Table 4.1 : Comparison of Malaysia's process of BOT highway development and suggested good process model criteria as suggested by Davis (2009)

Source : Adapted after Davis (2009**)**

Using Davis' suggested model of process and criteria of good process model, the Malaysian approach of highway development using BOT system fits the description of being a process in which it is systematic and repeatable in obtaining the output of highway provision through PPP. However, as process is made up of components of inputs, resources and controls, weakness or flaw in any of the component will affect its desired output. In Malaysia's case, as shown by the case studies, questionable practice due to the incorporation of national policy in the process has resulted in questionable achievement of the process' objective that is efficiency.

4.3 Review Of Prominent Characteristics in Malaysia's BOT highway

Between 1985 and 2011 Malaysia has managed to develop a highway network consisting of 25 different alignments with the total length of approximately 1600 kilometer. Based on the projects successfully completed, some noticeable traits that can be observed. These traits have been described as peculiarity or uniqueness of Malaysia's way of implementing BOT scheme in its highway developments (Yaacob & Naidu, 1997). However, a deeper view of these characteristics will enable further comprehension on how they affect the implementation, what are the results of their incorporation into Malaysia's BOT highway project and how, by comparing with practice of other BOT implementing nations, can Malaysia improve on its way. For this research, the prominent traits of BOT scheme implementation in highway developments in Malaysia that has been selected for further analysis are the lack of specific, controlling BOT act or statute of law, the propensity towards unsolicited proposals and their handling, and government's measures to protect the concession company from risks.

4.4 Suggested Good Implementation Framework for BOT

Numerous literature available on the topic of BOT and its implementation especially in infrastructure development indicated that BOT has become the method of

choice for many countries in the world, all with the similar outcome of provision of large scale, resource and technically intensive infrastructure projects by the private sector for the utilization of the public by which the private sector is granted the right to recoup their investment through charging the users of the infrastructures (Levy, 1996 : p.22). Some of the literatures available suggested elements that must exist in BOT implementation to guarantee its success (Levy D. A., 1996), while a number suggest the measures that must be taken by all the parties involved to achieve the goal of BOT (McCarthy and Tiong, 1991), (Kumaraswamy & Zhang, 2001) and (Tiong, Bot Projects : Risks and Securities, 1990). Based on these and some other supporting literatures, this research will attempt to propose a good implementation matrix consisting of the ideas and suggestion of those literatures. Further, to determine how well Malaysia's implementation process compares to the suggestions, corresponding aspects of Malaysia's BOT process in highway development review will be contrasted against them. Table 4.1 shows the suggested good BOT practice framework matrix and Malaysia's own process in comparison:

Suggested Elements of Good BOT Implementation	Malaysia's Implementation Practice
BOT law governing its implementation	No specific BOT law or statute, implementation governed by non-regulating guideline, legal act in connection only limited to the empowerment of toll

	collection by concessionaire.
Competitive procurement approach such as tendering	Very few application of tendering, majority of projects applied single party, direct negotiation process.
Transparency in all implementation stages especially during selection	Preference of disclosure, selection criteria not made public, concession documents were made classified until 2009.
Government should provide risk mitigation measures to ensure project success	Government provided too much guarantee against private sector's risks to the extent the private sector is totally shielded from loss.

Table 4.2: Good BOT Implementation Matrix and how Malaysia Compares to It
Source : Author (from information available in various literatures)

4.5 Difference Between Certain Elements in Malaysia's and Other Countries' BOT implementation Approach

To further highlight the difference in implementation approach of certain elements in BOT arrangement applied in Malaysia with that of other countries and international practices, the research will outline selected prominent traits of BOT scheme implemented in Malaysia and evaluate them through a comparative approach with the latter.

4.5.1 No Specific Law Governing BOT Implementation in Malaysia

Malaysia's BOT implementation in general and in highway development specifically is not governed or regulated by any specific BOT law (ADB,2000:

appendix 1, p.15). The enabling regulation of BOT implementation in Malaysia is a combination of guidelines and acts, which does not comprehensively regulate all aspects on its implementation. The guidelines in effect are the Malaysian Guidelines on Privatization (1985) and The Privatization Master Plan (1991). None of these guidelines functions as regulation on how the BOT process should be implemented. According to Hensley and White (1993), the Guideline on Privatization was more of conveying the message of the GoM's aspiration of to engage in nationwide privatization initiative to the private sector and how the government planned to do that in a clear and precise manner. It is also a document which defined and expressed the government's objectives and implementation approach. The GoP was successful in signaling the private sector about the readiness of the government to make the leap to privatization and promote them to participate (Hensley and white, 1993: p.73). In summary the GoP only contained the objectives of Malaysia's privatization policy, the privatization forms adopted, identification and selection of what to be privatized, guideline on specific issues of privatization and the institutional setup to implement the privatization initiative. The Privatization Master Plan released in 1999 on the other hand is the further continuation of the GoP in which it explained the privatization that have took place since the Privatization Policy was launched, further explained the forms of privatization

and guidelines on matters relating to privatization. In term of implementation process, the PMP further clarified on how privatization projects should proceed starting from initiation either by the government or by the private sector. The PMP outlined that all government initiated privatization project should be executed with competitive bidding while private initiated project will be evaluated and awarded directly to the proposer depending on the uniqueness and the viability of the proposal (Economic Planning Unit, 1991). However, in both documents, there is no mention about the obligation of the government to call for open tender or allow for other private company to submit counter proposal on received unsolicited proposal as the final decision on the method of implementation is for the government to make and the basis of selection usually "cannot be discerned" (Yaacob & Naidu, 1997). Other that the two guidelines, the BOT highway development in Malaysia is regulated by the Malaysian Federal Roads (Private Management) Act 1984 (also known as Act 306) specifically in the empowerment of private company that has been selected as concessionaire and developed the highway to charge toll on the users of the highway. This act is the only legally binding regulation on the BOT highway development in Malaysia in which it is a punishable by law for anyone to not pay the toll when using the BOT highway.

In comparison, in other countries, the implementations of BOT highway

projects are governed by specific BOT acts. Among the countries that have specific BOT acts in place are Philippines and Cambodia while some states in India like the state of Gujarat also have its own BOT law. The Philippines BOT Law or Republic Act no. 6957, dated 9 July 1990 (amended by Republic Act no. 7718, dated 8 May 1994) is a national act "which was designed to tap into and encourages, the use of private sector resources to spur the construction of infrastructure facilities in aid of national development" (Manaligod Jr., 2008). Among others, the Philippines BOT law defined BOT, the type of projects that can be developed through BOT and the power vested into the approving government agencies according to the project cost threshold. In term of implementation process, the act clearly defines that all BOT project must be publicly tendered and the basis of selection must be the compliance to all requirements and submission of the lowest bid and most favourable terms (Section 5) and direct negotiation is only permissible under specific conditions such as only single complying bid is submitted or only one bidder qualified to be considered (Section 5A) (Republic Act no. 6957, 1990). Another developing country which has a BOT Law in place is Cambodia. The Cambodian BOT law 1998 or Anukret on Build-Operate-Transfer Contract is the law regulating the BOT practice in the nation. Similar to the Philippines BOT Law, the Cambodian BOT Law also clearly defined what a BOT project is and

what type of infrastructure can be developed through BOT approach. On the matter of procurement process and concessionaire selection, the Cambodian BOT Law expressed that all projects must be through either open or restrictive bidding (locally or internationally) and direct negotiation is only permissible in certain specific circumstances (Cambodia BOT Law, 1998: article 9, chapter 2). Another example of BOT law is the Gujarat Infrastructure Development Act 1999 which governed the implementation of BOT in the state of Gujarat in India. The main gist of the act is the provision of "Fair, transparent and clear-cut mechanism for selection of developers, either through international competitive bidding, or through direct negotiations, with the very strong element of transparency and competitive arrangement" (Gujarat Infrastructure Development Board (GIDB), 2007).

By comparing the circumstance of Malaysia with the other two countries, Philippines and Cambodia, and the state of Gujarat in India, it is clear that the availability of a specific, legally binding national or state level act or statute is important for the implementation of BOT infrastructure development. In the case of Malaysia, the lack of it resulted in the inclination of undertaking the direct negotiation route, as it is not expressed that the government is legally bound to call for competitive bidding approach in any of its BOT highway project. This in turn can arouse public questions

and concern especially concerning the issue of transparency (Fishfein & Babbar, 1996). In contrast, in the two nations and one state briefly reviewed, the BOT law in place specifically guideline the bidding and selection process for BOT infrastructure projects with the strict emphasis on competitive bidding regardless either openly or restrictively. By having the regulation in place, the public sector is bound to implement the process according to the stipulated conditions in the act and this can result in the countries to have "more favourable rating" for investors and public alike (Fishfein & Babbar,1996: p.7).

4.5.2 Management of Unsolicited Proposals

A unique aspect of Malaysian BOT highway development is that the private sector is encouraged to submit project proposal to the government (Yaacob & Naidu, 1997). The Malaysian Privatization Master Plan dictated that private sector can initiate privatization project by proposing to the government the infrastructure or services to be privatized (Economic Planning Unit, 1991: para 87). These unrequested proposals from the private sector are termed as Unsolicited Proposal (Hodges and Dellacha, 2007). In Malaysia's BOT highway development context, the PMP has already outlined that unsolicited proposals are acceptable for projects that are considered unique. The yardsticks for measuring uniqueness of unsolicited proposals as clarified in the PMP are

the whether the proposal consists of a unique solution to an economic problem and offer with it a more economic solution to the government, potential of saving government's fund and the proposal has the unique advantage of ownership of special, proprietary technical usage rights, copy rights or knowledge which is imperative towards the implementation of the proposal that cannot be offered by any other party (Economic Planning Unit,1991: para 89). Furthermore, the PMP have also outlined how the government should interact with unsolicited proposals, as clarified in para 87 which stated that any proposal received from the private sector shall be considered on the basis of "first come, first serve" principle with the aim of rewarding innovation and ingenuity and to promote entrepreneurship. If the proposal conform to the established guidelines of uniqueness and suitable for privatization, a letter of exclusivity will be accorded to the proposer granting it the exclusive rights to undertake feasibility studies and resubmit a detailed proposal to the government. Upon evaluation and decision that the proposal is acceptable, the government will enter into negotiation with the proposer and award the privatization (BOT) project to it subject to mutual agreement being attained. Basically, the provisions of PMP in regards of unsolicited proposal are that it is allowed and encouraged and the government's role is to receive, evaluate and accept them subject to compliance of the specified criteria. There is no provision anywhere in the guideline

which enable the government to incorporate elements of competition in the management of unsolicited proposals. The non affirmative implementation process outlined will almost for certain results in the acceptance of the unsolicited proposal as it has been observed that "the government approves projects through direct negotiations with private sector parties" (Naidu, 2007: p.222).

Following the implementation guidelines of the PMP, the number of BOT highway projects in Malaysia undertaken through direct negotiation process should only be limited to those which were proposed by the private sector (unsolicited proposals) whereas the projects initiated by the government should always be offered through competitive bidding process, either through open or restricted tender exercises. However, the number of projects which was called for tender was quite low compared to the total number of BOT highway projects implemented so far between 1987 to now. Form the total of 30 highways[17] developed utilizing BOT privatization approach, some of the highway projects where competitive bidding exercises were observed to be undertaken were the North South Expressway Project (Kleimeier, 1996: p.189) and the Shah Alam Expressway Project ((ADB,2000: appendix 1, p.14).[18] On the other hand,

[17] From MHA's website http://www.llmnet.gov.my/serverpages/highway/highway_info.aspx

[18] The actual number of tendered highway could not be determined because of the unavailable information

the high number of BOT highway projects which were proposed by the private sector (unsolicited proposal) and accepted resulted in several issues raised such as the perception of lack of transparency and corruption. According to the PMP, unsolicited proposals that can be accepted and awarded should only be those which display high degree of uniqueness and innovation or those involving exclusive rights of certain technical knowledge and its use. To understand how much of the accepted unsolicited proposals have conformed to the guidelines of the PMP, some of the projects are illustrated in details in table 4.3:

Project	Length (km)	Characteristics
Ampang-Kuala Lumpur Elevated Highway (AKLEH)	7.9	Completely new alignment. Elevated highways designed as the first intra urban highway. Designed with the aim of relieving traffic congestion in the city center, the alignment and the design of the highway were proposed fully by the concessionaire company. Innovative design with whole alignment elevated, reducing the problem of land acquisition.
Guthrie Corridor Expressway	25	Completely new alignment. Proposed by the concession company to traverse through new townships along its vast land banks with the aim

		of developing them. Project was never a part government's highway plan
SPRINT (KL West Traffic Dispersion Scheme Highway)	26	Upgrading of existing alignment and 2 new alignments. Highway designed to disperse traffic congestion in parts of KL. First urban highway to use double deck structure and dual 3 lanes tunnel.
New Pantai Expressway	19.6	Upgrading of existing alignment. Highway designed to reduce traffic congestion.

Table 4.3 : Some cases of the private initiated BOT highways (unsolicited proposals)

Source : Malaysian Highway Authority

The highways listed in table 4.3 are only small representation of the whole BOT highway projects in Malaysia. From the four highways listed, it is not easy to say that they are unique projects with high innovation which warrant their acceptance by the GoM. For instance, the AKLEH project can be viewed as having displayed a high degree of innovation (completely new alignment and all elevated structure) and offered an innovative solution to the problem of traffic congestion in the city center. The same evaluation however cannot be simply put to the New Pantai Expressway in which the highway alignment consisted partially of upgrading existing federal roads to highway status. If the guidelines of PMP on the acceptance of unsolicited proposal are strictly followed, the merit of uniqueness and innovative features of some of these proposals are

not easy to justify and their selection shows the subjectivity of the government's evaluation process.

Unsolicited proposals in PPP infrastructure developments are also observed in other countries. However, a distinct difference between the management of unsolicited proposals in Malaysia and the other countries is that the later "have developed effective systems to channel unsolicited proposals into public competitive processes, thus providing more transparency and political legitimacy to private infrastructure" (Hodges & Dellacha, 2007: p.vii). For these other countries, Hodges and Dellacha (2007) observed that the initial process involving the receipt of unsolicited proposals does not diverge much from Malaysia. The process involves receiving, evaluating the merit of the proposal and upon acceptance of preliminary agreement from the government, the proposer will be granted some form of official acknowledgement on its intention to develop the proposed project. However, starting from this point, other countries have established an additional stage with the objective of incoroporating competitive bidding into the unsolicited proposal management process, which is tendering the unsolicited proposal. The three most used method in tendering the unsolicited proposal are bonus, Swiss challenge, or a best and final offer system (Hodges & Dellacha, 2007: p7).

In bonus system, the original proponent of the system is given a bonus point for

its oiginal proposal. The government will then call for tender the project that has been proposed by the proponent with full disclosure of the bonus given to the proponent and the proponent's right to be repaid for its proposal development cost should other party wins the bidding. The original proponent will then choose whether to joint or not the bidding process utilizing the bonus point awarded to it. The competitive bidding will finally be evaluated based on lowest cost offer and if the lowest offer is no lower than the percentage allowed to the proponent as the bonus (for example 10%), then the proponent will win the bid. Countries implementing Swiss challenge system on the other hand will also tender the unsolicited proposal for other parties to participate. The original proponent in this system will not be given any bonus but instead it must match any lower bid offered by other companies in the tender exercise or risk losing the bid. Upon matching the lower bid, the original proponent will either be selected for the project or both bids will then be further evaluated on the basis of merit before being selected. The last system that has been use in tendering unsolicited proposal is the best and final offer system which basically is a further evolution of the bonus and Swiss challenge system. In this system, the unsolicited proposal is tendered and the most advantageous bids will be selected for a final level of bidding in which the proponent will also be requsted to submit their bid. The lowest bid offer and with the most merit

among the bids in the final round (including the proponent's bid) will then be selected. According to Hodges & Dellacha (2007) countries practicing these bidding systems for unsolicited proposals are South Korea and Chile for bonus system, Philippines, some states in India, Italy, Taiwan, and the U.S territory of Guam for Swiss challenge and South Africa, Argentina and Costa Rica for the best and final offer system.

4.5.3 Government's measures to protect the concession company from risks

Risk in BOT project, like any other project, is a certainty (Bokharey, Vallyutham, Potty and Bakar, 2010). To mitigate the risks in BOT project, the right amount of assistance and guarantee by the government is crucial as it will make the project more attractive to the private sector to participate. Having effective risk control mechanisms in place will also assist in striking the right balance of risk transfer and risk sharing between both parties in the BOT arrangement. A well planned risk sharing arrangement will benefit both parties and put them in satisfactory position but in order to achieve this, the government should be ready to bear some of the risks while transfering the remainder risks to the private sector with some rewards attached to them (Ward & Sussman, 2005). In Malaysia's BOT highway development, the government has incorporated in the process a number of supportive and protective measures aimed

at assisting the concession company in facing the risks and ensuring the success of the projects. For example, the Malaysian government provided soft loan to support project development (as observed in the NSE project where a suppot loan of RM 1.65 Billion is provided to the concessionaire), traffic volume supplement, external risk supplement (exchange rate and loan rate movement guarantee as observed in NSE project), and assistance for land acqusition payment. The toll rate in Malaysia's highway projects are also allowed to be increased in determined interval and compensation will be paid by the GoM to the concession companies in case of non-approval of toll rate increase. In the case of NSE, the most prominent of such measures and one that has been observed by various available literatures such as (Sahai, 2003), (Kleimeier, 1996) and (Hensley & White, 1993) is the minimum revenue guarantee which guarantees that the government will supplement any shortfall in toll collection resulting from lower than forecasted traffic volume. The minimum revenue guarantee and the toll rate adjustment allowance have resulted in the government of Malaysia paying compensation amounting to RM 2.05 Billion for all the highways which have been operating in Malaysia between 1990 and 2011[19]. For the NSE project alone, the culmination of minimum revenue guarantee

[19] Minister of Works's answer to written question posed by the Bagan constituent's Member of Parliament dated 21st March 2011 (in Malay) retrieved from http://dapmalaysia.org/repository/20110426_konsesi.pdf

and compensation for postponement of toll rate increase has resulted in the compensation amounting RM 735.22 Million which is about 12% of the construction cost of the highway itself. The consequence of putting these safety nets protecting the concessionaire companies in the BOT highways projects form loss on one hand increases the projects success rate but on the other hand, it also "imply that risk has hardly been privatized with the government's privatization program" (Jomo & Syn, n.d.: p.15).

The minimum revenue guarantee (or minimum income guarantee in some other literature) is not exclusive to BOT highway projects in Malaysia. Vassallo and Solino (2006) observed that minimum revenue guarantee has been incorporated in highway projects in Chile, Colombia, South Korea and South Africa other than Malaysia. In the case of Chile, the implementation of minimum revenue guarantee is different form Malaysia in several aspects. Firstly, in Chile, the minimum revenue guarantee is offered as an option to the concession company in which the company can choose either to except it or not. If the company choses to accept the minimum income guarantee, it will also have to share with the government the revenue generated should it exceed the forecasted amount. If the concessionaire refused the minimum revenue guarantee, it will have to absorb all traffic volume risk by itself. Secondly, the main principle behind the

implementation of minimum revenue guarantee in Chile is that there is a sharing of revenue between the concessionaire and the government (Vassallo and Solino, 2006: p.18). This is in contrast to Malaysia in which there is no allocation for revenue sharing between the government and the concession company. As a result, the government ends up shouldering most of the financial risk involved in the BOT highway development project (Fishfein & Babbar, 1996: p.14)

The practice of Minimum Revenue Guarantee (MRG) applied in Malaysia for example in the NSE project where it is incorporated in the concession agreement is that the government agrees to absorb and compensate the concessionaire company in the event of the actual toll collection revenue falls below the projected revenue. Joe (2009) clarified that for the NSE project, the agreed toll collection revenue projection for the year 1997 and onwards is RM 2 Billion per annum. However, based on another traffic projection study done by another consultant (Rendel, Palmer & Tritton), the toll collection revenue was only projected at RM 800 million and the GoM was obligated to compensate the balance RM 1.2 Billion to PLUS as agreed in the concession agreement. This flaw in the implementation of MRG in Malaysia's BOT highway development means the GoM has to shield the concession company up to 100% of the shortfall between projected and actual income, which is something not practiced in other

countries. The practice of MRG in South Korea based on the information from MKIF website[20] is between the threshold of 70% to 90% and subject to change according to five year period. Vassallo & Solino (2006) stated that in the practice of MRG in Chile, the threshold is at 70%. The difference between the practice of MRG in Malaysia, South Korea and Chile is obvious and this results in the government of Malaysia shouldering all the income shortfall of the concession company and in turn virtually guaranteeing the concession company from financial loss.

4.6 The Connection and Effect of The Traits To Malaysia's BOT Highway Development

Malaysia's BOT highway implentation program is noted to have incorporated three traits that have been discussed which are the lack of specific BOT law to govern and regulate it, management of unsolicited proposals and over protection of concessionaire from financial risks. These three traits or characteristics are in a way interconnected and have a serious effect to the implementation of highway through BOT arrangement in Malaysia. The lack of specific, legally empowered act to regulate BOT project will not provide the GoM any specific basis to implement BOT highway project

[20] http://www.macquarie.com/mgl/mkif/en/mkif-assets/minimum-revenue-guarantee-summary

in a transparent and objective manner. What has happened and observed in Malaysia's highway projects are the use of discretion and subjective evaluation methods, allowing the projects to be implemented in manners not postitively contributing towards the original objectives of privatization of reducing government's financial burden and increase efficiency. Furthermore, the lack of BOT law also allowed for questionable decisions being made which were somewhat being passed as methods for achieving national policy. Consqeuently, the non availability of strict regulatory rules on how BOT should be implemented opened the door for too many projects being designed and proposed without following the national highway development plan and being approved because there is no specific basis to disallow them. With no concrete regulation on how to incorporate competition into unsolicited proposals, the government is put on the position of having to accept all bona fide unsolicited proposals even though they are not the most economic options.

With no BOT law in place and the propensity to over protect the private company in BOT project from financial risks, the Malaysian government have created a system which allows companies with insufficient experience, technical knowledge and relatively unstrong financial condition to successfully bid or propose highway privatization and be selected for the project. The consequence of these traits can best be

observed in the NSE project where the lowest ranked bidder was awarded the concession and the government have to continuously support the project in various ways to ensure its success. The culmination of all these traits and the government disclosure policy on its decision made have resulted in Malaysia achieving its goal of highway infrastructure privatization on one hand but not obtaining the best option in project and economic term on the other hand. Handley (1997) noted that in the context of Malaysia's BOT highway, "several questions need to be raised as to the success of achieving the basic goals of privatization" (p.239).

CHAPTER 5: CONCLUSION

5.1 Malaysia's BOT Highway Project Implementation As A Process

The research has been undertaken to analyse how does Malaysia implement its BOT highway development project and how does the implementation method viewed as a process. As such, the answer of this research question is two fold in which one is on how Malaysia implement the BOT highway development method and two, does the implementation fit as a systematic process. Through analysis using a suggested process model from available literature, it can be concluded that the implementation of BOT highway development in Malaysia is fit as a systematic process. This is exemplified by the effectiveness of the process in attaining the final output of provision of operational highway infrastructure. As a process, the implementation method is usable and repeatable in the Malaysian context as it has been proven in all the highway development projects undertaken in Malaysia between 1985 to now. However, the efficiency of the process is jeopardised by some weakness in the controlling procedures that is in the selection of concessionaire, management of unsolicited proposals and improper management of revenue guarantee. Throughout the research, the recurring finding is that Malaysia's implementation of highway development as well as other

privatization endeavor has been utilized as a method of achieving Malaysia's national economic policy. As such, some of the procedures and actions in the process have been tailored to suit the policy resulting in questionable practices which in turn effects the efficiency of the process. As a whole, the process of implementing BOT system of highway development in Malaysia is a relatively good and sound process which concur to Davis' suggestion of delivering somehing of value to parties internal and external of the process (2009).

Viewing the implementation method as a systematic process and understanding the reason behind some of the procedures in the process also allow the comprehension of why these certain procedures differ from the process used in other countries, thus answering the second research question. Assessing the underlying objectives of Malaysia in promoting equal economic growth for all of its major racial groups clearly shows the cause and effect of the differences in implementation process of BOT highway between Malaysia and other countries as discussed in chapter 4.

5.2 Malaysia's BOT Highway Project : Successful Implemention or Failure

This research has analyzed the implementation process of BOT highway development in Malaysia. The development, enabled by the Malaysian Privatization

Policy have seen more than 1600 kilometers of highway being constructed and in operation in Malaysia in a time span of about 25 years. This achivement is not so significant if compared to countries like India which have succesfully completed 70,934 kilometer of highway to date. However, due consideration must also be made on the relative size of Malaysia as opposed to India. The accomplishment of Malaysia in developing its highway network must be viewed objectively with consideration about its privatization objectives in the first place. The highway privatization intiative undertaken has reduced the administrative burden of the government which can be seen in the change of responsibility of the MHA from the implementation to the supervision of Malaysian highways (Santhiman, 2011). In term of financial burden, the PMP reported that BOT and BOO projects implemented (including highways) up to 1991 have resulted in the savings of about RM 8.2 Billion (Economic Planning Unit, 1991) and the amount of capital expenditure saving achieved by the whole privatization exercise (inclusive of BOT highway development) between 1983 and 2009 is RM 161 Billion[21].

However, the evaluation of success or failure of the implementation of BOT highway development in Malaysia should not be based solely on the achievement of

[21] From 3PU' website http://www.ukas.gov.my/web/guest/background

Malaysia's privatization objectives. Objective review should be made on all other aspects of the impementation. From these reviews conducted, glaring findings have been made on aspects of implementation which does not fit well with the success story of the highway projects. Hensley & White (1993) for example found that the process of highway privatization in Malaysia lacking in transparency and selection of concession company was made on the basis of connection with the top members of the government. ADB (2000) has observed that in Malaysia's case, the privatization has benefited the private sector more than the government as the private sector has been making profit while succesfully shielded from any major risk at the expense of the government. Jomo & Syn (n.d.) questioned the consequences of having 'contingent liabilities' in highway and other infrastructure projects which has effectively ensured risk free revenue generation for the concessionaire while simulatenously requiring continuos financial support form the government. Handley (1997) raised the question of whether the success in term of getting the highway developed warrants the practice of awarding concession with no competitive basis and with non transparent process heavily favouring politically linked companies.

As such, to determine whether the BOT highway development in Malaysia is a success or failure requires a careful, balanced evaluation of what has been perceived as

success and what has been the opposite. If the success is only measured by the end product, functioning, interconnected networks of high quality highway connecting the cities and rural areas in Malaysia, allowing efficent transportation of people and goods; then it can be said that BOT highway development in Malaysia has been a resounding success. However, if the sustainability of the model is being used as the yardstick in measuring the succes, then the implementation model applied in Malaysia is far from succesful. It is difficult to term the Malaysian BOT highway development a success if the government have to provide continuous protection to the concession company to shield it from risk while simultaneously guaranteeing the latter's profit. Furthermore, the unbalanced and lopsided arrangement of the implementation model will reduce and eventually cancel out any benefit of privatization that the government hoped to achieve such as reducing its financial burden. The reality is with the ongoing financial support in term of financial compensation and allowed toll rate increase, the financial benefit of highway privatization to the government will be very insignificant.

5.3 Policy Recommendations

The BOT highway development in Malaysia is a case of mixed success. Based on the analysis of this research, several policy recommendations can be drawn to further strengthen the implementation process of BOT highway development among them are:

- **Establishing a specific BOT law** – the finding of this research have shown that the lack of a regulatory BOT law in Malaysia has resulted in the difficulty in implementing highway privatization exercise effectively. The void in governing regulation have encouraged the use of discretion and subjective evaluation as basis of selection, approval and awardance of BOT highway projects. With a proper BOT law in place outlining all aspects of its implementation, the process from inception until the transfer back to the government can be vastly improved.
- **Setting up a dedicated BOT highway implementation agency** – The current setup for BOT highway development in Malaysia involves several government agencies undertaking various roles which sometimes overlapped. This condition causes bureaucracy and delay in decision making. Therefore, establishing a central agency and unifying all the responsibilities for BOT implementation under the agency will greatly enhance efficiency in its implementation process.
- **Better management of unsolicited proposals** – The existing implementation

process in Malaysia allows for unsolicited proposal to be submitted for the government's consideration and most of the time, the evaluation result favours the proponents of such proposals. Upon careful review, it is clear that a number of the highway projects which resulted from unsolicited proposals lack the innovation and unique features to justify its selection. Some of the projects are simple upgrading of existing alignment or construction of short strecth of at-grade highway which does not require special technical know how or proprietary technology and can simply be implemented under conventional procurement system. Thus, it is recommended that the criteria for unsolicited proposals be tightened such as limiting it only for highly innovative project and brownfield projects such as water supply infrastructure.

- **Increase competition and transparency** – Highway projects undertaken under the existing BOT framework in Malaysia has shown very little amount of competitive element and transparency. The preference of the Malaysian government towards direct negotiation has resulted in increased perception of corruption and mismanagement. Therefore, for future BOT highway projects, competitive bidding process should be made mandatory and all decision of the government should be made public.

- **Review of the existing risk sharing policy** – The current setup of risk sharing heavily favours the private sector and burden the government. This is clearly shown by the excessive provision of risk guarantee for the concession company which virtually shield them from all risks at the expense of the government. Provision such as determined toll rate increase every three or five years, minimum traffic guarantee and compensation against financial loss should be carefully reviewed and replaced by other provisions which ensure balanced and fair risk sharing between both parties.

5.4 Future Directions

This research has highlighted the implementation process of BOT highway development in Malaysia and what are its features and how they effect the implementation as a whole. However, due to the limitations as previously described, the research could only managed to come out with the critical review of the process and and how has it defined the implementation, resulting in the mixed view of its success/failure perception. As such, for future research, it will be beneficial if an empirical approach can be taken to study the relation between the implementation characteristics and the success or failure rate based on the available data of highway construction cost, revenue

generated, amount of compensation given so far and other quantitative parameters involved. Perhaps, with such approach, it will clearly show whether the existing implementation of BOT higway in Malaysia has indeed been a success or otherwise.

For the future direction of BOT highway development in Malaysia itself, perhaps it is best summarised by Santhiman (2011) who outlined these characterisics as the future direction; namely, new implementation model which does not burden the government and the people while at the same time guaranteeing private sector revenue, implementing public participation in the planning stage, General Bond offer instead of government compensation to the concessionaire, evaluation of highway with outcome based evaluation method, sustainable highway development with green technology and Value For Money emphasis and implementation of open, competitive tender or Request For Proposal to ensure fully competitve price and transparency.

However, all these recommendations for future direction of Malaysia's implementation of BOT method in its highway development will not make any significant change unless concrete measures are taken in improving the concessionaire selection and restructuring the subsidy and guarantee system. As the research have highlighted the continuous propensity of Malaysia to allow for usolicited proposal, these two measures are important in ensuring a more effective implementation and

better achievement of efficiency. Based on the methods discussed in the research, Malaysia's selection of concessionaire will be better off if modelled after the methods used in Korea, India and Chile whereas competition is introduced in unsolicited proposal through approaches of tendering, Swiss Challenge or Bonus system instead of the current approach of single party evaluation. On the matter of subsidy and guarantee, Malaysia's practise of providing full guarantee against concessionaire's loss through excessive minimum revenue guarantee, soft loan and support must be improved by taking cue from the practices of other nations such as Korea and Chile which capped their revenue gurantee at some threshold not amounting to 100% and from India's practise of awarding to concessionaire which requires the least amount of subsidy from the government. Even with the incorporation of national policy into the privatization endeavor of Malaysia, strong political will to adopt these measures will enable a more efficient implementation of highway development using BOT method and effective achievement of its privatization objectives.

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